

**PUJARA WIRTH TORKE, INC.**

## Engineers Architects

13100 Watertown Plank Road

ELM GROVE, WI 53122

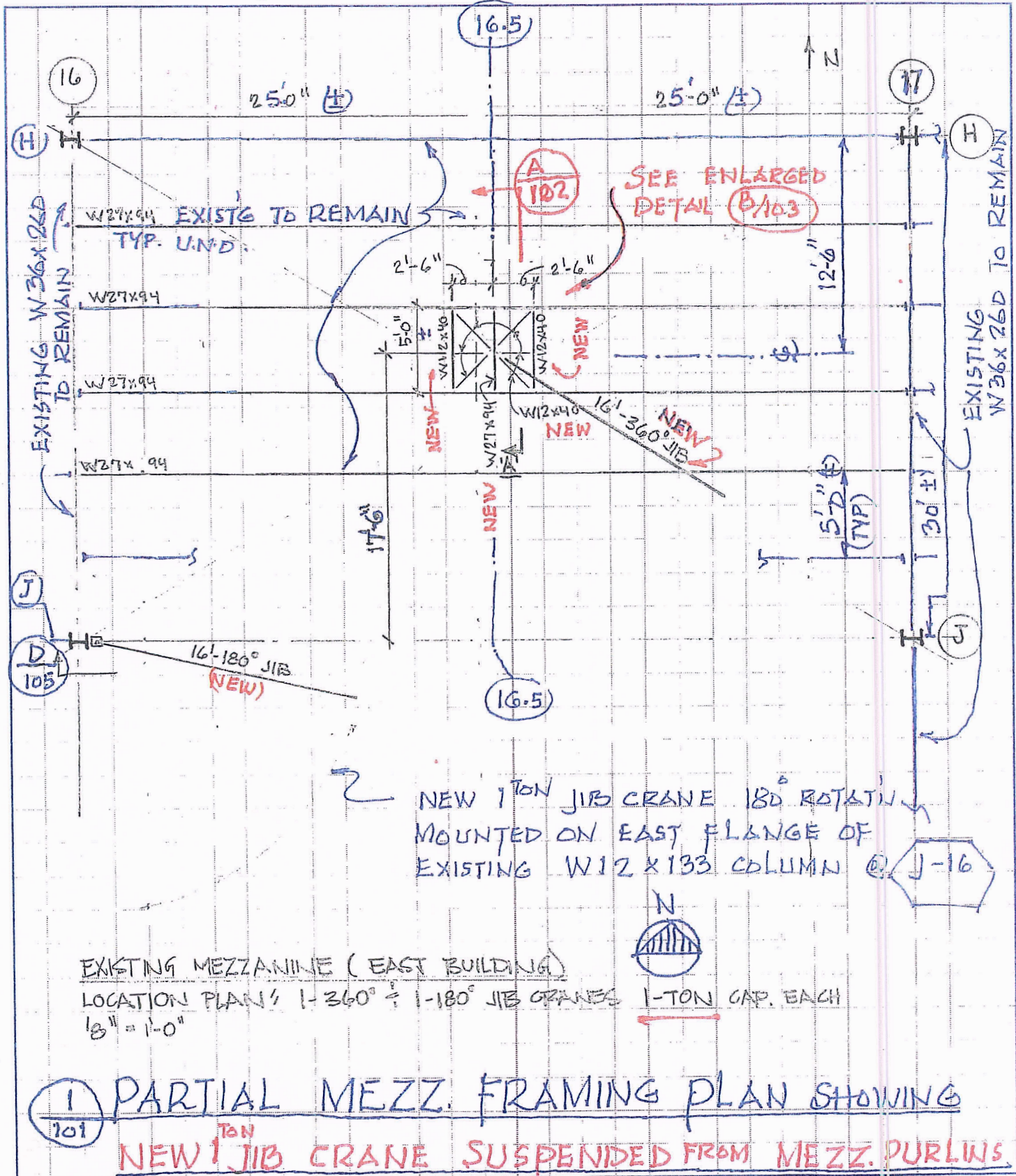
PHONE (262) 641-0750 FAX (262) 641-0584

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PROJ. NO. P9646 (EO) SHEET NO. 101 OF 105

SUBJECT TWO (2) PROPOSED 1-TON JIB CRANES  
FOR TOOLROOM - HARLEY DAVIDSON

PILGRIM Rd. PLANT BY WT DATE 2/9/10





**PUJARA WIRTH TORKE, INC.**

## Engineers Architects

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WAUWATOSA, WI 53226

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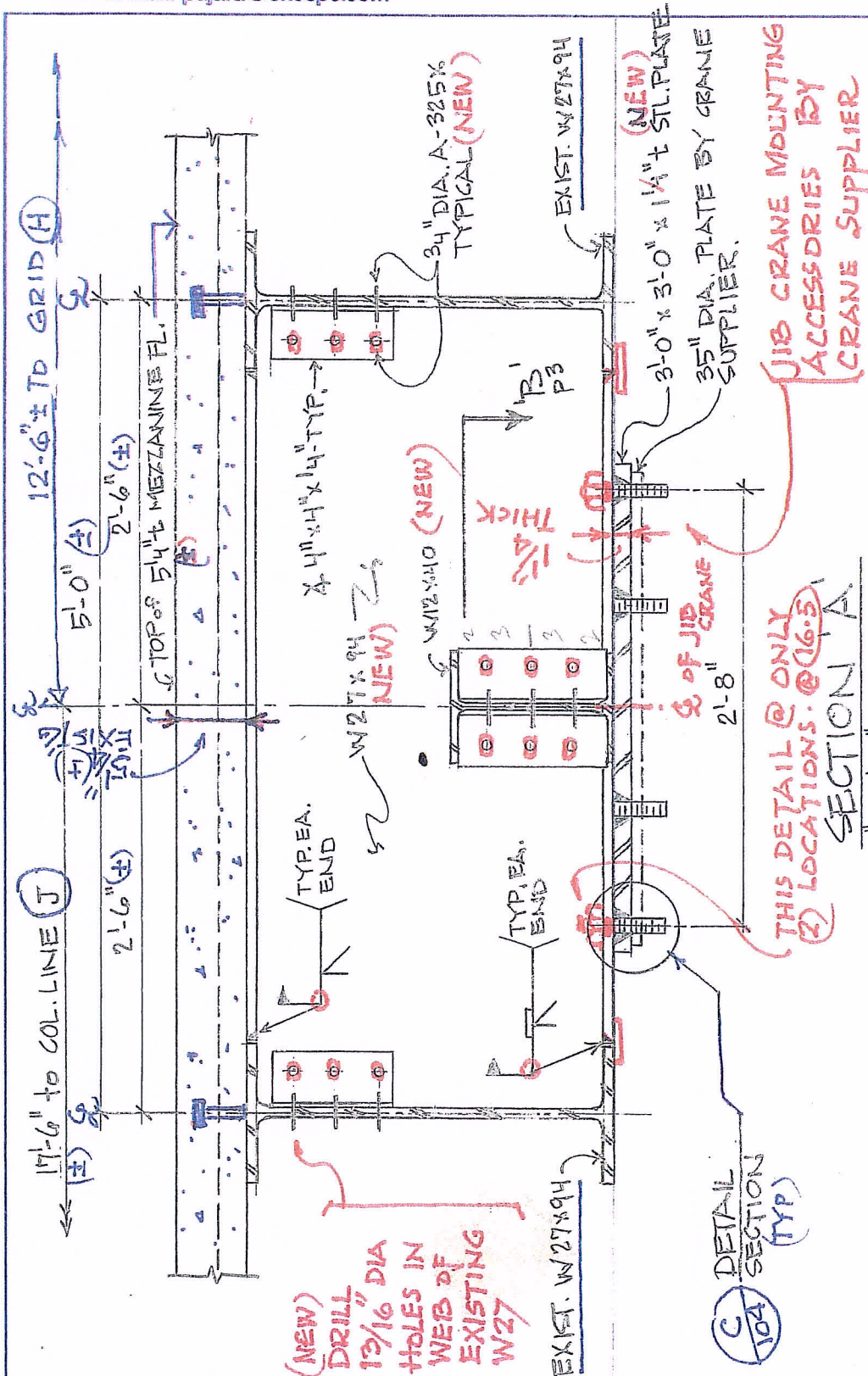
PROJ. NO. P9646 (EO) SHEET NO. 102 OF 105

SUBJECT (1) 1<sup>TON</sup> (NEW) 360° ROTATING

JIB CRANE. HARLEY-PILGRIM

BY DP DATE 02/10

DATE 02/10



NOTE: DIAGONAL MEMBERS SIMILAR. NOT SHOWN FOR CLARITY  
BOT. OF STL. ELEV IS EQUAL FOR ALL 'W' SHAPES.

STRADDLING BEAM BETWEEN EXISTING W27  
MEZZANINE FLOOR PURLINS. LOOKING ST  
OR (EAST  
(SIMILAR))







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Engineers Architects

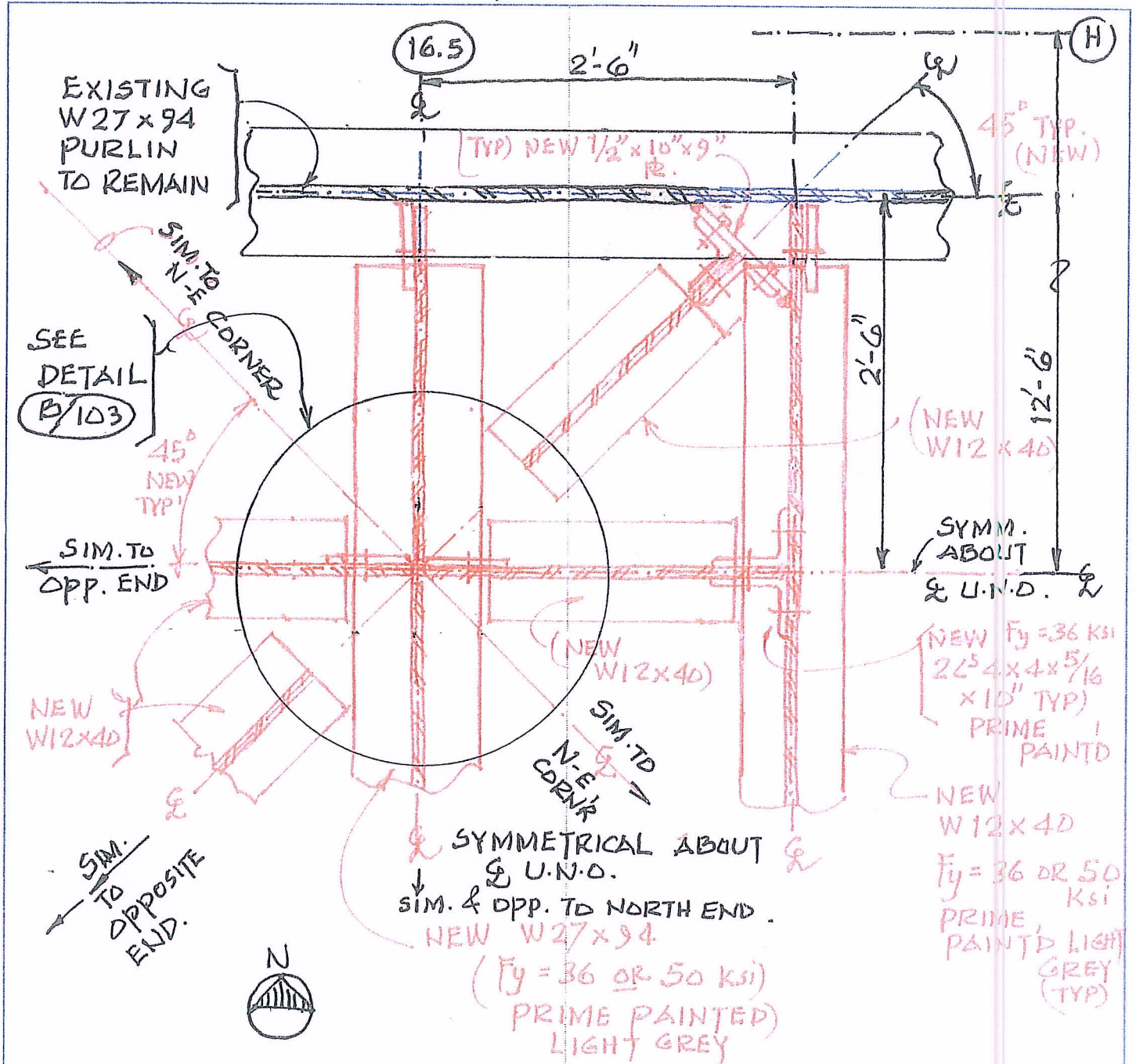
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ELM GROVE, WI 53122

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PROJ. NO. P9646(E0) SHEET NO. 103 A OF 105  
 SUBJECT 1 TON 360° ROTATING, UNDERHUNG  
JIB CRANE(NEW). HARLEY DAVIDSON-  
PILGRIM PLANT. BY R DATE 02.12.10



1  
103A

**PARTIAL FRAMING DETAIL PLAN****NOTE:**

WORK THIS  
 DETAIL W/  
 SHEET # 103  
 OF 105

**FOR UNDERHUNG 1 TON JIB  
 CRANE - MEZZANINE PURLINS.**



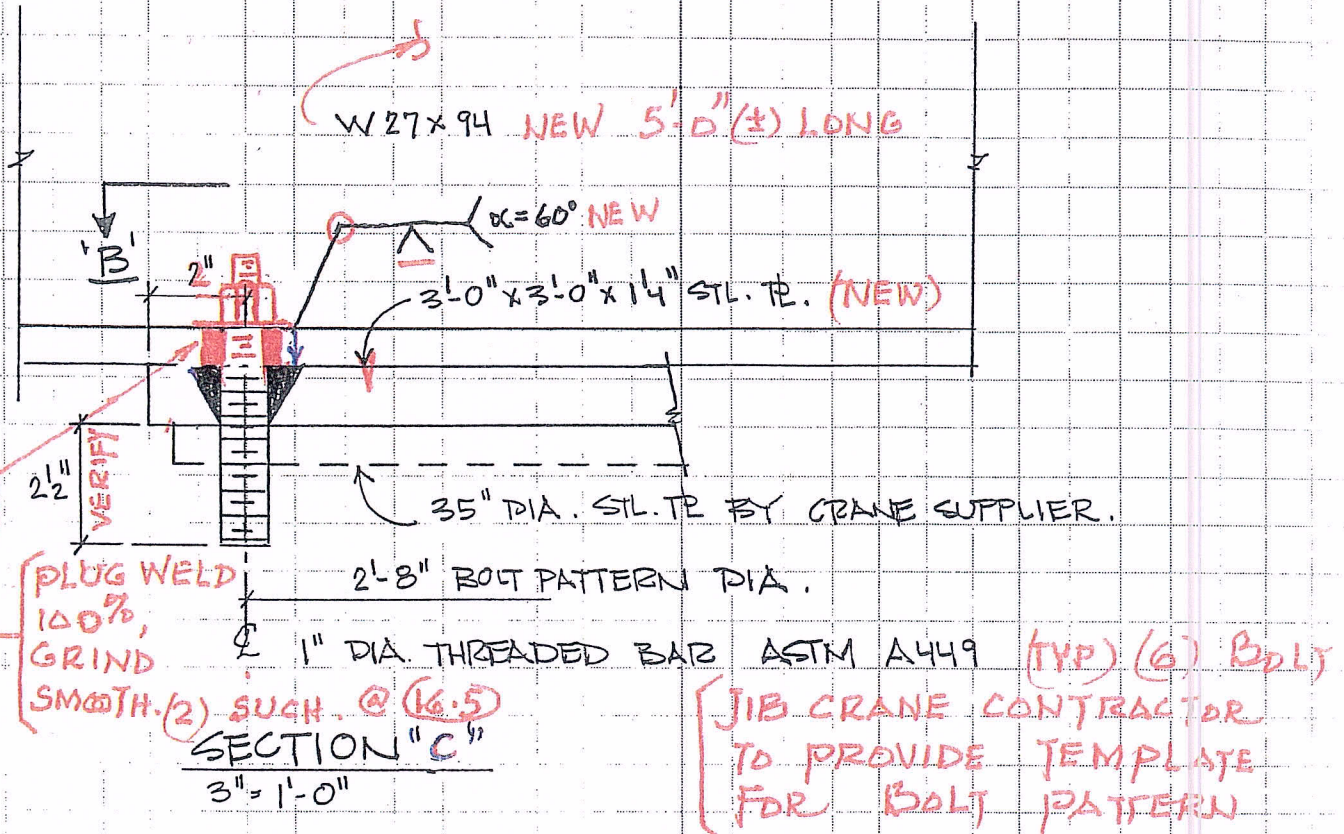
**PUJARA WIRTH TORKE, INC.****Engineers Architects**

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PROJ. NO. P9646 (EO) SHEET NO. 104 OF 105SUBJECT (1) 1 TON (NEW) 360° ROTATING  
JIB CRANE. HARLEY-DAVIDSON-PILGRIM  
UNDER MEZZ. BY DP DATE 02/10

PARTIAL

C

104

ENLARGED DETAIL @ JIB CRANE

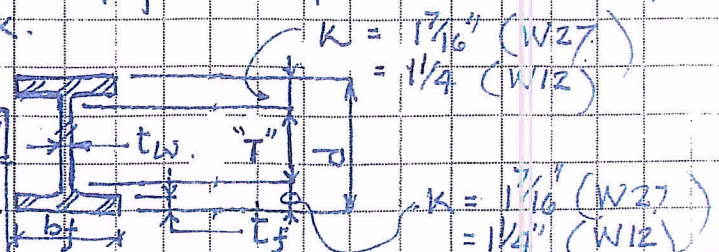
(360° ROTATION) HEAD PL

STRUCTURAL NOTES:

- 1) STRUCTURAL & MISC. STEEL: (PRIME PAINTED)  $F_y = 36$  KSI (OPTION)  $F_y = 50$  KSI
- 2) CONNECTION BOLTS: A325 AND A449 (SEE SH. #103)
- 3) WELDS: PER "AWS" BY CURRENTLY CERTIFIED WELDERS FOR THIS TYPE OF WORK.

## 4) PHYSICAL DIMENSIONS:

MEMBER	d	b <sub>f</sub>	t <sub>f</sub>	t <sub>w</sub>	"T"
W27x94	26 7/8"	10"	3/4"	1/2"	24"
W12x40	12"	8"	1/2"	5/16"	9 1/2"





**PUJARA WIRTH TORKE, INC.**

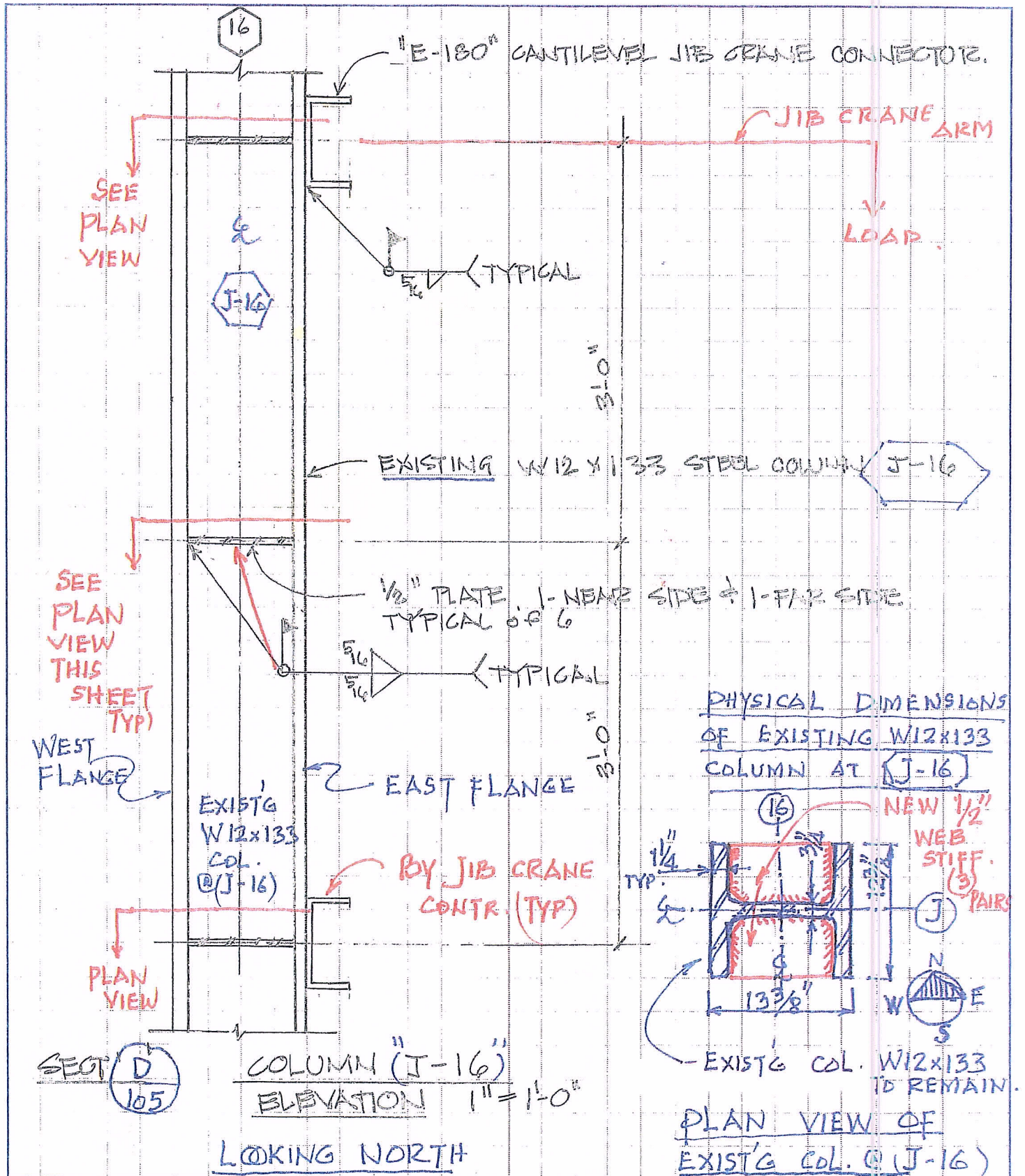
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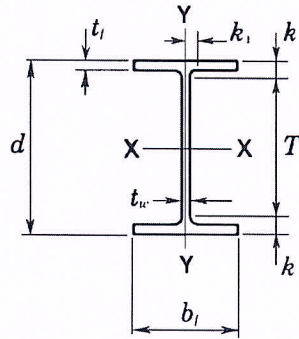
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PROJ. NO. P9246 (EO) SHEET NO. 105 OF 105SUBJECT E-180 JIB CRANE CONN. DETAIL  
HARLEY-DAVIDSON, PILGRIM Rd.BY DJP DATE 2/4/10





# WIDE FLANGE BEAMS

ASTM A36 & A992

## W SHAPES Dimensions

Designation	Area <i>A</i>	Depth <i>d</i>		Web			Flange				Distance		
				Thickness <i>t<sub>w</sub></i>	$\frac{t_w}{2}$		Width <i>b<sub>f</sub></i>	Thickness <i>t<sub>f</sub></i>			<i>T</i>	<i>k</i>	<i>k<sub>1</sub></i>
				In.	In.		In.	In.			In.	In.	In.
W 12x 14	4.16	11.91	11 $\frac{1}{8}$	0.200	$\frac{3}{16}$	$\frac{1}{8}$	3.970	4	0.225	$\frac{1}{4}$	10 $\frac{3}{8}$	$\frac{3}{4}$	$\frac{9}{16}$
x 16	4.71	11.99	12	0.220	$\frac{1}{4}$	$\frac{1}{8}$	3.990	4	0.265	$\frac{1}{4}$	10 $\frac{3}{8}$	$\frac{13}{16}$	$\frac{9}{16}$
x 19	5.57	12.16	12 $\frac{1}{8}$	0.235	$\frac{1}{4}$	$\frac{1}{8}$	4.005	4	0.350	$\frac{3}{8}$	10 $\frac{3}{8}$	$\frac{7}{8}$	$\frac{9}{16}$
x 22	6.48	12.31	12 $\frac{1}{4}$	0.260	$\frac{1}{4}$	$\frac{1}{8}$	4.030	4	0.425	$\frac{7}{16}$	10 $\frac{3}{8}$	$\frac{15}{16}$	$\frac{5}{8}$
W 12x 26	7.65	12.22	12 $\frac{1}{4}$	0.230	$\frac{1}{4}$	$\frac{1}{8}$	6.490	6 $\frac{1}{2}$	0.380	$\frac{3}{8}$	10 $\frac{3}{8}$	1 $\frac{1}{8}$	$\frac{3}{4}$
x 30	8.79	12.34	12 $\frac{3}{8}$	0.260	$\frac{1}{4}$	$\frac{1}{8}$	6.520	6 $\frac{1}{2}$	0.440	$\frac{7}{16}$	10 $\frac{3}{8}$	1 $\frac{1}{8}$	$\frac{3}{4}$
x 35	10.3	12.50	12 $\frac{1}{2}$	0.300	$\frac{5}{16}$	$\frac{3}{16}$	6.560	6 $\frac{1}{2}$	0.520	$\frac{1}{2}$	10 $\frac{3}{8}$	1 $\frac{3}{8}$	$\frac{3}{4}$
W 12x 40	11.7	11.94	12	0.295	$\frac{5}{16}$	$\frac{3}{16}$	8.005	8	0.515	$\frac{1}{2}$	9 $\frac{1}{4}$	1 $\frac{3}{8}$	$\frac{7}{8}$
x 45	13.1	12.06	12	0.335	$\frac{5}{16}$	$\frac{3}{16}$	8.045	8	0.575	$\frac{9}{16}$	9 $\frac{1}{4}$	1 $\frac{3}{8}$	$\frac{15}{16}$
x 50	14.6	12.19	12 $\frac{1}{4}$	0.370	$\frac{3}{8}$	$\frac{3}{16}$	8.080	8 $\frac{1}{8}$	0.640	$\frac{5}{8}$	9 $\frac{1}{4}$	1 $\frac{1}{2}$	$\frac{15}{16}$
W 12x 53	15.6	12.06	12	0.345	$\frac{3}{8}$	$\frac{3}{16}$	9.995	10	0.575	$\frac{9}{16}$	9 $\frac{1}{4}$	1 $\frac{3}{8}$	$\frac{15}{16}$
x 58	17.0	12.19	12 $\frac{1}{4}$	0.360	$\frac{3}{8}$	$\frac{3}{16}$	10.010	10	0.640	$\frac{5}{8}$	9 $\frac{1}{4}$	1 $\frac{1}{2}$	$\frac{15}{16}$
W 12x 65	19.1	12.12	12 $\frac{1}{8}$	0.390	$\frac{3}{8}$	$\frac{3}{16}$	12.000	12	0.605	$\frac{5}{8}$	9 $\frac{1}{8}$	1 $\frac{1}{2}$	1
x 72	21.1	12.25	12 $\frac{1}{4}$	0.430	$\frac{7}{16}$	$\frac{1}{4}$	12.040	12	0.670	1 $\frac{1}{16}$	9 $\frac{1}{8}$	1 $\frac{9}{16}$	1 $\frac{1}{16}$
x 79	23.2	12.38	12 $\frac{3}{8}$	0.470	$\frac{1}{2}$	$\frac{1}{4}$	12.080	12 $\frac{1}{8}$	0.735	$\frac{3}{4}$	9 $\frac{1}{8}$	1 $\frac{5}{8}$	1 $\frac{1}{16}$
x 87	25.6	12.53	12 $\frac{1}{2}$	0.515	$\frac{1}{2}$	$\frac{1}{4}$	12.125	12 $\frac{1}{8}$	0.810	$\frac{13}{16}$	9 $\frac{1}{8}$	1 $\frac{11}{16}$	1 $\frac{1}{16}$
x 96	28.2	12.71	12 $\frac{3}{4}$	0.550	$\frac{9}{16}$	$\frac{5}{16}$	12.160	12 $\frac{1}{8}$	0.900	$\frac{7}{8}$	9 $\frac{1}{8}$	1 $\frac{13}{16}$	1 $\frac{1}{8}$
x106	31.2	12.89	12 $\frac{7}{8}$	0.610	$\frac{5}{8}$	$\frac{5}{16}$	12.220	12 $\frac{1}{4}$	0.990	1	9 $\frac{1}{8}$	1 $\frac{7}{8}$	1 $\frac{1}{8}$
x120	35.3	13.12	13 $\frac{1}{8}$	0.710	1 $\frac{1}{16}$	$\frac{3}{8}$	12.320	12 $\frac{3}{8}$	1.105	1 $\frac{1}{8}$	9 $\frac{1}{8}$	2	1 $\frac{3}{8}$
x136	39.9	13.41	13 $\frac{3}{8}$	0.790	$\frac{13}{16}$	$\frac{7}{16}$	12.400	12 $\frac{3}{8}$	1.250	1 $\frac{1}{4}$	9 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{4}$
x152	44.7	13.71	13 $\frac{1}{2}$	0.870	$\frac{7}{8}$	$\frac{7}{16}$	12.480	12 $\frac{1}{2}$	1.400	1 $\frac{3}{8}$	9 $\frac{1}{8}$	2 $\frac{5}{16}$	1 $\frac{1}{4}$
x170	50.0	14.03	14	0.960	$\frac{15}{16}$	$\frac{1}{2}$	12.570	12 $\frac{5}{8}$	1.560	1 $\frac{7}{16}$	9 $\frac{1}{8}$	2 $\frac{7}{16}$	1 $\frac{5}{16}$
x190	55.8	14.38	14 $\frac{1}{8}$	1.060	1 $\frac{1}{16}$	$\frac{9}{16}$	12.670	12 $\frac{5}{8}$	1.735	1 $\frac{3}{4}$	9 $\frac{1}{8}$	2 $\frac{5}{8}$	1 $\frac{1}{8}$
x210	61.8	14.71	14 $\frac{3}{8}$	1.180	1 $\frac{3}{16}$	$\frac{5}{8}$	12.790	12 $\frac{3}{4}$	1.900	1 $\frac{7}{8}$	9 $\frac{1}{8}$	2 $\frac{13}{16}$	1 $\frac{1}{16}$
x230	67.7	15.05	15	1.285	1 $\frac{5}{16}$	1 $\frac{1}{16}$	12.895	12 $\frac{3}{4}$	2.070	2 $\frac{1}{16}$	9 $\frac{1}{8}$	2 $\frac{15}{16}$	1 $\frac{1}{2}$
x252	74.0	15.41	15 $\frac{1}{8}$	1.395	1 $\frac{3}{8}$	1 $\frac{1}{16}$	13.005	13	2.250	2 $\frac{1}{4}$	9 $\frac{1}{8}$	3 $\frac{1}{8}$	1 $\frac{1}{2}$
x279	81.9	15.85	15 $\frac{3}{8}$	1.530	1 $\frac{1}{2}$	$\frac{3}{4}$	13.140	13 $\frac{1}{8}$	2.470	2 $\frac{1}{2}$	9 $\frac{1}{8}$	3 $\frac{3}{8}$	1 $\frac{5}{8}$
x305	89.6	16.32	16 $\frac{1}{8}$	1.625	1 $\frac{5}{8}$	$\frac{13}{16}$	13.235	13 $\frac{1}{4}$	2.705	2 $\frac{11}{16}$	9 $\frac{1}{8}$	3 $\frac{5}{8}$	1 $\frac{5}{8}$
x336	98.8	16.82	16 $\frac{1}{4}$	1.775	1 $\frac{3}{4}$	$\frac{7}{8}$	13.385	13 $\frac{3}{8}$	2.955	2 $\frac{5}{8}$	9 $\frac{1}{8}$	3 $\frac{7}{8}$	1 $\frac{11}{16}$