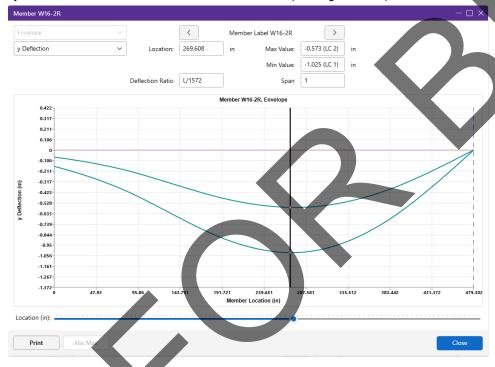


77-711 Flora Road, Suite 219
Palm Desert, CA 92211
Phone: (760) 285-3033

Project	Calc. by
Sheriff's Crime Lab - Remodel	CJS
Section	Sheet no./rev.
Structural Calculations	76
Job Ref.	Date
J2300064	06/14/2024

### **DEFLECTION CHECK**

From RISA-3D analysis, the maximum deflection is in member W16-2R (existing W16X31):



Max. deflection 1.025 in Span length (excluding cantelever) 32'-9"
Deflection ratio L/383

3 > L/240 OK

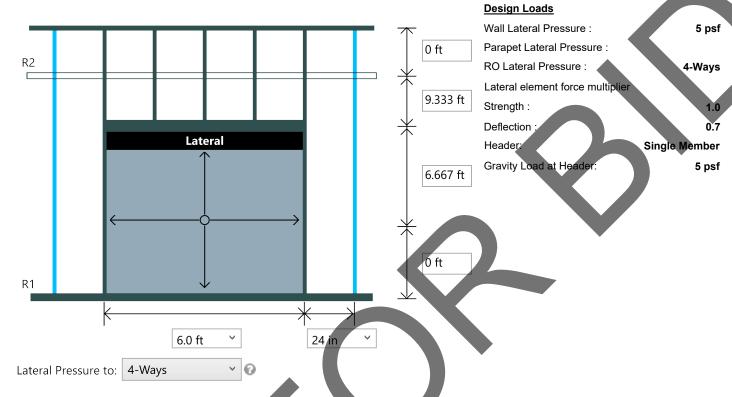
Project Name: Sherrif's Lab Remodel

Model: CW1 w/ H1

Code: 2012 NASPEC [AISI S100-2012]

Page 1 of 2 Date: 06/14/2024

Simpson Strong-Tie® CFS Designer™ 4.2.0.14



### **Brace Settings**

Component(s)	Members(s)	Flexural Bracing	Axial KyLy	Axial KtLt	Distortional K-Phi(lb-in/in)	Distortional Lm	Interconnection Spacing
Wall Studs	400S300-54(50), Single@24 in o/c	None	None	None	0	None	N/A
Jamb Studs	400S350-54(50), Single	None	None	None	0	None	N/A
Vertical Header	400S162-54(50), Y-Y Axis	Full	N/A	N/A	0	None	N/A
Lateral Header	400S162-54(50), Single	Full	N/A	N/A	0	None	N/A

#### **Analysis Results**

		Axial	Max	Max. Moment	Max.	Bottom	Top or End
Component(s)	Members(s)	Load (lb)	KL/r	(ft-lb)	Shear (lb)	Reaction (lb)	Reaction (lb)
Wall Studs	400S300-54(50), Single@24 in o/c	160.0	172	320.0	80.0	80.0	80.0
Jamb Studs	400S350-54(50), Single	253.3	143	622.2	137.5	160.0	90.0
Vertical Header	400S162-54(50), Y-Y Axis	N/A	N/A	210.0	140.0	N/A	140.0
Lateral Header	400S162-54(50), Single	N/A	N/A	150.0	92.5	N/A	92.5

### **Design Results**

<u>Design Results</u>		Deflection			V + M		
Component(s)	Members(s)	Span	Parapet	Interaction	Interaction	Web Stiffners	Design OK
Wall Studs	400S300-54(50), Single@24 in o/c	L/898	L/0	0.608	0.02	NA	Yes
Jamb Studs	400S350-54(50), Single	L/610	L/0	0.69	0.34	NA	Yes
Vertical Header	400S162-54(50), Y-Y Axis	L/203	NA	0.65	0.05	No	Yes
Lateral Header	400S162-54(50), Single	L/3468	NA	0.12	0.03	No	Yes
Combined Header				0.77	0		

### Simpson Strong-Tie® Connectors @ Studs

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	80.00	0.00	400SLT250-33 (33) & (1) .157" SST PDPA/PDPAT-62KP to	53.33 %	48.88 %

Project Name: Sherrif's Lab Remodel Page 2 of 2

Date: 06/14/2024 Model: CW1 w/ H1

Simpson Strong-Tie® CFS Designer™ 4.2.0.14 Code: 2012 NASPEC [AISI S100-2012]

otool	(2/46" to	1/0"	thickness)	
Steer	(3/10 (0	1/2	unicknessi	

R1 80.00 160.00 11.63 % 400T125-33 (33) & (1) 1/4" x 1-3/4" embed Titen2 to 2500 min

concrete

#### Simpson Strong-Tie® Connectors @ Jambs

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	90.00	0.00	400SLT250-33 (33) & (2) #10 screw to CFS (18ga 33ksi)	60.00 %	37.82 %
R1	160.00	253.33	400T150-33 (33) & (1) 1/4" x 1-3/4" embed Titen2 to 2500 min	46.51 %	60.04 %

<sup>\*</sup> Reference catalog for connector and anchor requirement notes as well as screw placements requirement

#### Simpson Strong-Tie® Wall Stud Bridging Connectors @ Studs

Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min)¹	LSUBH (Max)¹	SUBH (Min) <sup>1</sup>	SUBH (Max)¹	MSUBH (Min)¹	MSUBH (Max)¹
Span	Span	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

#### Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jambs

Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min)¹	LSUBH (Max) <sup>1</sup>	SUBH (Min)¹	SUBH (Max)¹	MSUBH (Min) <sup>1</sup>	MSUBH (Max)¹
Span	Span	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

#### Notes:

- 1) Values in parentheses are stress ratios.
- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes.
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.

<sup>\*</sup> Reference catalog for connector and anchor requirement notes as well as screw placements requirement

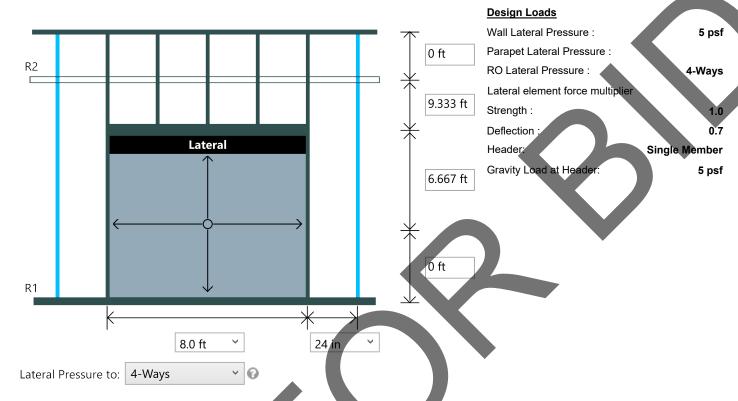
Project Name: Sherrif's Lab Remodel

Model: CW2 w/ H2

Code: 2012 NASPEC [AISI S100-2012]

Page 1 of 2 Date: 06/14/2024

Simpson Strong-Tie® CFS Designer™ 4.2.0.14



### **Brace Settings**

Component(s)	Members(s)	Flexural Bracing	Axial KyLy	Axial KtLt	Distortional K-Phi(lb-in/in)	Distortional Lm	Interconnection Spacing
Wall Studs	600S162-33(33), Single@24 in o/c	Mid-Pt	Mid-Pt	Mid-Pt	0	None	N/A
Jamb Studs	600S162-54(50), Single	Mid-Pt	Mid-Pt	Mid-Pt	0	None	N/A
Vertical Header	600S200-54(50), Y-Y Axis	Full	N/A	N/A	0	None	N/A
Lateral Header	600S200-54(50), Single	Full	N/A	N/A	0	None	N/A

#### **Analysis Results**

		Axial	Max	Max. Moment	мах.	Bottom	Top or End
Component(s)	Members(s)	Load (lb)	KL/r	(ft-lb)	Shear (lb)	Reaction (lb)	Reaction (lb)
Wall Studs	600S162-33(33), Single@24 in o/c	160.0	165	320.0	80.0	80.0	80.0
Jamb Studs	600S162-54(50), Single	300.0	169	777.8	161.1	200.0	106.7
Vertical Header	600S200-54(50), Y-Y Axis	N/A	N/A	373.3	186.7	N/A	186.7
Lateral Header	600S200-54(50), Single	N/A	N/A	289.1	132.2	N/A	132.2

### **Design Results**

Design Results		Deflection		A + M	V + M		
Component(s)	Members(s)	Span	Parapet	Interaction	Interaction	Web Stiffners	Design OK
Wall Studs	600S162-33(33), Single@24 in o/c	L/984	L/0	0.638	0.13	NA	Yes
Jamb Studs	600S162-54(50), Single	L/750	L/0	0.84	0.31	NA	Yes
Vertical Header	600S200-54(50), Y-Y Axis	L/160	NA	0.75	0.05	No	Yes
Lateral Header	600S200-54(50), Single	L/4083	NA	0.13	0.05	No	Yes
Combined Header				0.87	0		

### Simpson Strong-Tie® Connectors @ Studs

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	80.00	0.00	600SLT250-33 (33) & (2) #10 screw to CFS (18ga 33ksi)	53.33 %	33.62 %

Project Name: Sherrif's Lab Remodel Page 2 of 2

Model: CW2 w/ H2 Date: 06/14/2024

Code: 2012 NASPEC [AISI S100-2012] Simpson Strong-Tie® CFS Designer™ 4.2.0.14

R1	80.00	160.00	600T150-33 (33) & (1) 1/4" x 1 5/8" embed Titen HD to 2500	30.34 %	23.88 %
			psi min concrete		

<sup>\*</sup> Reference catalog for connector and anchor requirement notes as well as screw placements requirement

#### Simpson Strong-Tie® Connectors @ Jambs

Support	Rx(lb)	Ry(lb)	Simpson Strong-Tie® Connector	Connector Interaction	Anchor Interaction
R2	106.67	0.00	600SLT250-33 (33) & (2) #10 screw to CFS (18ga 33ksi)	71.11 %	44.82 %
R1	200.00	300.00	600T125-33 (33) & (1) 1/4" x 1-3/4" embed Titen2 to 2500 min concrete	58.14 %	75.05 %

<sup>\*</sup> Reference catalog for connector and anchor requirement notes as well as screw placements requirement

#### Simpson Strong-Tie® Wall Stud Bridging Connectors @ Studs

Span/Parapet	Bracing Length(in.)	Design Number of Braces	Pn(lb.)	LSUBH (Min)¹	LSUBH (Max)¹	SUBH (Min) <sup>1</sup>	SUBH (Max)¹	MSUBH (Min)¹	MSUBH (Max)¹
Span	96	1	2036.2	OK (0.37)	OK (0.26)	OK (0.31)	OK (0.23)	No Soln	No Soln

#### Simpson Strong-Tie® Wall Stud Bridging Connectors @ Jambs

		Design							
	Bracing	Number of		LSUBH	LSUBH	SUBH	SUBH	MSUBH	MSUBH
Span/Parapet	Length(in.)	Braces	Pn(lb.)	(Min)¹	(Max)¹	(Min)¹	(Max)¹	(Min)¹	(Max)¹
Span	96	1	3714.3	OK (0.49)	OK (0,35)	OK (0.39)	OK (0.25)	OK (0.24)	OK (0.16)

#### Notes:

- 1) Values in parentheses are stress ratios.
- 2) Bridging connectors are not designed for back-back, box, or built-up sections.
- 3) Reference www.strongtie.com for latest load data, important information, and general notes.
- 4) CFS Designer will not select bridging connectors unless all flexural and axial bracing settings are the same.
- 5) If the bracing length is larger than the span length, bridging connectors are not designed.



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Project	Calc. by		
Sheriff's Crime Lab - Remodel	CJS		
Section	Sheet no./rev.		
Structural Calculations	81		
Job Ref.	Date		
J2300064	06/14/2024		

#### **CHECK HEADER CONNECTION**

Connector

Simposon Rigid Connector Angle RCA223/68

RCA Rigid Connector Angles Allowable Loads (lb.)

					Stud F	raming Thick	(ness <sup>11</sup>			
		3	33 mil (20 ga.)			43 mil (18 ga.	)		54 mil (16 ga.	
		F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>	F <sub>2</sub>	F <sub>3</sub>	F <sub>4</sub>
3	3A	205	495	200	205	590	310	205	590	620
4	3B	205	580	390	205	580	605	205	580	1,095
6	3C	205	865	480	205	865	740	205	865	1,095
3	3A	310	495	200	310	765	310	310	815	620
4	3B	310	660	390	310	805	605	310	805	1,210
6	3C	310	990	480	310	1,205	740	310	1,205	1,350
	4	#10 Screws <sup>5,8</sup> Pattern  3 3A 4 3B 6 3C 3 3A 4 3B	#10 Screws <sup>5,6</sup> Pattern F <sub>2</sub> 3 3A 205  4 3B 205  6 3C 205  3 3A 310  4 3B 310	#10 Screws <sup>5,6</sup> Pattern F <sub>2</sub> F <sub>3</sub> 3 3A 205 495  4 3B 205 580  6 3C 205 865  3 3A 310 495  4 3B 310 660	#10 Screws <sup>5,6</sup> Pattern F2 F3 F4  3 3A 205 495 200  4 3B 205 580 390  6 3C 205 865 480  3 3A 310 495 200  4 3B 310 660 390	No. of #10 Screws         Screw Pattern         33 mil (20 ga.)           F2         F3         F4         F2           3         3A         205         495         200         205           4         3B         205         580         390         205           6         3C         205         865         480         205           3         3A         310         495         200         310           4         3B         310         660         390         310	No. of #10 Screws 5.6         Screw Pattern         33 mil (20 ga.)         43 mil (18 ga.)           F2         F3         F4         F2         F3           3         3A         205         495         200         205         590           4         3B         205         580         390         205         580           6         3C         205         865         480         205         865           3         3A         310         495         200         310         765           4         3B         310         660         390         310         805	#10 Screws 5.8 Pattern F2 F3 F4 F2 F3 F4  3 3A 205 495 200 205 590 310  4 3B 205 580 390 205 580 605  6 3C 205 865 480 205 865 740  3 3A 310 495 200 310 765 310  4 3B 310 660 390 310 805 605	No. of #10 Screws <sup>5,6</sup> Screw Pattern         33 mil (20 ga.)         43 mil (18 ga.)           F2         F3         F4         F2         F3         F4         F2           3         3A         205         495         200         205         590         310         205           4         3B         205         580         390         205         580         605         205           6         3C         205         865         480         205         865         740         205           3         3A         310         495         200         310         765         310         310           4         3B         310         660         390         310         805         605         310	No. of #10 Screws 5.6         Screw Pattern         33 mil (20 ga.)         43 mil (18 ga.)         54 mil (16 ga.)           F2         F3         F4         F2         F3           3         3A         205         495         200         205         590         310         205         590           4         3B         205         580         390         205         580         605         205         580           6         3C         205         865         480         205         865         740         205         865           3         3A         310         495         200         310         765         310         310         815           4         3B         310         660         390         310         805         605         310         805

Simpson RCA223/68 shear capacity (F<sub>2</sub>) 310 lbs

Shear demand:

Height of CFS wall above header

Max. width of header

Weight of CFS wall + finishes

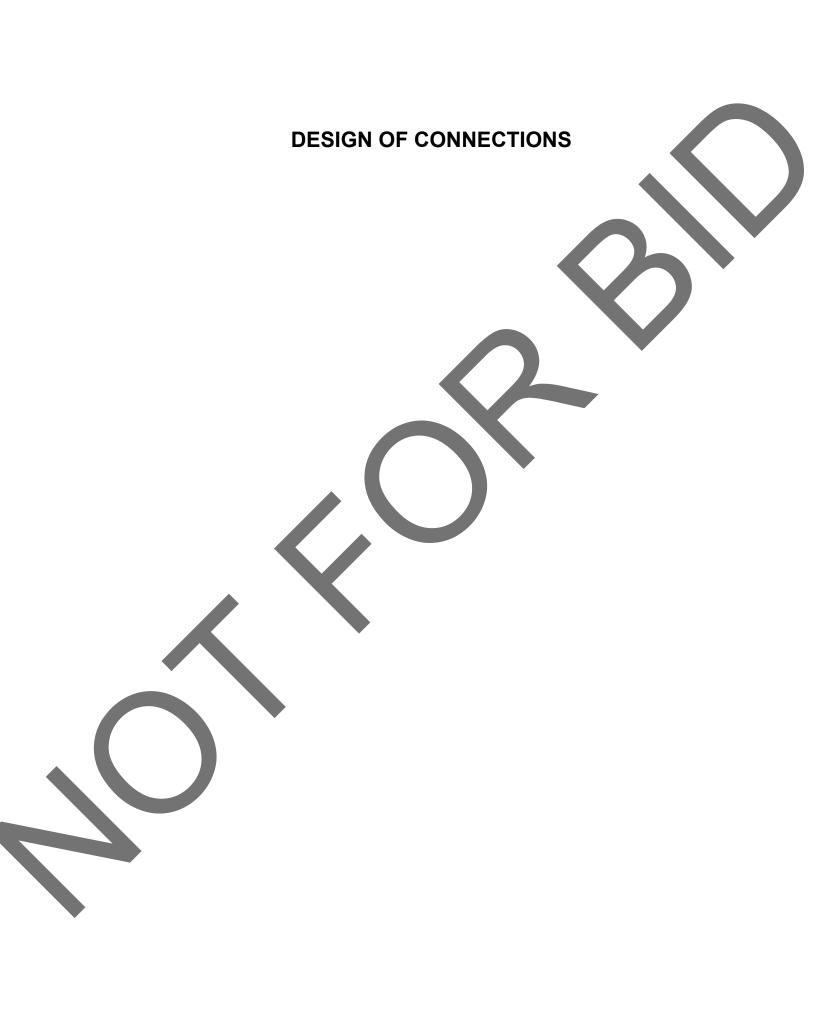
Max. reaction at header suppot

8'-0'

5 psf

 $= 5 \times 8 \times 9.33 / 2 = 187 \text{ lbs}$  < 310 lbs

PASS - Shear demand is less than shear capacity.

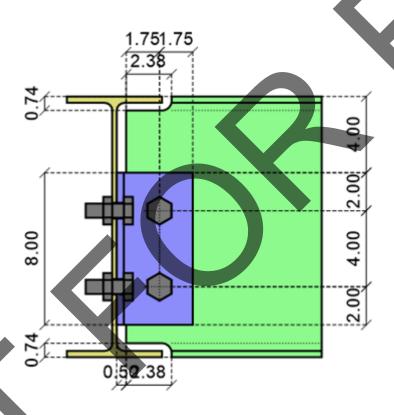




### J32 I - J18: 2D Views Report

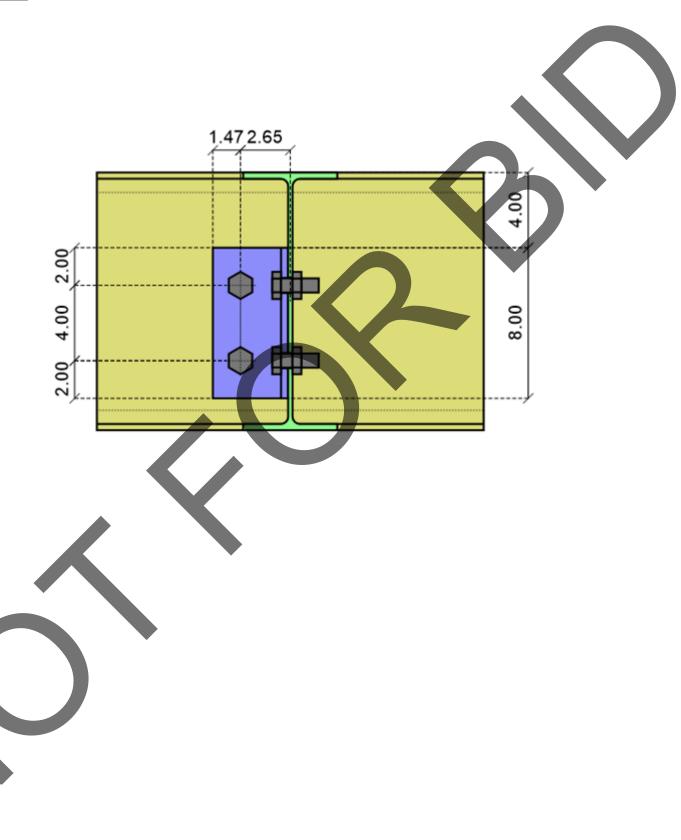
Side view

Girder/Beam Single Angle (One Side) Shear Connection



## J32 I - J18: 2D Views Report (continued):

Front view



### J32 I - J18: ASD Results Report

Girder/Beam Single Angle (One Side) Shear

0	

				Connection
Material Properties	s:			
Girder	W14X22	A992	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Beam	W14X22	A992	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Angle	L4X4X6	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	$F_{u} = 65.00 \text{ ksi}$
Input Data:				
Shear Load		-900.99 lbs	User Input Shea	r Load
Axial Load		-608.05 lbs	User Input Axial	Force (tension)

Governing LC: 3D - 12 - LC 12 NBC 21/ASCE Strength 7 (a)

Note: Unless specified, all code references are from AISC 360-10

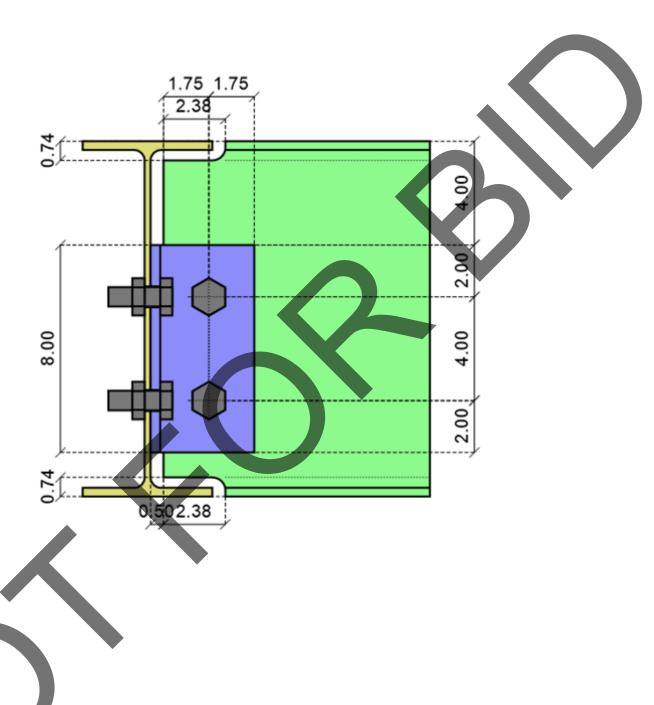
Limit State	Required	Available	Unity Check	Result
Geometry Restrictions at Beam				PASS
Geometry Restrictions at Girder				PASS
Erection Stability				PASS
Beam Shear Yield	900.99 lbs	56258.00 lbs	0.02	PASS
Clip Angle Shear Yield	900.99 lbs	60000.00 lbs	0.02	PASS
Beam Shear Rupture	900.99 lbs	47002.80 lbs	0.02	PASS
Clip Angle Shear Rupture at Beam	900.99 lbs	45703.12 lbs	0.02	PASS
Clip Angle Shear Rupture at Girder	900.99 lbs	45703.12 lbs	0.02	PASS
Beam Axial Yield	608.05 lbs	84218.56 lbs	0.01	PASS
Clip Angle Axial Yield	608.05 lbs	89820.36 lbs	0.01	PASS
Beam Tension Rupture	608.05 lbs	78338.00 lbs	0.01	PASS
Clip Angle Tension Rupture at Beam	608.05 lbs	76171.88 lbs	0.01	PASS
Clip Angle Block Shear at Girder	900.99 lbs	46303.12 lbs	0.02	PASS
Beam Block Shear	900.99 lbs	33840.19 lbs	0.03	PASS
Clip Angle Block Shear at Beam	900.99 lbs	49746.09 lbs	0.02	PASS
Beam Tearout	608.05 lbs	35132.50 lbs	0.02	PASS
Clip Angle Tearout	608.05 lbs	57281.25 lbs	0.01	PASS
Coped Beam Flexural Rupture	900.99 lbs	64590.26 lbs	0.01	PASS
Coped Beam Lateral Torsional Buckling	900.99 lbs	59502.77 lbs	0.02	PASS
Clip Angle Flexural Yield			0.00	PASS
Clip Angle Flexural Rupture			0.00	PASS
Bolt Bearing on Girder	900.99 lbs	23856.47 lbs	0.04	PASS
Bolt Bearing on Clip Angle at Girder	900.99 lbs	23856.47 lbs	0.04	PASS
Bolt Bearing on Beam	1086.97 lbs	23856.47 lbs	0.05	PASS
Bolt Bearing on Clip Angle at Beam	1086.97 lbs	23856.47 lbs	0.05	PASS
<b>B</b> olt Shear at Girder	900.99 lbs	16465.74 lbs	0.05	PASS
Bolt Group Eccentricity at Girder		0.69		

continued on next page...

## J32 I - J18: ASD Results Report (continued):

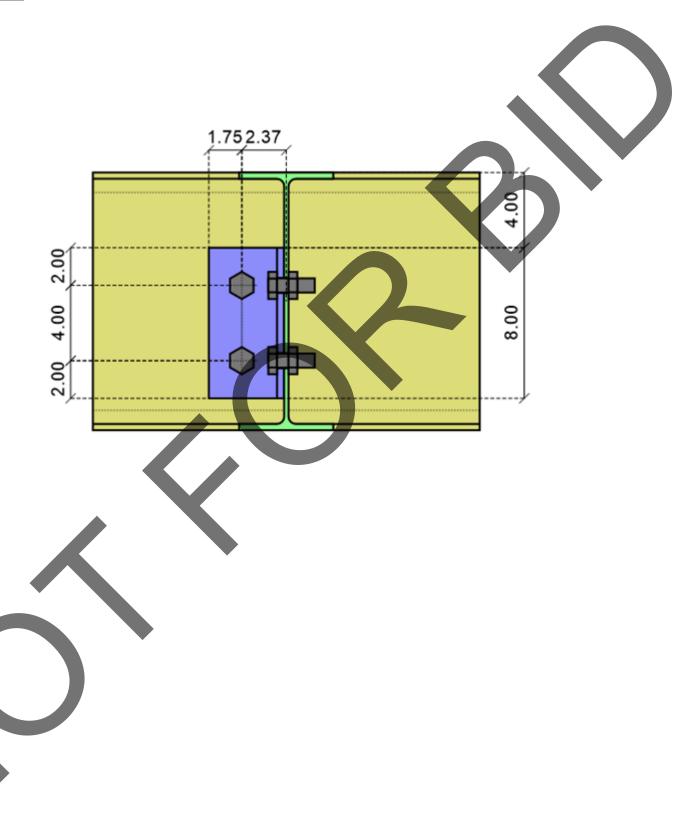
Limit State	Required	Available	<b>Unity Check</b>	Result
Bolt Shear at Beam	1086.97 lbs	18201.29 lbs	0.06	PASS
Bolt Group Eccentricity at Beam		0.76		
Angle Leg Bending	0.13 kips-ft	0.91 kips-ft	0.15	PASS
Bolt Prying				No Prying
Bolt Tension at Girder				N/A

Side view



## J32 J - J19: 2D Views Report (continued):

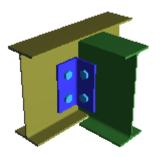
Front view



### J32 J - J19: ASD Results Report

Girder/Beam Single Angle (One Side) Shear Connection

Material Propertie	es:			
Girder	W14X22	A992	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Beam	W14X22	A992	F <sub>v</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Angle	L4X4X6	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Input Data:				
Shear Load		12158.16 lbs	User Input Shea	r Load
<b>Axial Load</b>		-48.10 lbs	User Input Axial	Force (tension)

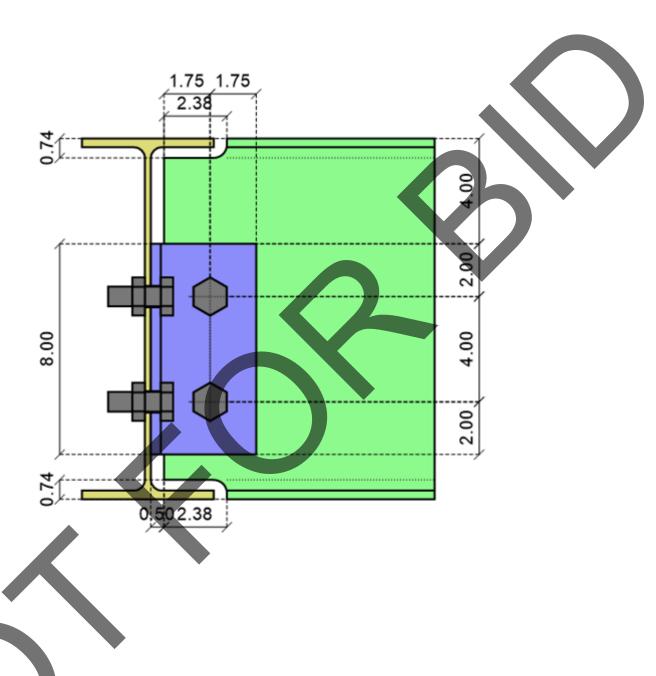


Governing LC: 3D - 6 - LC 6: IBC 21/ASCE ASD 3 (a)

Note: Unless specified, all code references are from AISC 360-10

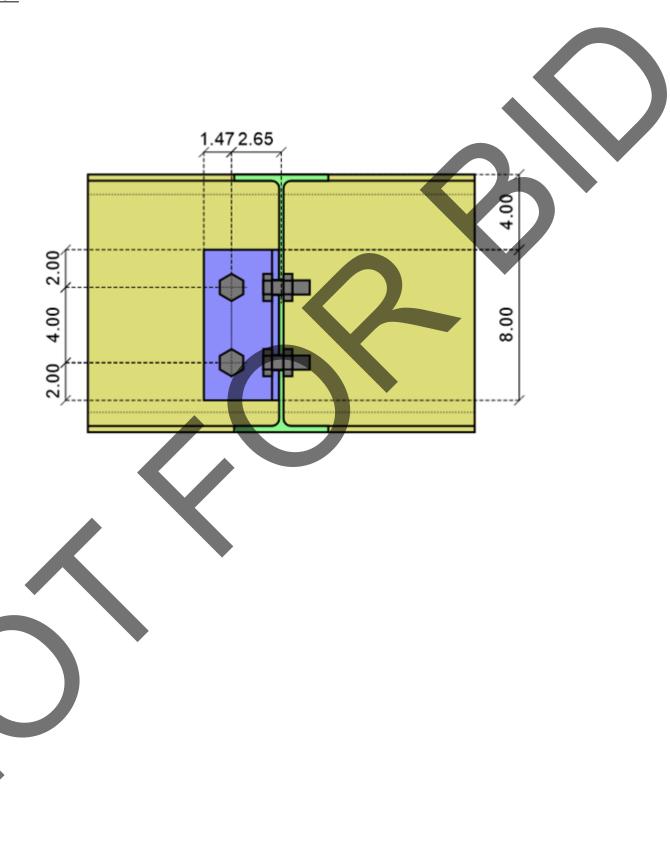
Limit State	Required	Available	Unity Check	Result
Geometry Restrictions at Beam				PASS
Geometry Restrictions at Girder				PASS
Erection Stability				PASS
Beam Shear Yield	12158.16 lbs	56258.00 lbs	0.22	PASS
Clip Angle Shear Yield	12158.16 lbs	60000.00 lbs	0.20	PASS
Beam Shear Rupture	12158.16 lbs	47002.80 lbs	0.26	PASS
Clip Angle Shear Rupture at Beam	12158.16 lbs	45703.12 lbs	0.27	PASS
Clip Angle Shear Rupture at Girder	12158.16 lbs	45703.12 lbs	0.27	PASS
Clip Angle Block Shear at Girder	12158.16 lbs	49746.09 lbs	0.24	PASS
Beam Block Shear	12158.16 lbs	41775.19 lbs	0.29	PASS
Clip Angle Block Shear at Beam	12158.16 lbs	49746.09 lbs	0.24	PASS
Coped Beam Flexural Rupture	12158.16 lbs	64590.26 lbs	0.19	PASS
Coped Beam Lateral Torsional Buckling	12158.16 lbs	59502.77 lbs	0.20	PASS
Bolt Bearing on Girder	12158.16 lbs	23856.47 lbs	0.51	PASS
Bolt Bearing on Clip Angle at Girder	12158.16 lbs	23856.47 lbs	0.51	PASS
Bolt Bearing on Beam	12158.16 lbs	23856.47 lbs	0.51	PASS
Bolt Bearing on Clip Angle at Beam	12158.16 lbs	23856.47 lbs	0.51	PASS
Bolt Shear at Girder	12158.16 lbs	15122.62 lbs	0.80	PASS
Bolt Group Eccentricity at Girder		0.63		
Bolt Shear at Beam	12158.16 lbs	15555.61 lbs	0.78	PASS
Bolt Group Eccentricity at Beam		0.65		
Bolt Prying				Prying
Bolt Tension at Girder				N/A

Side view



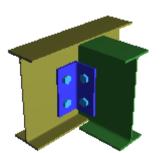
## J33 I - J14: 2D Views Report (continued):

Front view



### J33 I - J14: ASD Results Report

Girder/Beam Single Angle (One Side) Shear



				Connection
Material Propertie	es:			
Girder	W14X22	A992	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Beam	W14X22	A992	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Angle	L4X4X6	A572 Gr.50	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Input Data:				
Shear Load		-87.98 lbs	User Input Shea	r Load
Axial Load		-796.86 lbs	User Input Axial	Force (tension)

Governing LC: 3D - 12 - LC 12 NBC 21/ASCE Strength 7 (a)

Note: Unless specified, all code references are from AISC 360-10

Limit State	Required	Available	Unity Check	Result
Geometry Restrictions at Beam				PASS
Geometry Restrictions at Girder				PASS
Erection Stability				PASS
Beam Shear Yield	87.98 lbs	56258.00 lbs	0.00	PASS
Clip Angle Shear Yield	87.98 lbs	60000.00 lbs	0.00	PASS
Beam Shear Rupture	87.98 lbs	47002.80 lbs	0.00	PASS
Clip Angle Shear Rupture at Beam	87.98 lbs	45703.12 lbs	0.00	PASS
Clip Angle Shear Rupture at Girder	87.98 lbs	45703.12 lbs	0.00	PASS
Beam Axial Yield	796.86 lbs	84218.56 lbs	0.01	PASS
Clip Angle Axial Yield	796.86 lbs	89820.36 lbs	0.01	PASS
Beam Tension Rupture	796.86 lbs	78338.00 lbs	0.01	PASS
Clip Angle Tension Rupture at Beam	796.86 lbs	76171.88 lbs	0.01	PASS
Clip Angle Block Shear at Girder	87.98 lbs	46303.12 lbs	0.00	PASS
Beam Block Shear	87.98 lbs	33840.19 lbs	0.00	PASS
Clip Angle Block Shear at Beam	87.98 lbs	49746.09 lbs	0.00	PASS
Beam Tearout	796.86 lbs	35132.50 lbs	0.02	PASS
Clip Angle Tearout	796.86 lbs	57281.25 lbs	0.01	PASS
Coped Beam Flexural Rupture	87.98 lbs	64590.26 lbs	0.00	PASS
Coped Beam Lateral Torsional Buckling	87.98 lbs	59502.77 lbs	0.00	PASS
Clip Angle Flexural Yield			0.00	PASS
Clip Angle Flexural Rupture			0.00	PASS
Bolt Bearing on Girder	87.98 lbs	23856.47 lbs	0.00	PASS
Bolt Bearing on Clip Angle at Girder	87.98 lbs	23856.47 lbs	0.00	PASS
Bolt Bearing on Beam	801.70 lbs	23856.47 lbs	0.03	PASS
Bolt Bearing on Clip Angle at Beam	801.70 lbs	23856.47 lbs	0.03	PASS
<b>Bolt Shear at Girder</b>	87.98 lbs	16484.82 lbs	0.01	PASS
Bolt Group Eccentricity at Girder		0.69		

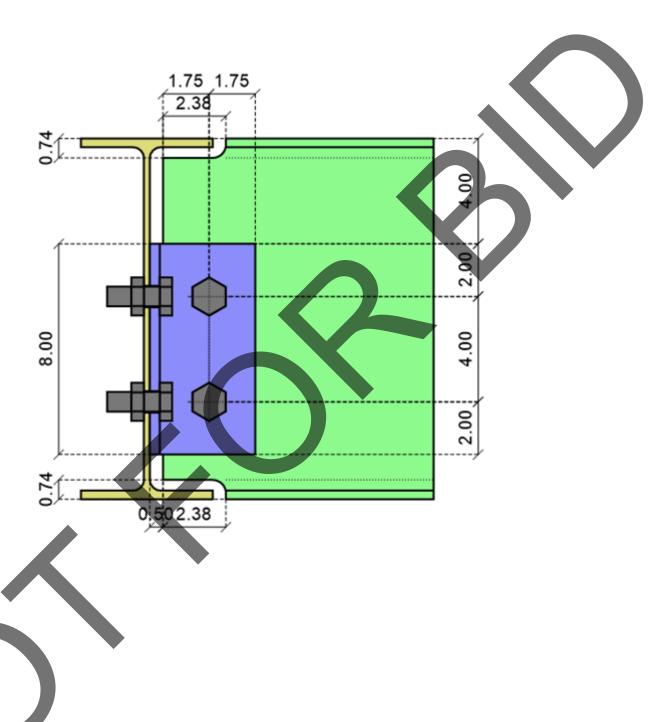
continued on next page...

# J33 I - J14: ASD Results Report (continued):

Limit State	Required	Available	<b>Unity Check</b>	Result
Bolt Shear at Beam	801.70 lbs	16230.75 lbs	0.05	PASS
Bolt Group Eccentricity at Beam		0.68		
Angle Leg Bending	0.18 kips-ft	0.91 kips-ft	0.19	PASS
Bolt Prying				No Prying
Bolt Tension at Girder				N/A

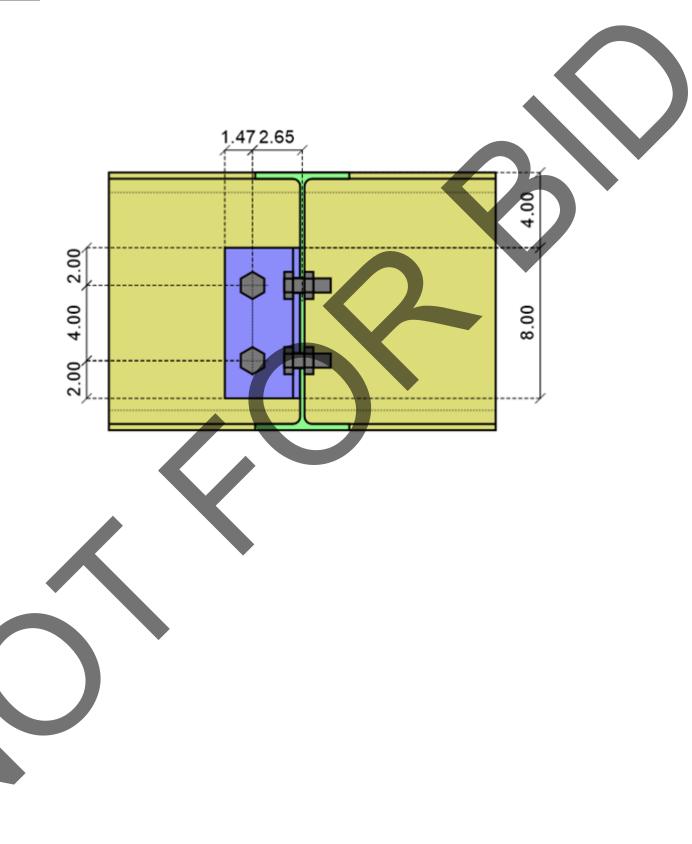


Side view



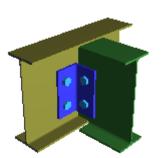
## J33 J - J15: 2D Views Report (continued):

Front view



### J33 J - J15: ASD Results Report

Girder/Beam Single Angle (One Side) Shear



				Connection
Material Propertie	s:			
Girder	W14X22	A992	F <sub>v</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Beam	W14X22	A992	F <sub>v</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Angle	L4X4X6	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Input Data:				
Shear Load		83.05 lbs	User Input Shea	r Load
Axial Load		-796.88 lbs	User Input Axial	Force (tension)

Governing LC: 3D - 12 - LC 12: IBC 21/ASCE Strength 7 (a)

Note: Unless specified, all code references are from AISC 360-10

Limit State	Required	Available	Unity Check	Result
Geometry Restrictions at Beam				PASS
Geometry Restrictions at Girder				PASS
Erection Stability				PASS
Beam Shear Yield	83.05 lbs	56258.00 lbs	0.00	PASS
Clip Angle Shear Yield	83.05 lbs	60000.00 lbs	0.00	PASS
Beam Shear Rupture	83.05 lbs	47002.80 lbs	0.00	PASS
Clip Angle Shear Rupture at Beam	83.05 lbs	45703.12 lbs	0.00	PASS
Clip Angle Shear Rupture at Girder	83.05 lbs	45703.12 lbs	0.00	PASS
Beam Axial Yield	796.88 lbs	84218.56 lbs	0.01	PASS
Clip Angle Axial Yield	796.88 lbs	89820.36 lbs	0.01	PASS
Beam Tension Rupture	796.88 lbs	78338.00 lbs	0.01	PASS
Clip Angle Tension Rupture at Beam	796.88 lbs	76171.88 lbs	0.01	PASS
Clip Angle Block Shear at Girder	83.05 lbs	46303.12 lbs	0.00	PASS
Beam Block Shear	83.05 lbs	41775.19 lbs	0.00	PASS
Clip Angle Block Shear at Beam	83.05 lbs	49746.09 lbs	0.00	PASS
Beam Tearout	796.88 lbs	35132.50 lbs	0.02	PASS
Clip Angle Tearout	796.88 lbs	57281.25 lbs	0.01	PASS
Coped Beam Flexural Rupture	83.05 lbs	64590.26 lbs	0.00	PASS
Coped Beam Lateral Torsional Buckling	83.05 lbs	59502.77 lbs	0.00	PASS
Clip Angle Flexural Yield			0.00	PASS
Clip Angle Flexural Rupture			0.00	PASS
Bolt Bearing on Girder	83.05 lbs	23856.47 lbs	0.00	PASS
Bolt Bearing on Clip Angle at Girder	83.05 lbs	23856.47 lbs	0.00	PASS
Bolt Bearing on Beam	801.20 lbs	23856.47 lbs	0.03	PASS
Bolt Bearing on Clip Angle at Beam	801.20 lbs	23856.47 lbs	0.03	PASS
Bolt Shear at Girder	83.05 lbs	16379.85 lbs	0.01	PASS
Bolt Group Eccentricity at Girder		0.69		

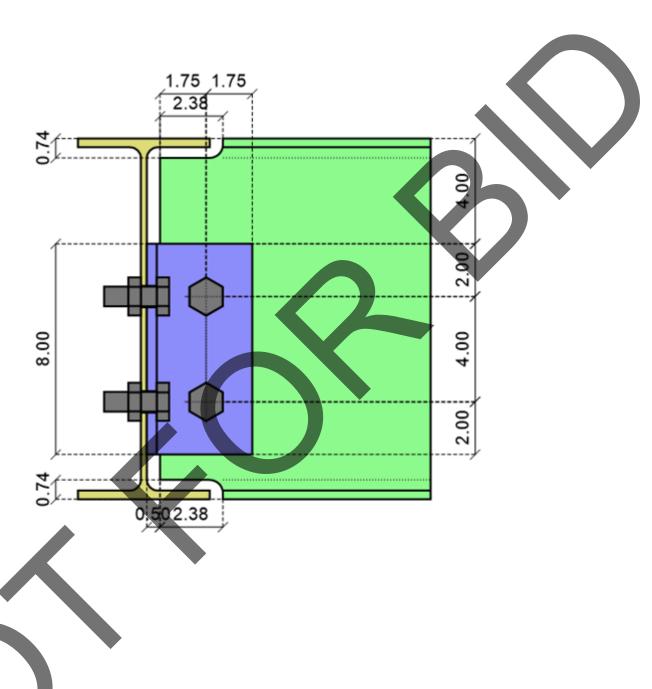
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## J33 J - J15: ASD Results Report (continued):

Limit State	Required	Available	<b>Unity Check</b>	Result
Bolt Shear at Beam	801.20 lbs	16149.64 lbs	0.05	PASS
Bolt Group Eccentricity at Beam		0.68		
Angle Leg Bending	0.18 kips-ft	0.91 kips-ft	0.19	PASS
Bolt Prying				No Prying
Bolt Tension at Girder				N/A

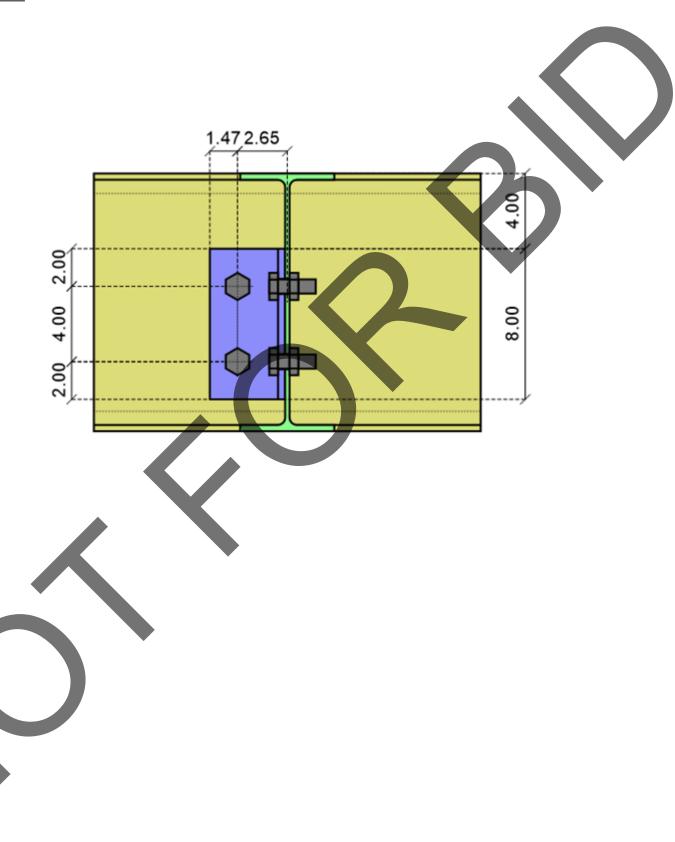


Side view



## J34 I - J13: 2D Views Report (continued):

Front view



### J34 I - J13: ASD Results Report

Girder/Beam Single Angle (One Side) Shear

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				Connection
Material Propertie	s:			
Girder	W14X22	A992	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Beam	W14X22	A992	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Angle	L4X4X6	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Input Data:				
Shear Load		-491.70 lbs	User Input Shea	r Load
Axial Load		-182.67 lbs	User Input Axial	Force (tension)

Governing LC: 3D - 12 - LC 12: IBC 21/ASCE Strength 7 (a)

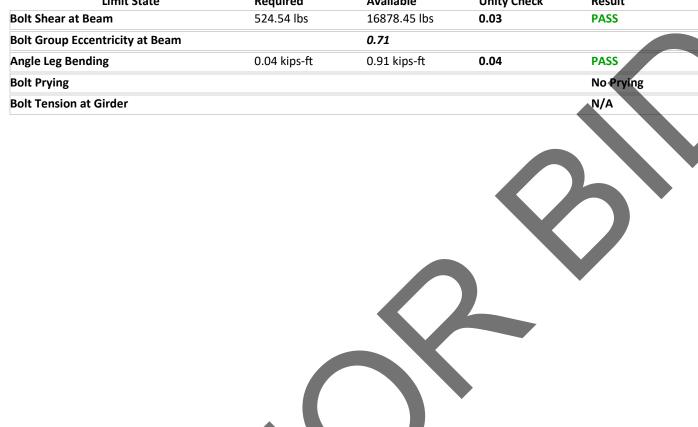
Note: Unless specified, all code references are from AISC 360-10

Limit State	Required	Available	Unity Check	Result
Geometry Restrictions at Beam				PASS
Geometry Restrictions at Girder				PASS
Erection Stability				PASS
Beam Shear Yield	491.70 lbs	56258.00 lbs	0.01	PASS
Clip Angle Shear Yield	491.70 lbs	60000.00 lbs	0.01	PASS
Beam Shear Rupture	491.70 lbs	47002.80 lbs	0.01	PASS
Clip Angle Shear Rupture at Beam	491.70 lbs	45703.12 lbs	0.01	PASS
Clip Angle Shear Rupture at Girder	491.70 lbs	45703.12 lbs	0.01	PASS
Beam Axial Yield	182.67 lbs	84218.56 lbs	0.00	PASS
Clip Angle Axial Yield	182.67 lbs	89820.36 lbs	0.00	PASS
Beam Tension Rupture	182.67 lbs	78338.00 lbs	0.00	PASS
Clip Angle Tension Rupture at Beam	182.67 lbs	76171.88 lbs	0.00	PASS
Clip Angle Block Shear at Girder	491.70 lbs	46303.12 lbs	0.01	PASS
Beam Block Shear	491.70 lbs	33840.19 lbs	0.01	PASS
Clip Angle Block Shear at Beam	491.70 lbs	49746.09 lbs	0.01	PASS
Beam Tearout	182.67 lbs	35132.50 lbs	0.01	PASS
Clip Angle Tearout	182.67 lbs	57281.25 lbs	0.00	PASS
Coped Beam Flexural Rupture	491.70 lbs	64590.26 lbs	0.01	PASS
Coped Beam Lateral Torsional Buckling	491.70 lbs	59502.77 lbs	0.01	PASS
Clip Angle Flexural Yield			0.00	PASS
Clip Angle Flexural Rupture			0.00	PASS
Bolt Bearing on Girder	491.70 lbs	23856.47 lbs	0.02	PASS
Bolt Bearing on Clip Angle at Girder	491.70 lbs	23856.47 lbs	0.02	PASS
Bolt Bearing on Beam	524.54 lbs	23856.47 lbs	0.02	PASS
Bolt Bearing on Clip Angle at Beam	524.54 lbs	23856.47 lbs	0.02	PASS
Bolt Shear at Girder	491.70 lbs	15229.97 lbs	0.03	PASS
Bolt Group Eccentricity at Girder		0.64		

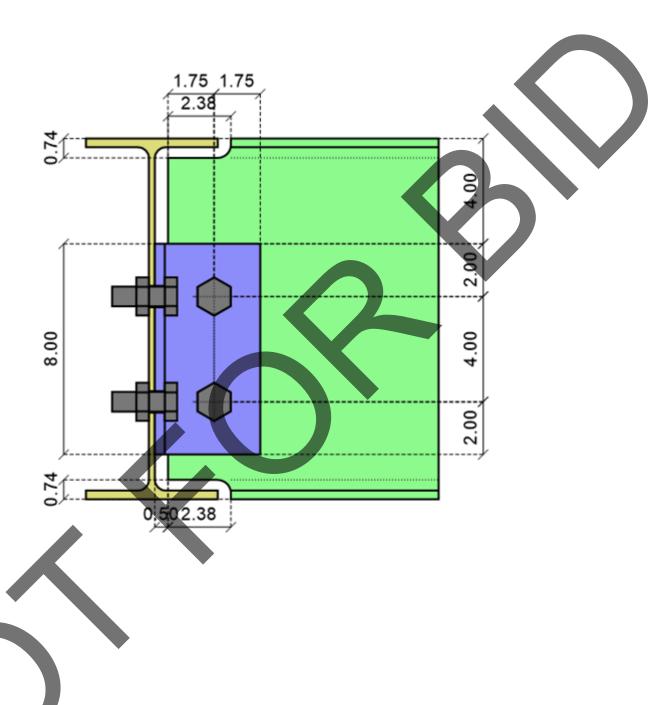
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# J34 I - J13: ASD Results Report (continued):

Limit State	Required	Available	<b>Unity Check</b>	Result
Bolt Shear at Beam	524.54 lbs	16878.45 lbs	0.03	PASS
Bolt Group Eccentricity at Beam		0.71		
Angle Leg Bending	0.04 kips-ft	0.91 kips-ft	0.04	PASS
Bolt Prying				No Prying
Bolt Tension at Girder				N/A

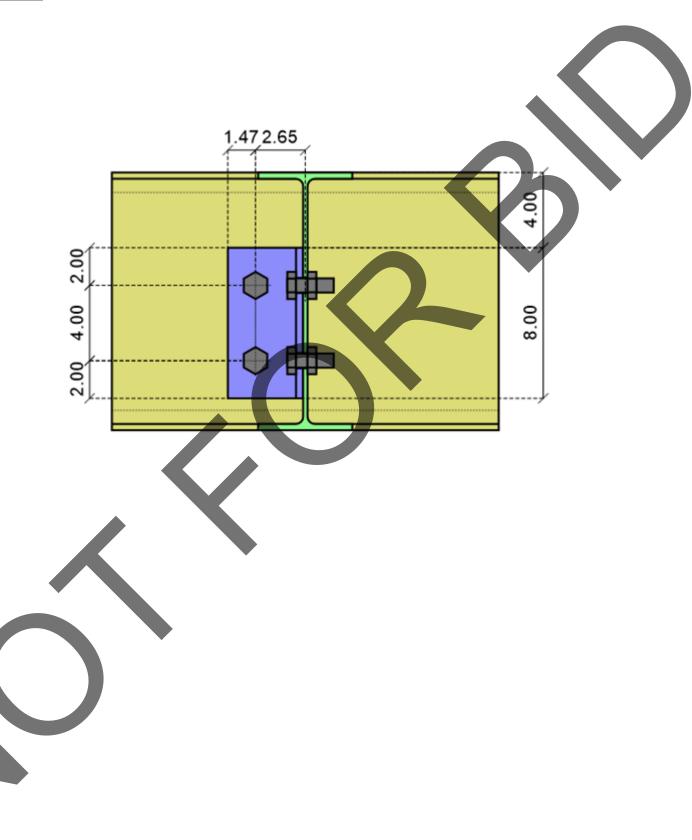


### Side view



## J34 J - J14: 2D Views Report (continued):

Front view



### J34 J - J14: ASD Results Report

Girder/Beam Single Angle (One Side) Shear

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				Connection
Material Propertie	es:			
Girder	W14X22	A992	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Beam	W14X22	A992	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Angle	L4X4X6	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 65.00 ksi
Input Data:				
Shear Load 49		491.70 lbs	User Input Shear Load	
Axial Load -555.23 lbs		-555.23 lbs	User Input Axial	Force (tension)

Governing LC: 3D - 12 - LC 12: IBC 21/ASCE Strength 7 (a)

Note: Unless specified, all code references are from AISC 360-10

Limit State	Required	Available	Unity Check	Result
Geometry Restrictions at Beam				PASS
Geometry Restrictions at Girder				PASS
Erection Stability				PASS
Beam Shear Yield	491.70 lbs	56258.00 lbs	0.01	PASS
Clip Angle Shear Yield	491.70 lbs	60000.00 lbs	0.01	PASS
Beam Shear Rupture	491.70 lbs	47002.80 lbs	0.01	PASS
Clip Angle Shear Rupture at Beam	491.70 lbs	45703.12 lbs	0.01	PASS
Clip Angle Shear Rupture at Girder	491.70 lbs	45703.12 lbs	0.01	PASS
Beam Axial Yield	555.23 lbs	84218.56 lbs	0.01	PASS
Clip Angle Axial Yield	555.23 lbs	89820.36 lbs	0.01	PASS
Beam Tension Rupture	555.23 lbs	78338.00 lbs	0.01	PASS
Clip Angle Tension Rupture at Beam	555.23 lbs	76171.88 lbs	0.01	PASS
Clip Angle Block Shear at Girder	491.70 lbs	46303.12 lbs	0.01	PASS
Beam Block Shear	491.70 lbs	41775.19 lbs	0.01	PASS
Clip Angle Block Shear at Beam	491.70 lbs	49746.09 lbs	0.01	PASS
Beam Tearout	555.23 lbs	35132.50 lbs	0.02	PASS
Clip Angle Tearout	555.23 lbs	57281.25 lbs	0.01	PASS
Coped Beam Flexural Rupture	491.70 lbs	64590.26 lbs	0.01	PASS
Coped Beam Lateral Torsional Buckling	491.70 lbs	59502.77 lbs	0.01	PASS
Clip Angle Flexural Yield			0.00	PASS
Clip Angle Flexural Rupture			0.00	PASS
Bolt Bearing on Girder	491.70 lbs	23856.47 lbs	0.02	PASS
Bolt Bearing on Clip Angle at Girder	491.70 lbs	23856.47 lbs	0.02	PASS
Bolt Bearing on Beam	741.65 lbs	23856.47 lbs	0.03	PASS
Bolt Bearing on Clip Angle at Beam	741.65 lbs	23856.47 lbs	0.03	PASS
Bolt Shear at Girder	491.70 lbs	18718.98 lbs	0.03	PASS
Bolt Group Eccentricity at Girder		0.78		

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## J34 J - J14: ASD Results Report (continued):

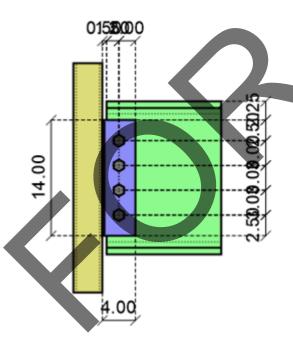
Limit State	Required	Available	<b>Unity Check</b>	Result
Bolt Shear at Beam	741.65 lbs	20439.03 lbs	0.04	PASS
Bolt Group Eccentricity at Beam		0.86		
Angle Leg Bending	0.12 kips-ft	0.91 kips-ft	0.13	PASS
Bolt Prying				No Prying
Bolt Tension at Girder				N/A



## W18-L I - C\_(1.9-B.3): 2D Views Report

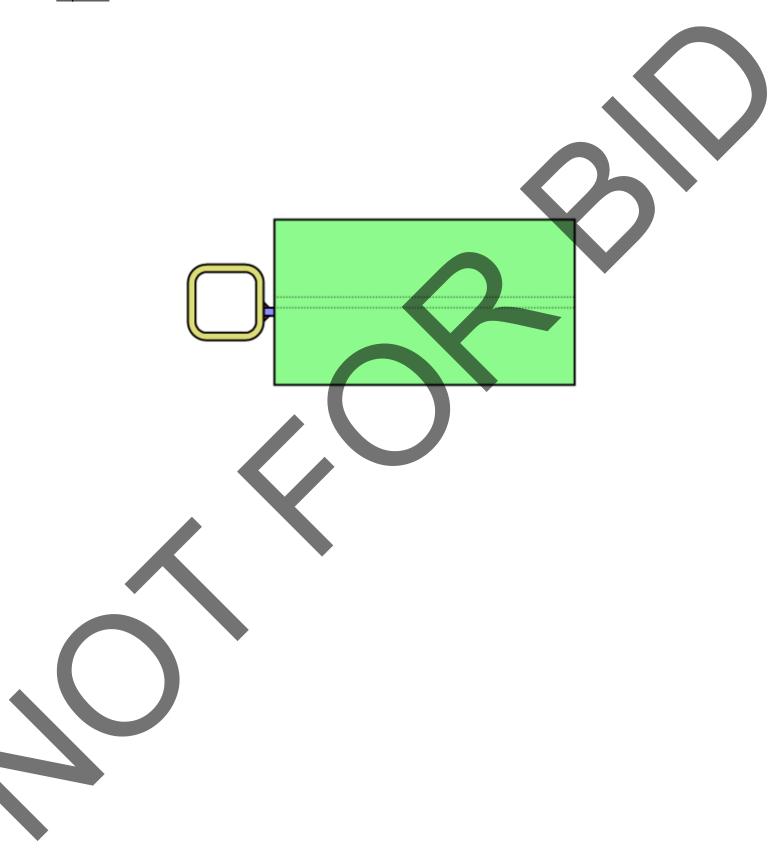
Side view

Column/Beam Shear Tab Shear Connection



W18-L I - C\_(1.9-B.3): 2D Views Report (continued):

Top view



## W18-L I - C\_(1.9-B.3): ASD Results Report



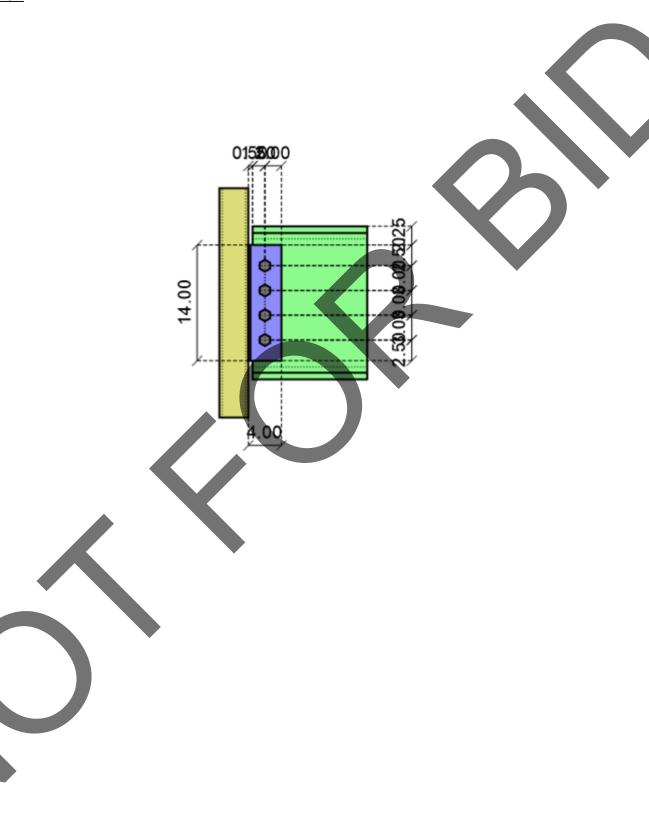
Material Properties:				
Column	HSS3.5X3.5X6	A500 Gr.C	F <sub>y</sub> = 50.00 ksi	$F_{u} = 62.00 \text{ ksi}$
		RECT		
Beam	W18X71	A992	F <sub>y</sub> = 50.00 ksi	$F_u = 65.00 \text{ ksi}$
Plate	P0.38x4.00x14.	A572 Gr.50	$F_{v} = 50.00 \text{ ksi}$	$F_{\mu} = 65.00 \text{ ksi}$
	00		,	
Input Data:				
Shear Load	139	907.00 lbs	User Input Shea	r Load
Axial Load	-1.0	04 lbs	User Input Axial	Force (tension)
Column Force	139	909.40 lbs	User Input Colu	nn Force
Column Moment	0.5	1 kips-ft	User Input Colui	mn Moment

Governing LC: 3D - 6 - LC 6: IBC 21/ASCE ASD 3 (a)

Note: Unless specified, all code references are from AISC 360-10

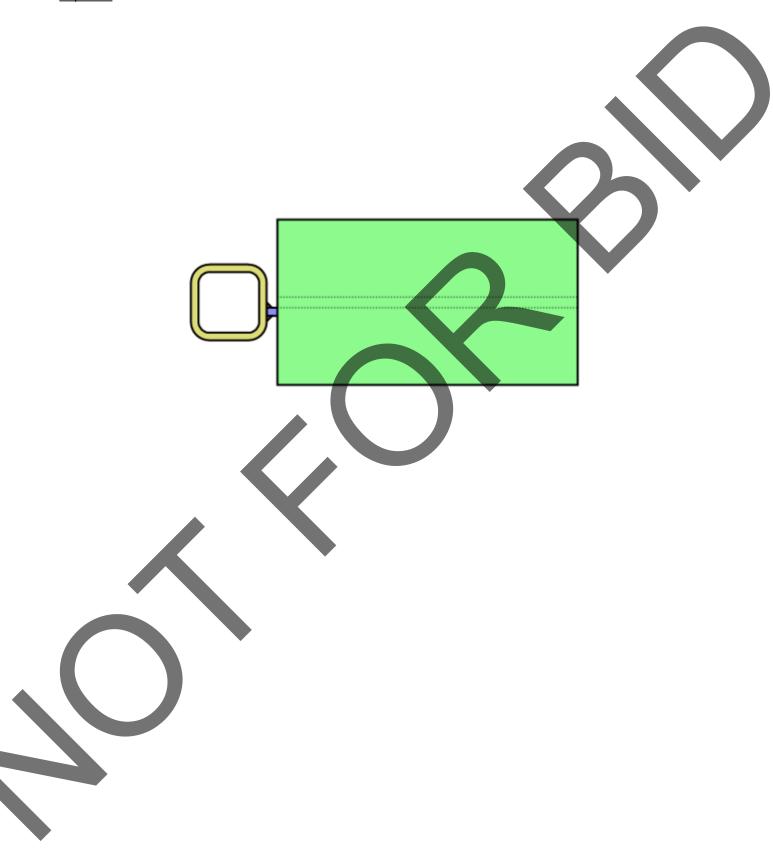
Limit State	Required	Available	<b>Unity Check</b>	Result
HSS Punching Shear				PASS
Geometry Restrictions at Beam				PASS
Column Weld Limitations				PASS
Rotational Ductility, Erection Stability				PASS
Beam Shear Yield	13907.00 lbs	183150.00 lbs	0.08	PASS
Plate Shear Yield	13907.00 lbs	105000.00 lbs	0.13	PASS
Beam Shear Rupture	13907.00 lbs	144787.50 lbs	0.10	PASS
Plate Shear Rupture at Beam	13907.00 lbs	76781.25 lbs	0.18	PASS
Beam Block Shear	13907.00 lbs	155636.72 lbs	0.09	PASS
Plate Block Shear	13907.00 lbs	80742.19 lbs	0.17	PASS
Lateral Stability / Stabilizer Plates	13907.00 lbs	520818.63 lbs	0.03	PASS
Plate Flexural Yield			0.02	PASS
Plate Flexural Rupture			0.03	PASS
Plate Flexural Buckling	13907.00 lbs	366766.47 lbs	0.04	PASS
Bolt Bearing on Beam	13907.00 lbs	47712.94 lbs	0.29	PASS
Bolt Bearing on Plate at Beam	13907.00 lbs	47712.94 lbs	0.29	PASS
Bolt Shear at Beam	13907.00 lbs	44749.96 lbs	0.31	PASS
Bolt Group Eccentricity		0.94		
Weld at Column	15699.95 lbs/ft	89088.00 lbs/ft	0.18	PASS

Side view

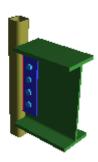


W18-L J - C\_(2.4-B.3): 2D Views Report (continued):

Top view



### W18-L J - C\_(2.4-B.3): ASD Results Report



Material Propertie	s:			
Column	HSS3.5X3.5X6	A500 Gr.C RECT	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 62.00 ksi
Beam	W18X71	A992	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Plate	P0.38x4.00x14.	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	$F_{\rm u} = 65.00 \text{ ksi}$
Input Data:				

Input Data:

Shear Load -2658.44 lbs User Input Shear Load

Axial Load 7823.08 lbs User Input Axial Force (compression)

Column Force 22273.21 lbs User Input Column Force

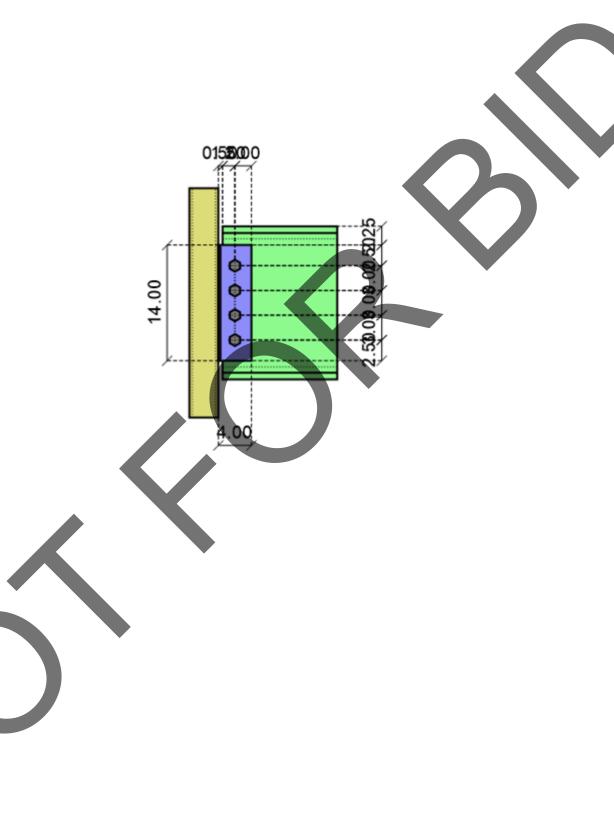
Column Moment -0.66 kips-ft User Input Column Moment

Governing LC: 3D - 10 - LC 10: IBC 21/ASCE Strength 6 (c)

Note: Unless specified, all code references are from AISC 360-10

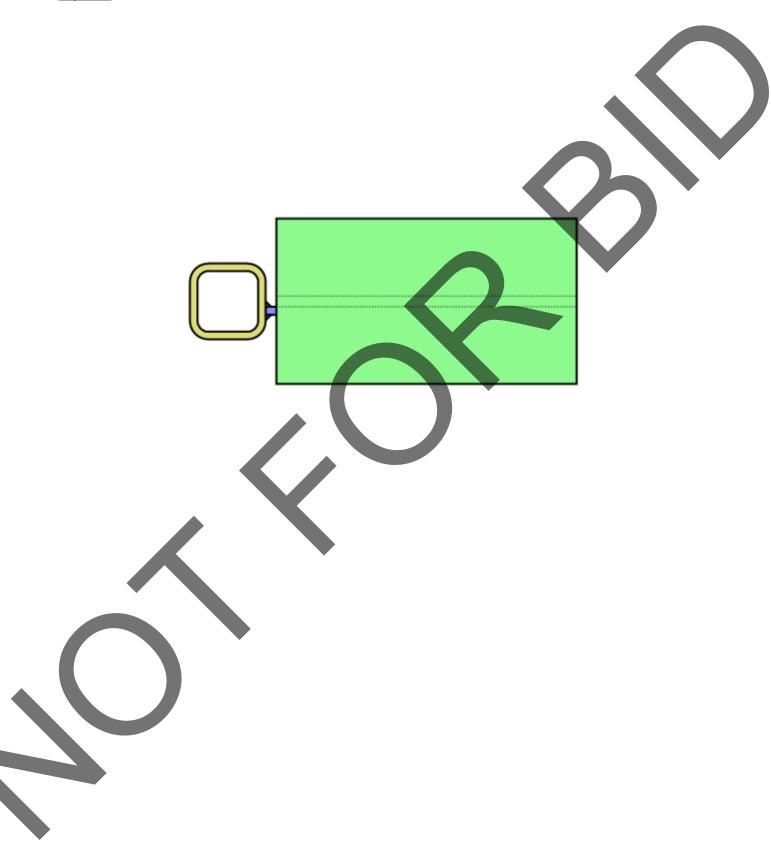
Limit State	Required	Available	Unity Check	Result
HSS Punching Shear				PASS
Geometry Restrictions at Beam				PASS
Column Weld Limitations				PASS
Rotational Ductility, Erection Stability				PASS
Beam Shear Yield	2658.44 lbs	183150.00 lbs	0.01	PASS
Plate Shear Yield	2658.44 lbs	105000.00 lbs	0.03	PASS
Beam Shear Rupture	2658.44 lbs	144787.50 lbs	0.02	PASS
Plate Shear Rupture at Beam	2658.44 lbs	76781.25 lbs	0.03	PASS
Beam Axial Yield	7823.08 lbs	625748.50 lbs	0.01	PASS
Plate Axial Yield	7823.08 lbs	157185.63 lbs	0.05	PASS
Beam Block Shear	2658.44 lbs	155636.72 lbs	0.02	PASS
Plate Block Shear	2658.44 lbs	80742.19 lbs	0.03	PASS
Compression Buckling of the Plate	7823.08 lbs	157185.63 lbs	0.05	PASS
Lateral Stability / Stabilizer Plates	8262.44 lbs	520818.63 lbs	0.02	PASS
Plate Flexural Yield			0.00	PASS
Plate Flexural Rupture			0.00	PASS
Plate Flexural Buckling			0.06	PASS
Bolt Bearing on Beam	8262.44 lbs	47712.94 lbs	0.17	PASS
Bolt Bearing on Plate at Beam	8262.44 lbs	47712.94 lbs	0.17	PASS
Bolt Shear at Beam	8262.44 lbs	40923.39 lbs	0.20	PASS
Bolt Group Eccentricity		0.86		
Weld at Column	8262.44 lbs	103936.00 lbs	0.08	PASS
HSS Transverse Plastification	7823.08 lbs	53007.23 lbs	0.15	PASS

Side view

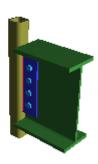


W18-R I - C\_(2.4-B.3): 2D Views Report (continued):

Top view



#### W18-R I - C\_(2.4-B.3): ASD Results Report



Material Properties	S:			
Column	HSS3.5X3.5X6	A500 Gr.C RECT	F <sub>y</sub> = 50.00 ksi	$F_u = 62.00 \text{ ksi}$
Beam	W18X71	A992	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Plate	P0.38x4.00x14.	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> ≠ 65.00 ksi
Input Data:				
Shear Load	865	51.40 lbs	User Input Shea	r Load
Axial Load	787	75.06 lbs	User Input Axial	Force (compression)

22273.21 lbs

-0.66 kips-ft

Governing LC: 3D - 10 - LC 10: IBC 21/ASCE Strength 6 (c)

User Input Column Force

**User Input Column Moment** 

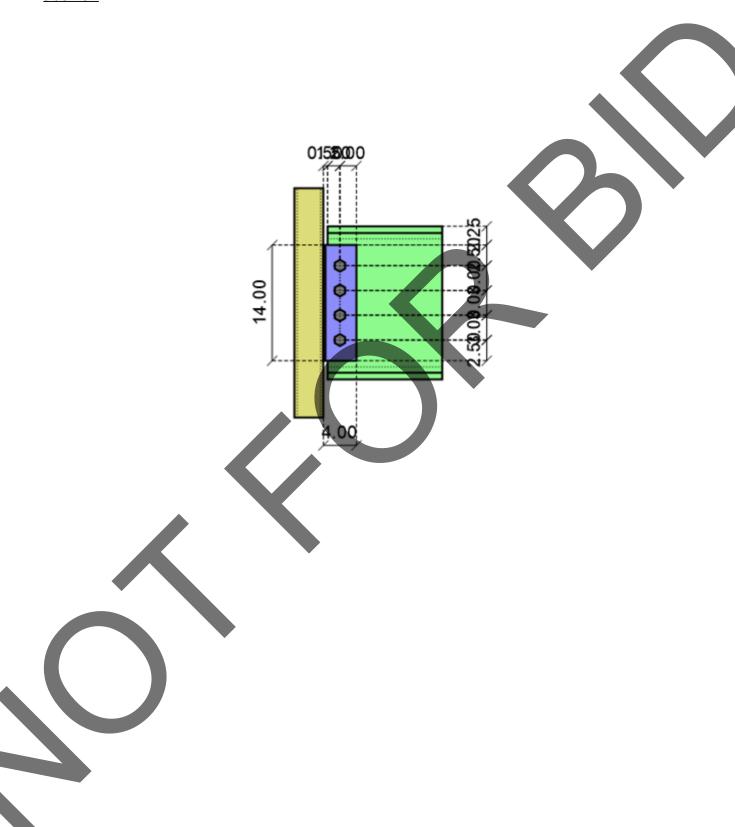
Note: Unless specified, all code references are from AISC 360-10

Limit State	Required	Available	<b>Unity Check</b>	Result
HSS Punching Shear				PASS
Geometry Restrictions at Beam				PASS
Column Weld Limitations				PASS
Rotational Ductility, Erection Stability				PASS
Beam Shear Yield	8651.40 lbs	183150.00 lbs	0.05	PASS
Plate Shear Yield	8651.40 lbs	105000.00 lbs	0.08	PASS
Beam Shear Rupture	8651.40 lbs	144787.50 lbs	0.06	PASS
Plate Shear Rupture at Beam	8651.40 lbs	76781.25 lbs	0.11	PASS
Beam Axial Yield	7875.06 lbs	625748.50 lbs	0.01	PASS
Plate Axial Yield	7875.06 lbs	157185.63 lbs	0.05	PASS
Beam Block Shear	8651.40 lbs	155636.72 lbs	0.06	PASS
Plate Block Shear	8651.40 lbs	80742.19 lbs	0.11	PASS
Compression Buckling of the Plate	7875.06 lbs	157185.63 lbs	0.05	PASS
Lateral Stability / Stabilizer Plates	11698.86 lbs	520818.63 lbs	0.02	PASS
Plate Flexural Yield			0.01	PASS
Plate Flexural Rupture			0.01	PASS
Plate Flexural Buckling			0.10	PASS
Bolt Bearing on Beam	11698.86 lbs	47712.94 lbs	0.25	PASS
Bolt Bearing on Plate at Beam	11698.86 lbs	47712.94 lbs	0.25	PASS
Bolt Shear at Beam	11698.86 lbs	38776.31 lbs	0.30	PASS
<b>Bolt Group Eccentricity</b>		0.81		
Weld at Column	11698.86 lbs	103936.00 lbs	0.11	PASS
HSS Transverse Plastification	7875.06 lbs	53007.23 lbs	0.15	PASS

**Column Force** 

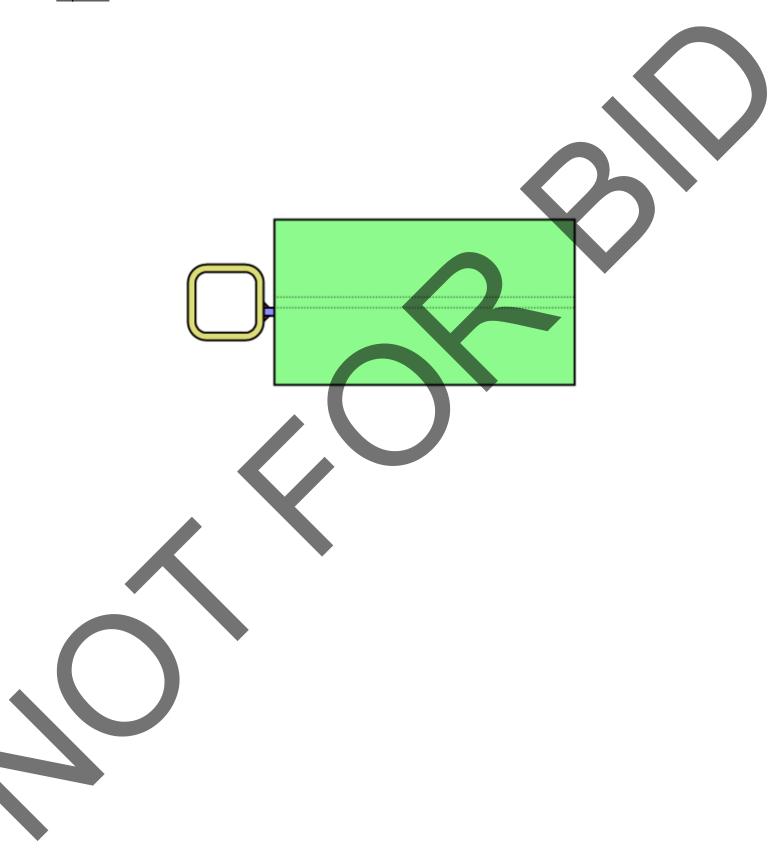
**Column Moment** 

Side view

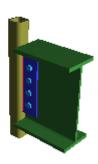


W18-R J - C\_(3.9-B.3): 2D Views Report (continued):

Top view



## W18-R J - C\_(3.9-B.3): ASD Results Report



Material Properties:				
Column	HSS3.5X3.5X6	A500 Gr.C RECT	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 62.00 ksi
Beam	W18X71	A992	$F_y = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Plate	P0.38x4.00x14.	A572 Gr.50	F <sub>y</sub> = 50.00 ksi	$F_u = 65.00 \text{ ksi}$
nput Data:				
Shear Load	-57	39.66 lbs	User Input Shea	r Load
Axial Load	-43	6.36 lbs	User Input Axial	Force (tension)
Column Force	-30	18.97 lbs	User Input Colu	nn Force
Column Moment	0.3	9 kips-ft	User Input Colur	nn Moment

Governing LC: 3D - 6 - LC 6: IBC 21/ASCE ASD 3 (a)

Note: Unless specified, all code references are from AISC 360-10

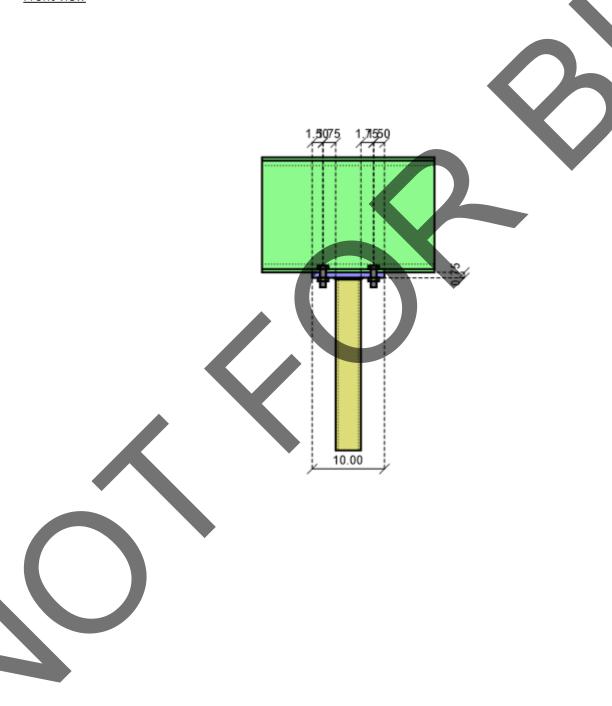
Limit State	Required	Available	<b>Unity Check</b>	Result
HSS Punching Shear				PASS
Geometry Restrictions at Beam				PASS
Column Weld Limitations				PASS
Rotational Ductility, Erection Stability				PASS
Beam Shear Yield	5739.66 lbs	183150.00 lbs	0.03	PASS
Plate Shear Yield	5739.66 lbs	105000.00 lbs	0.05	PASS
Beam Shear Rupture	5739.66 lbs	144787.50 lbs	0.04	PASS
Plate Shear Rupture at Beam	5739.66 lbs	76781.25 lbs	0.07	PASS
Beam Axial Yield	436.36 lbs	625748.50 lbs	0.00	PASS
Plate Axial Yield	436.36 lbs	157185.63 lbs	0.00	PASS
Beam Tension Rupture	436.36 lbs	249046.35 lbs	0.00	PASS
Plate Tension Rupture at Beam	436.36 lbs	127968.75 lbs	0.00	PASS
Beam Block Shear	5739.66 lbs	155636.72 lbs	0.04	PASS
Plate Block Shear	5739.66 lbs	80742.19 lbs	0.07	PASS
Beam Tearout	436.36 lbs	123069.38 lbs	0.00	PASS
Plate Tearout on Plate at Beam	436.36 lbs	100195.31 lbs	0.00	PASS
Lateral Stability / Stabilizer Plates	5756.22 lbs	520818.63 lbs	0.01	PASS
Plate Flexural Yield			0.00	PASS
Plate Flexural Rupture			0.01	PASS
Plate Flexural Buckling	5739.66 lbs	183383.23 lbs	0.03	PASS
Bolt Bearing on Beam	5756.22 lbs	47712.94 lbs	0.12	PASS
Bolt Bearing on Plate at Beam	5756.22 lbs	47712.94 lbs	0.12	PASS
Bolt Shear at Beam	5756.22 lbs	39437.13 lbs	0.15	PASS
Bolt Group Eccentricity		0.83		
Weld at Column	6729.04 lbs/ft	89088.00 lbs/ft	0.08	PASS
HSS Transverse Plastification	436.36 lbs	53564.84 lbs	0.01	PASS

Column/Beam Continuous Beam over Column Connection



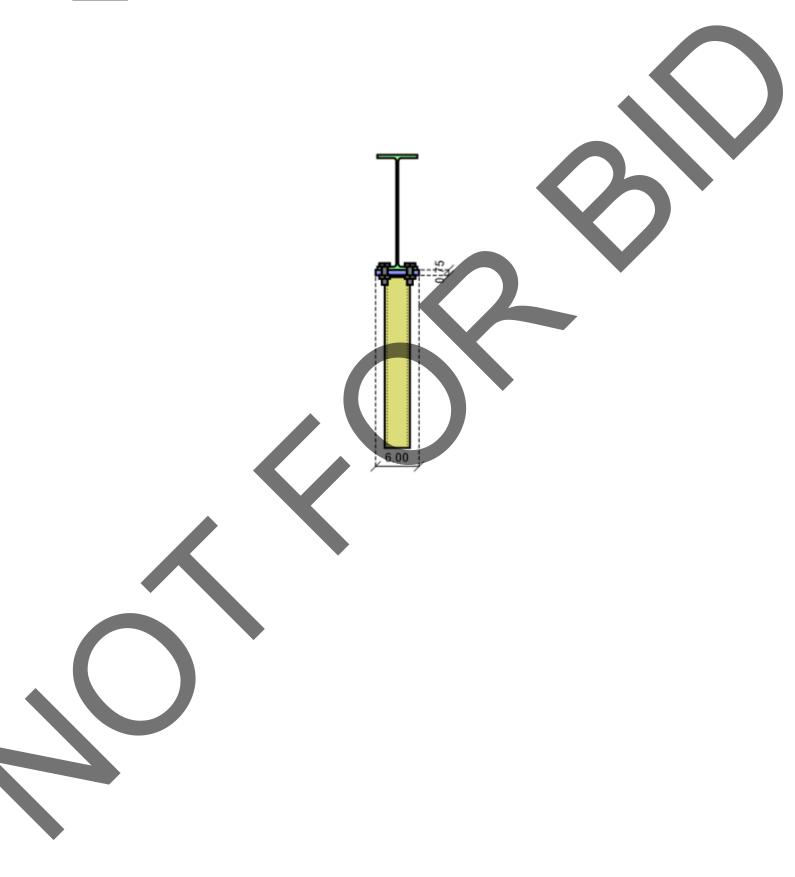
#### Column Cap: 2D Views Report

Front view



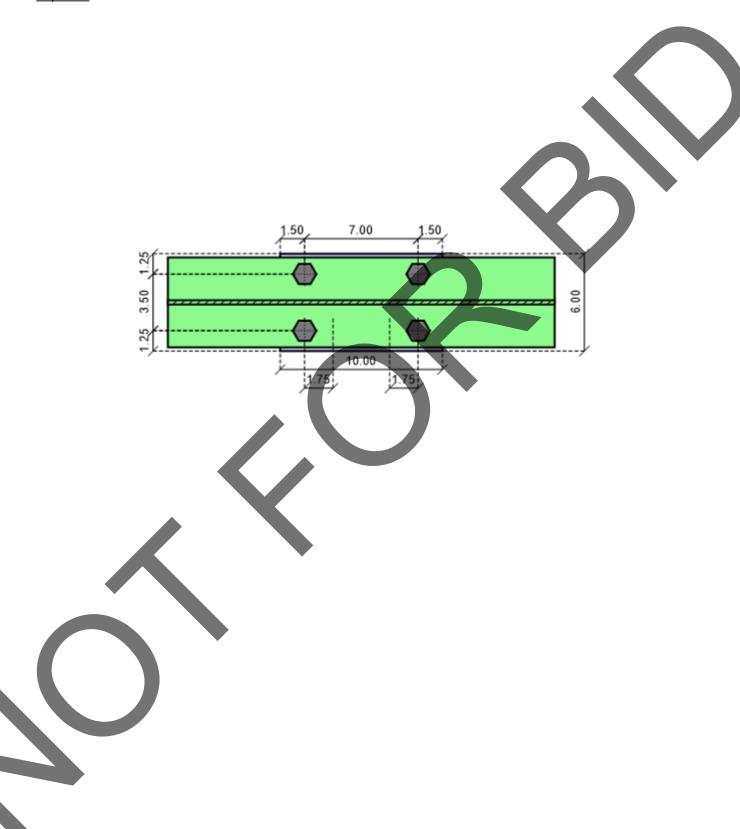
## Column Cap: 2D Views Report (continued):

Side view



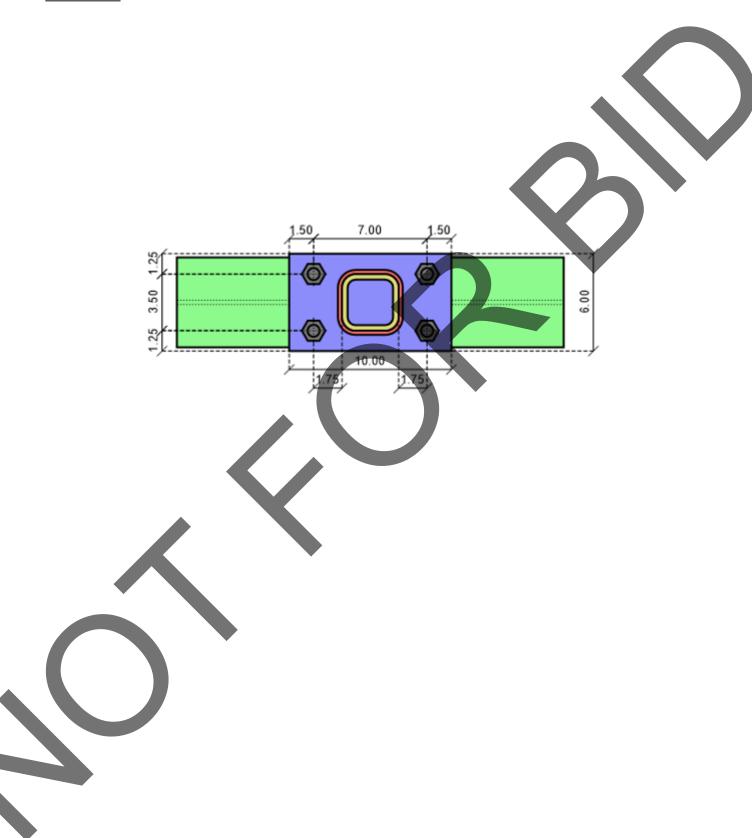
## Column Cap: 2D Views Report (continued):

Top view



# Column Cap: 2D Views Report (continued):

**Bottom view** 



#### Column Cap: LRFD Results Report

Column/Beam Continuous Beam over Column Connection



Material Properties:				
Column	HSS3.5X3.5X6	A500 Gr.C Rect	F <sub>y</sub> = 50.00 ksi	F <sub>u</sub> = 62.00 ksi
Beam	W16X31	A36	F <sub>y</sub> = 36.00 ksi	F <sub>u</sub> = 58.00 ksi
Plate	P0.75x6.00x10. 00	A572 Gr.50	$F_{y} = 50.00 \text{ ksi}$	F <sub>u</sub> = 65.00 ksi
Input Data:				
				_

Input Data:		
Column Force	22.00 kips	User Input Column Force
Moment	0.00 kips-ft	User Input Moment
Strong Axis Shear	0.00 kips	User Input Strong Axis Shear
Weak Axis Shear	0.00 kips	User Input Weak Axis Shear
Puf_c	11.00 kips	Required Flange Force (compression)
Puf_t	0.00 kips	Required Tension Force per Bolt

Note: Unless specified, all code references are from AISC 360-16  $\,$ 

Limit State	Required	Available	Unity Check	Result
Load Distribution				n/a
Geometry Restrictions at Beam				PASS
Column Weld Limitations				PASS
Bolt Shear Strength	0.00 kips	71.57 kips	0.00	PASS
Bolt Bearing on Beam	0.00 kips	71.57 kips	0.00	PASS
Bolt Bearing on Plate at Beam	0.00 kips	71.57 kips	0.00	PASS
Column Flange Weld Strength	0.00 kips/in	5.57 kips/in	0.00	PASS
Column Web Weld Strength	0.00 kips/in	5.57 kips/in	0.00	PASS
Beam Web Yielding	11.00 kips	82.26 kips	0.13	PASS
Beam Web Buckling	11.00 kips	32.29 kips	0.34	PASS
Beam Web Crippling	11.00 kips	81.05 kips	0.14	PASS
Column Wall Local Yielding	11.00 kips	97.28 kips	0.11	PASS
Column Wall Local Crippling	11.00 kips	129.44 kips	0.08	PASS



# SAN BERNARDINO COUNTY SHERIFF'S CRIME LAB

ARCHITECTURE

MINISTRATION MARKET EL SEE 142

MINISTRATION MARKET EL SEE 142

MINISTRATION MARKET EL SEE 143

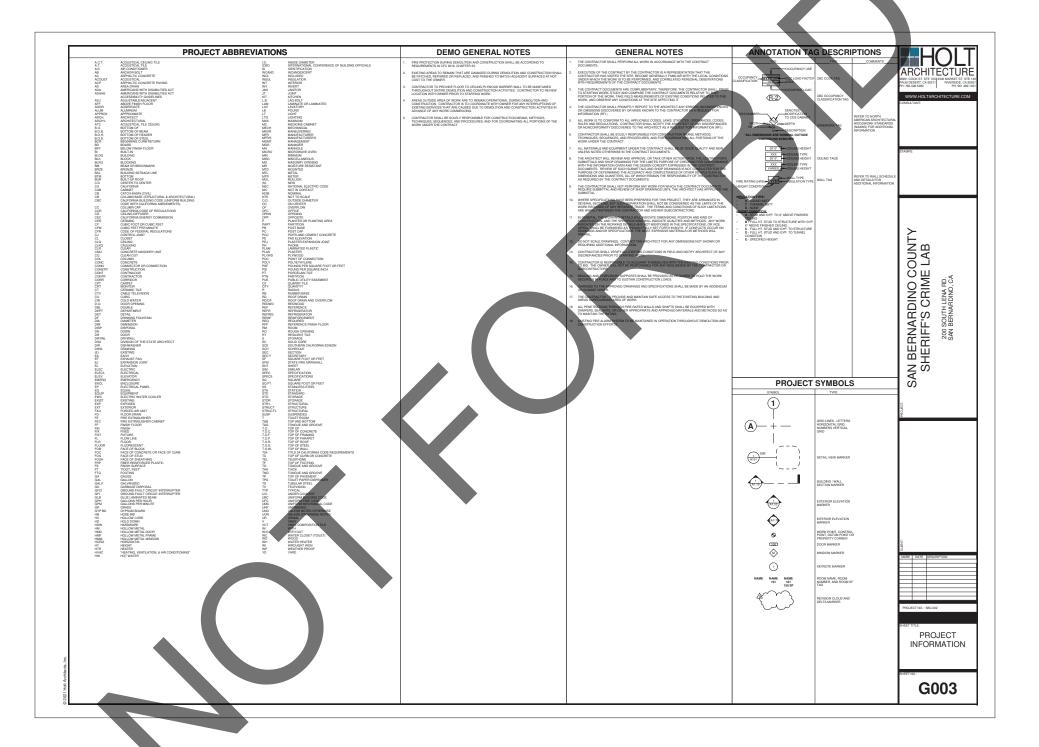
MINISTRATION MAR

200 SOUTH LENA RD. SAN BERNARDINO, CA





	APPLICABLE CODES	PROJECT SUMMARY	
	PARTIAL LIST OF APPLICABLE CODES AS OF JANUARY 2020. 2022 CALIFORNIA ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.	DECENTION	HOLI
	2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R. (2021 INTERNATIONAL BUILDING CODE AND 2022 CALIFORNIA AMENDMENTS)	ONLY DOCUMENT AND A SOCIOUS AND A SOCIOUS AND A SOCIOUS AND A SOCIETA AND A SOCIAL	ARCHITECTURE  99951 COOK ST. STE 103 (2300 MARKET ST. STE 140 PALM DESERT, CA 92211 PH: 990 1995 (990) PH: 990 1991 (497) 4451
	2022 CALIFORNIA ELECTRICAL CODE (DEC), PART 3, TITLE 24 C.C.R. (2021 NATIONAL ELECTRICAL CODE AND 2022 CALIFORNIA ALBEMOMENTS)  2022 CALIFORNIA MECHANICAL CODE (CIMC) PART 4, TITLE 24 C.C.R. (2021 LINFORMED MECHANICAL CODE AND 2022 CALIFORNIA AMENIMMENTS)	ALLOWAGE RULD CONTROLOGY  TOTAL RESIDES  TOTAL RESI	WWW.HOLTARCHITECTURE.COM
	2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R (2021 UNIFORMED PLUMBING CODE AND 2022 CALIFORNIA AMENDMENTS)	CHLONG-PERMATER  CHLONG-PERMATER WE FROM AGE-20 FEET.  ALLONG-PERMATER	CONSULTANT:
	2022 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 C.C.R 2022 CALIFORNIA FRE CODE, PART 6, TITLE 24 C.C.R (2021 INTERNATIONAL FIRE CODE AND 2622 CALIFORNIA AMENDMENTS)	PRINCET 92/09 AND 4 42:003 ACTION TO BURNON AND 4 42:003 ACTION AND 4 42:003	
	2022 CALIFORNIA EXISTING BUILDINGS CODE, PART 10 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen), PART 11, TITLE 24 C.C.R.	[10]A SIGNISH (2009) (100)	
	2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 C.C.R. TITLE 19 C.C.R. PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS PARTIAL LIST OF APPLICABLE STANDARDS		STAMPS:
	NFPA 13- AUTOMATIC SPRINGER SYSTEMS		
	VPPA 3 - MITMANT D PRINCE REVETEDS		
	NPPA 2001 - CLEAN AGENT PIRE EXTINGUISHING STSTEMS 2018 EURILUN		
	PROJECT DESCRIPTION	DEFERRED APPROVALS	
			SAN BERNARDINO COUNTY SHERIFF'S CRIME LAB 200 SOUTH LEVA RD. SAN BERNARDINO, CA
			RNARDINO ( IIFF'S CRIME 200 SOUTH LENA RD. SAN BERNARDINO, CA
			S'S'S
			NA NE SCO
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			PROJECT
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	OWNER PROVIDED SCOPE	SPECIAL INSPECTIONS	- ENTI-
	C.III. II.OVIDED GOO! E	OI EGINE MOI EGITORO	MARK DAYE DESCRIPTION
			PROJECT NO.: SBC:002
			SHEET TITLE
			TITLE SHEET
21			
of Acri			G002
11000			G002



# A5.602 CALGreen VERIFICATION GUIDELINES MANDATORY MEASURES CHECKLIST 2022 EDITION

APPLICATION THIS CHECKLIST SHALL BE USED FOR NONRESIDENTIAL PROJECTS THAT MEET ONE OF THE FOLLOWING: NEW CONSTRUCTION, BUILDING ADDITIONS OF 1,000 SQUARE FEET OR GREATER, OR BUILDING ALTERATIONS WITH A PERMIT VALUATION OF \$20,000 OR MORE PURSUANT TO SECTION 351.5 AND NOT TRIGGER A TIER 1 OR TIER 2 REQUIREMENT:

Y = YES (SECTION HAS BEEN SELECTED AND/OR INCLUDED)
NAL NOT APPLICABLE (CODE SECTION DOES NOT APPLYTO THE PROJECT - MAINLY USED FOR ADDITIONS AND ALTERATIONS)
OF OTHER (PROVIDE EXPLANATION)
RM) = NEW CONSTRUCTION PRISSANT TO SECTION 301 3
M = ADDITIONAL AND/OR ALTERATIONS PURSUANT TO SECTION 301 3

DIVISION 5.1 PLA	NNING AND DESIGN						
REQUIREMENT	SECTION TITLE	CODESECTION	Y	N	N/A	0	PLAN SHEET, SPEC. OR ATTACH REFERENCE
MANDATORY	STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN 1 ACRE OF LAND	5.106.1 THROUGH 5.106.2					
MANDATORY	SHORT-TERM BICYCLE PARKING (WITH EXCEPTION)	5.106.4.1.1					
MANDATORY	LONG-TERM BICYCLE PARKING	5.106.4.1.2 THROUGH			_		
MANDATORY	ELECTRIC VEHICLE (EV) CHARGING INI (WITH EXCEPTIONS)	5.106.5.3			_		
MANDATORY	EV CAPABLE SPACES INI	5 106 5 3 1					
MANDATORY	ELECTRICAL VEHICLE CHARGING STATIONS (EVCS)	5.106.5.3.2			_		
MANDATORY	USE OF AUTOMATIC LOAD MANAGEMENT SYSTEMS (ALMS)	5.106.5.3.3			_		
MANDATORY	ACCESSIBLE EVCS	5.106.5.3.4					
MANDATORY	ELECTRIC VEHICLE (EV) CHARGING: MEDIUM-DUTY AND HEAVY DUTY (WITH EXCEPTIONS)	5.106.5.4					
MANDATORY	ELECTRIC VEHICLE CHARGING READINESS REQUIREMENTS FOR WAREHOUSES, GROCERY STORES AND RETALL STORES WITH PLANNED OFF-STREET LOADING SPACES. [N]	5.106.5.4.1					
MANDATORY	LIGHT POLLUTIUON REDUCTION [N] (WITH EXEPTIONS)	5.106.8					
MANDATORY	FACING - BACKLIGHT (WITH EXCEPTIONS)	5.106.8.1					
MANDATORY	FACING - GLARE	5.106.8.2					
MANDATORY	GRADING AND PAVING (WITH EXCEPTIONS)	5.106.10					
							-
ADDRESS & SENI	RGY EFFICIENCY						
REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A		PLAN SHEET, SPEC. OR ATTACH REFEREN
MANDATORY	MEET THE MINIMUM ENERGY EFFICIENCY STANDARD	5201.1		- "	19/0		TEAR SHEEL, SI CC, OR KITACH REFEREN
INTERNOCI	INCLI III MINIMUM CICKOT ETTICLINCT STATUALD	3.201.1			_		
				_	_		
DIVISION E 3 WA	TER EFFICIENCY AND CONSERVATION						
REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A		PLAN SHEET, SPEC. OR ATTACH REFEREN
MANDATORY	SEPARATE METERS (NEW BUILDINGS OR ADDITIONS > 50,000 SE THAT CONSUME MORE THAN 100 GAL/DAY)	5.303.1.1			10/0		TON JULY STOCK OF A ST
MANDATORY	SEPARATE METERS (FOR TENANTS IN NEW BUILDINGS OR ADDITIONS THAT CONSUME MORE THAN 1,000 GAL/DAY)	5.303.1.2					
MANDATORY	WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH (GPF)	5.303.3.1				7	
MANDATORY	WALL-MOUNTED URINALS SHALL NOT EXCEED 0.125 GPF	5.303.3.2.1					
MANDATORY	FLOOR-MOUNTED URINALS SHALL NOT EXCEED 0.5 GPF	5.303.3.2.2					
MANDATORY	SINGLE SHOWERHEAD SHALL HAVE MAXIMUM FLOW RATE OF 1.8 GPM IGALLONS PER MINUTE! AT 80 PSI	5.303.3.3.1					
MANDATORY	MULTIPLE SHOWERHEADS SERVING ONE SHOWER SHALL HAVE A COMBINED FLOW RATE OF 1.8 GPM AT 80 PSI	5.303.3.3.2					
ANDATORY	NONRESIDENTIAL LAVATORY FAUCETS	5,303,3,4,1					
MANDATORY	KITCHEN FAUCETS	5.303.3.4.2					
ANDATORY	WASH FOUNTAINS	5,303,3,4,3					
MANDATORY	METERING FAUCETS	5,303,3,4,4	- 4		1		
MANDATORY	METERING FAUCEIS FOR WASH FOUNTAINS	5303345				_	
MANDATORY	PRE-RINSE SPRAY VALVE	5.303.3.4.6				<u> </u>	
	FOOD WASTE DISPOSERS	5.303.4.1		r -			
MANDATORY				_	_		
MANDATORY							
MANDATORY MANDATORY	AREAS OF ADDITION OR ALTERATION STANDARDS FOR PLUMBING FIXTURES AND FITTINGS	5.303.5 5.303.6			_		

REQUIREMENT	SECTION TITLE	CODE SECTION	Y	N	N/A	0	PLAN SHEET, SPEC, OR ATTACH REFERENCE
MANDATORY	WEATHER PROTECTION	5.407.1		- 4			
MANDATORY	MOISTURE CONTROL: SPRINKLERS	5.407.2.1					
MANDATORY	MOISTURE CONTROL: EXTERIOR DOOR PROTECTION	5,407,2.2.1					
MANDATORY	MOSTURE CONTROL: FLASHING	5.407.2.2.2					
MANDATORY	CONSTRUCTION WASTE MANAGEMENT—COMPLY WITH EITHER: SECTIONS 5.408.1.1, 5.408.1.2, 5.408.1.3 OR MORE STRINGENT LOCAL ORDINANCE	5.408.1.1, 5.408.1.2, 5.408.1.3		K			
MANDATORY	CONSTRUCTION WASTE MANAGEMENT: DOCUMENTATION	5.408.1.4	_				
MANDATORY	UNIVERSAL WASTE [A]	5.408.2					
MANDATORY	EXCAVATED SOIL AND LAND CLEARING DEBRS (100% REUSE OR RECYCLE)	5.408.3					
MANDATORY	RECYCLING BY OCCUPANTS (WITH EXCEPTION)	5.410.1					
MANDATORY	RECYCLING BY OCCUPANTS: ADDITIONS (WITH EXCEPTION)	5.410.1.1					
MANDATORY	RECYCLING BY OCCUPANTS: SAMPLE ORDINANCE	5.410.1.2					
MANDATORY	COMMISSIONING NEW BUILDINGS (± 10,000 SF) [N]	5.410.2					
MANDATORY	OWNER'S OR OWNER REPRESENTATIVE'S PROJECT REQUIREMENTS OPR) (N)	5.410.2.1					
MANDATORY	BASIS OF DEAGN (BOD) [N]	5.410.2.2					
MANDATORY	COMMISSIONING PLAN (N	5.410.2.3					
MANDATORY	FUNCTIONAL PERFORMANCE TESTING [N]	5.410.2.4					
MANDATORY	D2CUVENTATION AND TRAINING [N]	5.410.2.5					
MANDATORY	SYSTEMS MANUAL [N]	5.410.2.5.1					
MANDATORY	SYSTEMS OPERATION TRAINING [N]	5.410.2.5.2					
MANDATORY	COMMISSIONING REPORT [N]	5.410.2.6					
MANDATORY	TESTING AND ADJUSTING FOR NEW BUILDING TO 10,000 SF OR NEW SYSTEMS THAT SERVE ADDITIONS OR ALTERATIONS	5.410.4					
MANDATORY	SYSTEM TESTING PLAN FOR RENEWABLE ENERGY, LANDSCAPE IRRIGATION AND WATER REUSE [A]	5.410.4.2					
MANDATORY	PROCEDURES FOR TESTING AND ADJUSTING	6,410,4.3					
	PROCEDURES FOR HVAC BALANCING	5.410,4.3.1					
	REPORTING FOR TESTING AND ADJUSTING	5.410A,4					
MANDATORY	DEERATION AND MAINTENANCE (O&M) MANUAL	5.410,4.5					
MANDATORY	INSPECTION AND REPORTS	5,410,4,5,1					

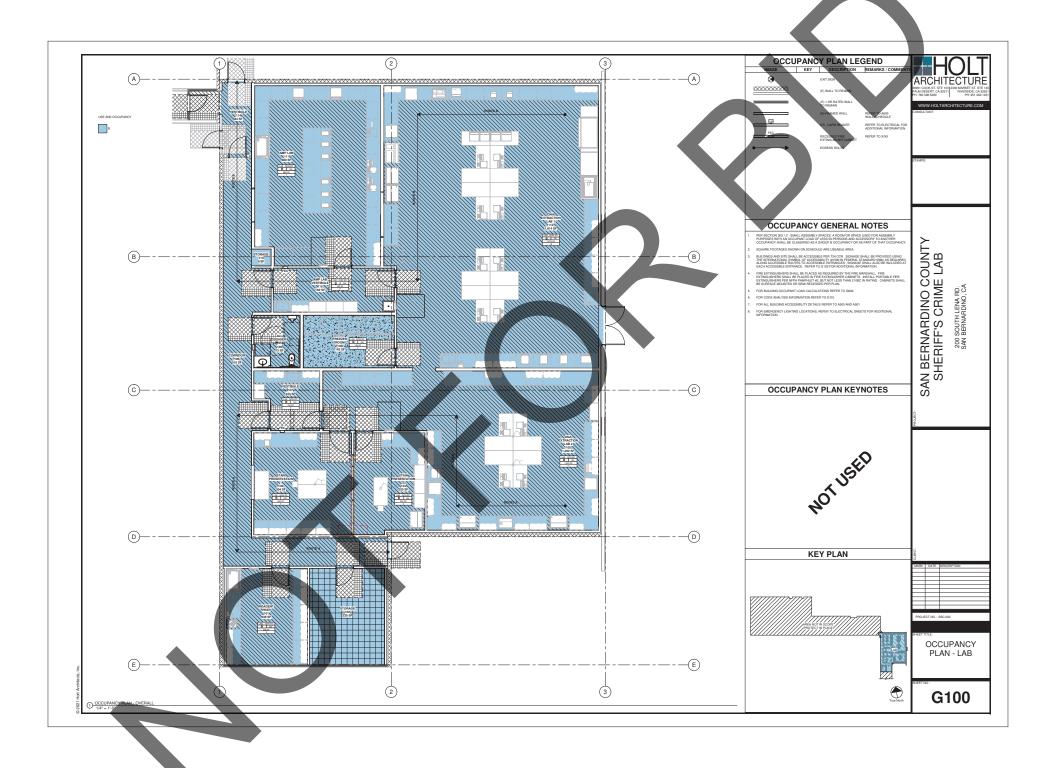
REQUIREMENT	SECTION TITLE	CODESECTION	Y	N	N/A	0	PLAN SHEET, SPEC, OR ATTACH REFERENCE
MANDATORY	RREPLACES	5.503.1					
MANDATORY	WOODSTOVES	5.503.1.1					
MANDATORY	TEMPORARY VENTILATION	5.504					
MANDATORY	COVERING OF DUCTS OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION	5.504.3					
MANDATORY	ADHESIVES, SEALANTS, AND CAULKS	5,504.4.1					
MANDATORY	PAINTS AND COATINGS	5.504.4.3					
MANDATORY	AEROSOL PAINTS AND COATINGS	5.504.4.3.1					
MANDATORY	AFROSOL RAINTS AND COATINGS: VERIFICATION	5.504.4.3.2					
MANDATORY _	CARPET SYSTEMS	5.504.4.4					
MANDATORY	CARPET CUSHION	5.504.4.4.1		_			
MANDATORY	CARPELADHESIVES PER TABLE 5.504.4.1	5.504.4.4.2					
MAMDATORY	COMPOSITE WOOD PRODUCTS	5.504.4.5					
MANDATORY	COMPOSITE WOOD PRODUCTS: DOCUMENTATION	5.504.4.5.3					
MANDATERY	RESILIENT FLOORING SYSTEMS	5,504.4.6					
MANDATORY	RESILENT FLOORING VERIFICATION OF COMPLIANCE	5.504.4.6.1					
MANDATORY	THERMAL INSULATION	5.504.4.7					
MANDATORY	THERMAL INSULATION: VERIFICATION OF COMPLIANCE	5.504.4.7.1					
MANDATORY	ACOUSTICAL CEILING AND WALL PANELS	5.504.4.8					
MANDATORY	ACOUSTICAL CEILING AND WALL PANELS: VERIFICATION OF COMPARANCE	5.504.4.8.1					
MANDATORY	FILZERS (WITH EXCEPTIONS)	5.504.5.3					
MANDAZORY	ALTERS: LABBTING	5.504.5.3.1					
MANDATOKY	ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL	5.504.7					
MANDATORY	INDOOR MOISTURE CONTROL	5.505.1					
MANDATORY	OU SIDE AIR DELIVERY	5.506.1					
MANDATORY	CARBON DIOXIDE (CO2) MONITORING	5.506.2					
MANDATORY	ACOUSTICAL CONTROL (WITH EXCEPTION)	5.507.4					
MANDATORY	EXTERIOR NOISE TRANSMISSION, PRESCRIPTIVE METHOD (WITH EXCEPTIONS)	5.507.4.1					
ANDATORY	NOISE EXPOSURE WHERE NOISE CONTOURS ARE NOT READILY AVAILABLE	5.507.4.1.1					
MANDATORY	PERFORMANCE METHOD	5.507.4.2					
MANDATORY	SITE FEATURES	5.507.4.2.1					
MANDATORY	DOCUMENTATION OF COMPLIANCE	5.507.4.2.2					
MANDATORY	INTERIOR SOUND TRANSMISSION (WITH NOTE)	5,507.4.3					
MANDATORY	OZONE DEPLETION AND GREENHOUSE GAS REDUCTIONS	5.508.1					
VANDATORY	CHLOROFLUOROCARBONS (CFCS)	5,508.1.1					
MANDATORY	HALONS	5.508.1.2					
MANDATORY	SUPERMARKET REFRIGERANT LEAK REDUCTION FOR RETAIL FOOD STORES 8,000 SQUARE FEET OR MORE	5.508.2 THROUGH 5.508.2.6.3					
	END OF MANDATORY PROVISIONS						

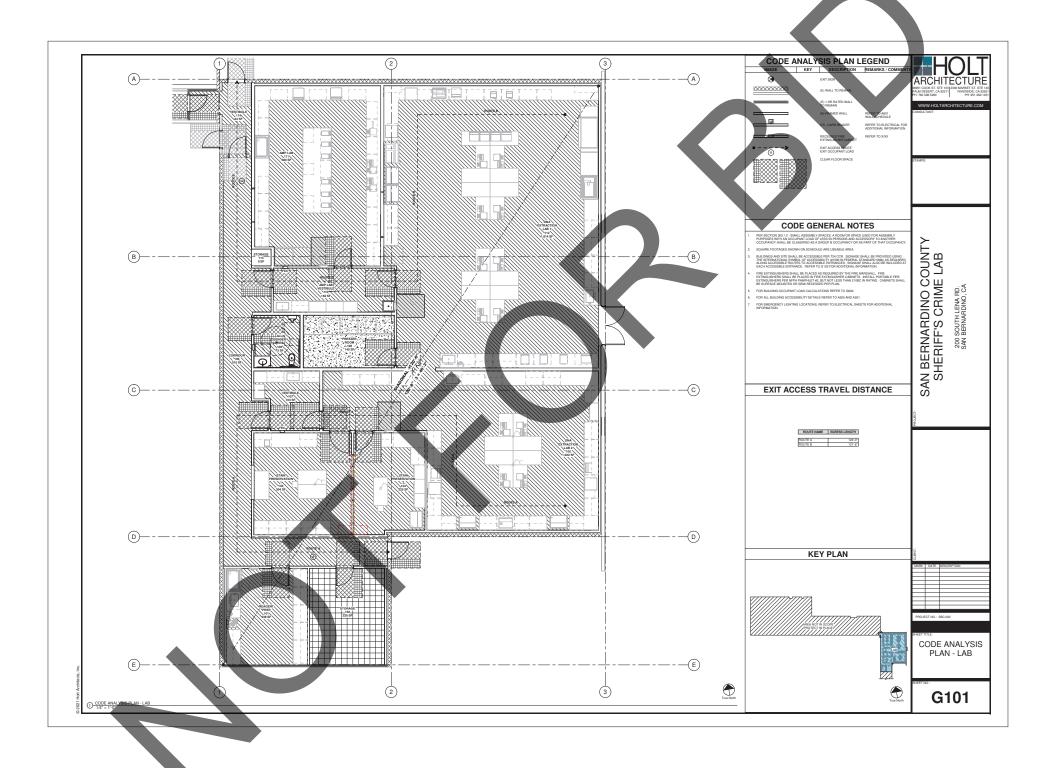
:: MANDATORY: I ATTEST THAT TH	HIS MANDATORY PROVISIONS CHECKLIST IS ACCURATE AND COM	PLETE.
SIGNATURE:		
COMPANY:		DATE:
	HOLT ARCHITECTURE	
ADDRESS:		UCENSE:
	2300 MARKET ST #140	
CITY/STATE/ZIP:		PHONE:
	RIVERSIDE CA. 92555	(951)462-1451
		'

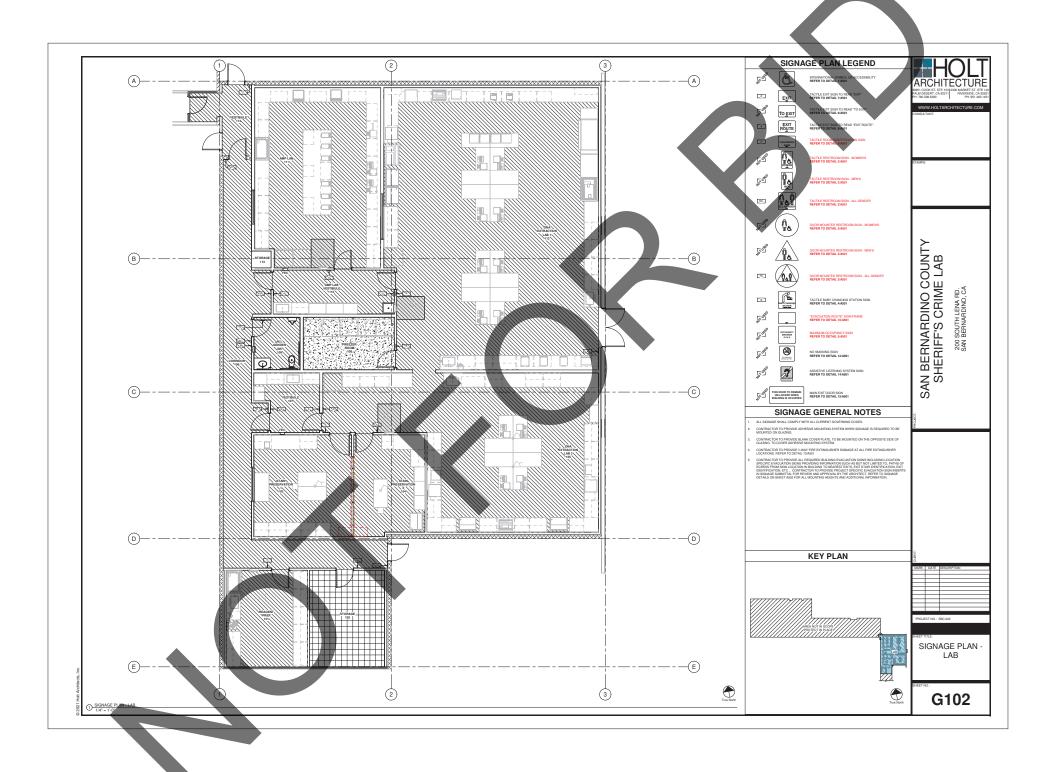
SAN BERNARDINO COUNTY SHERIFF'S CRIME LAB 200 SOUTH LEWA FD. SAN BERNARDINO, CA

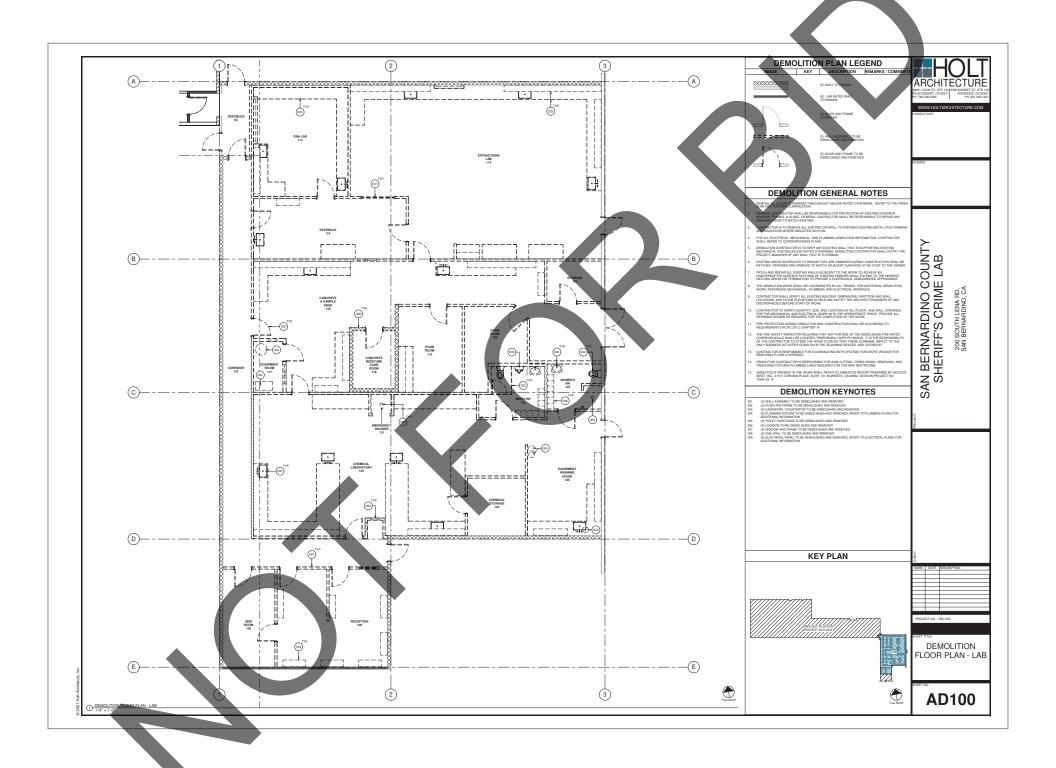
CALGREEN CHECKLIST

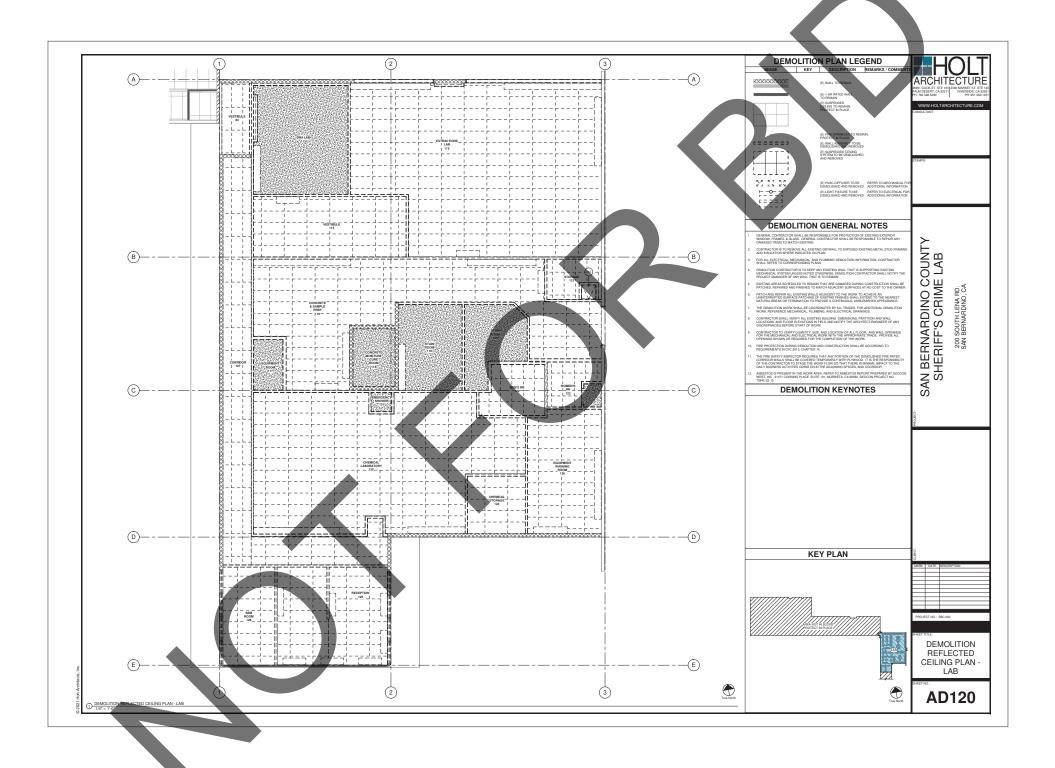
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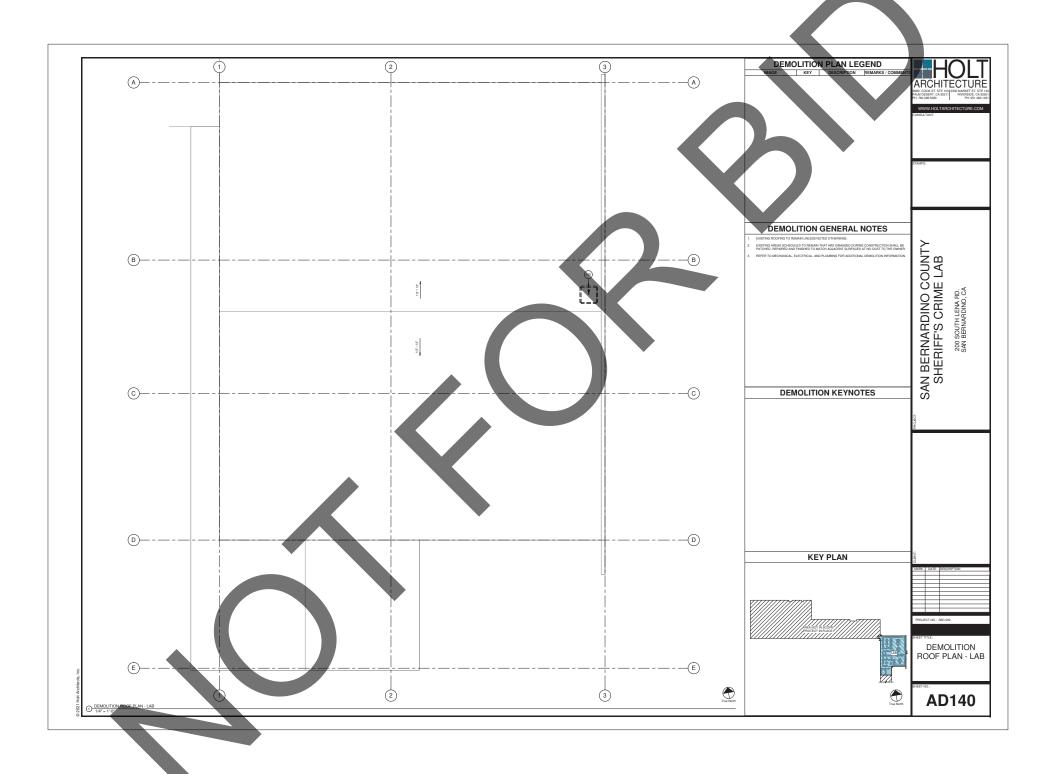


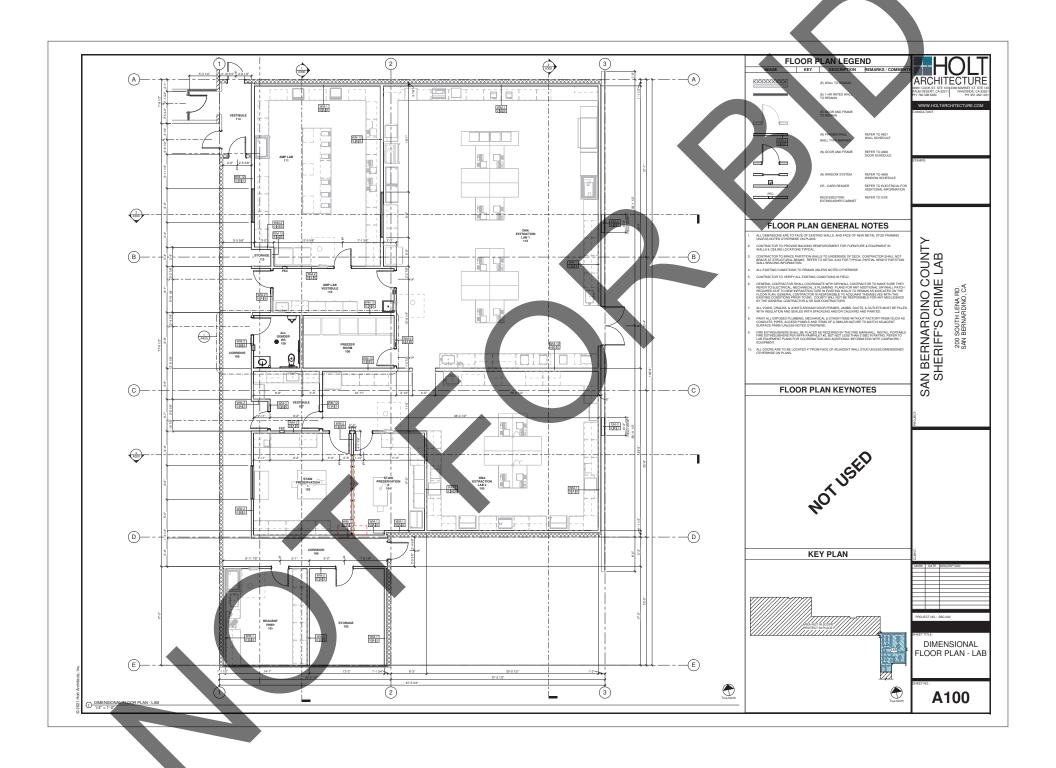


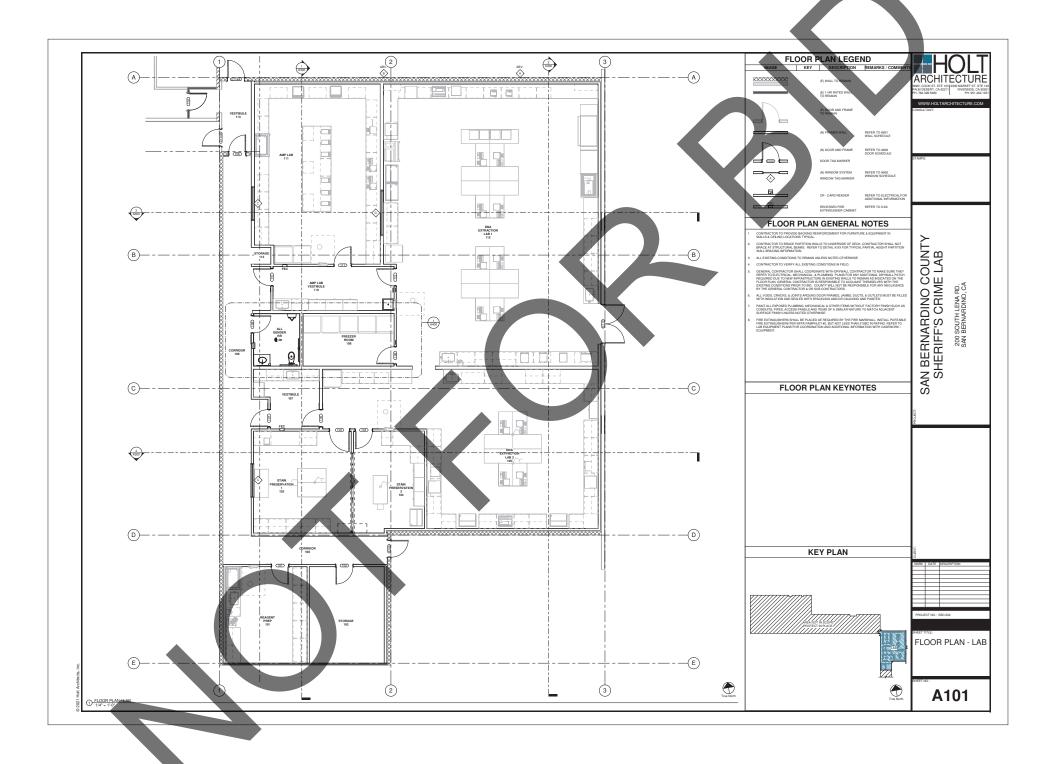


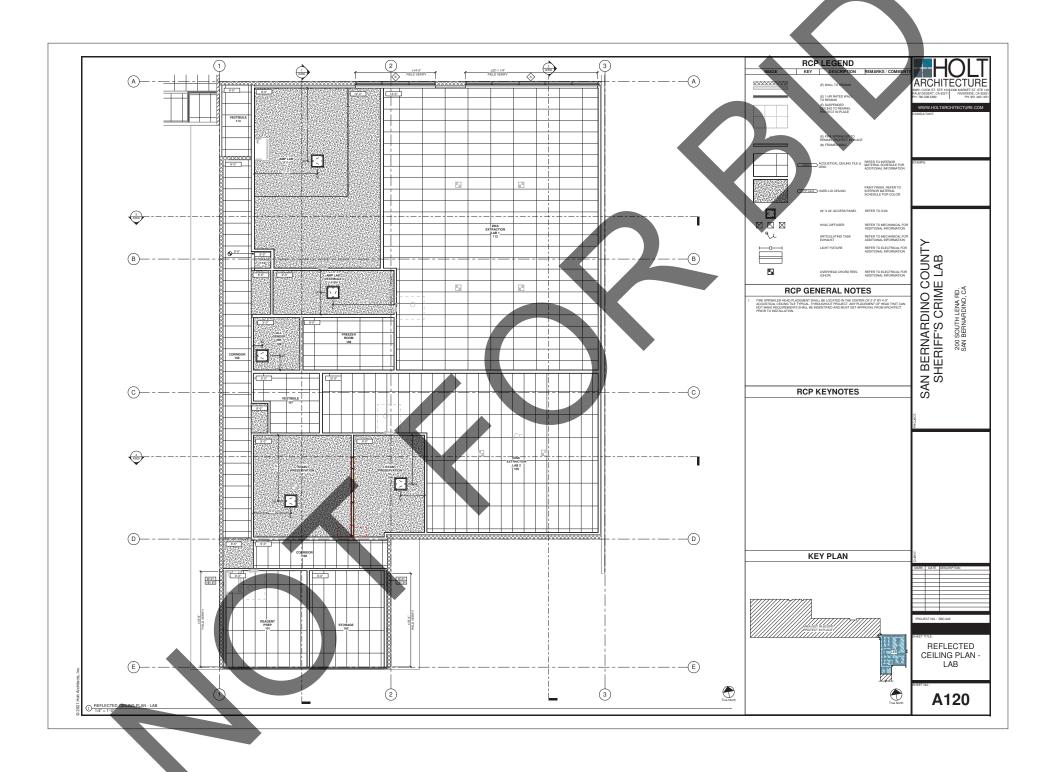


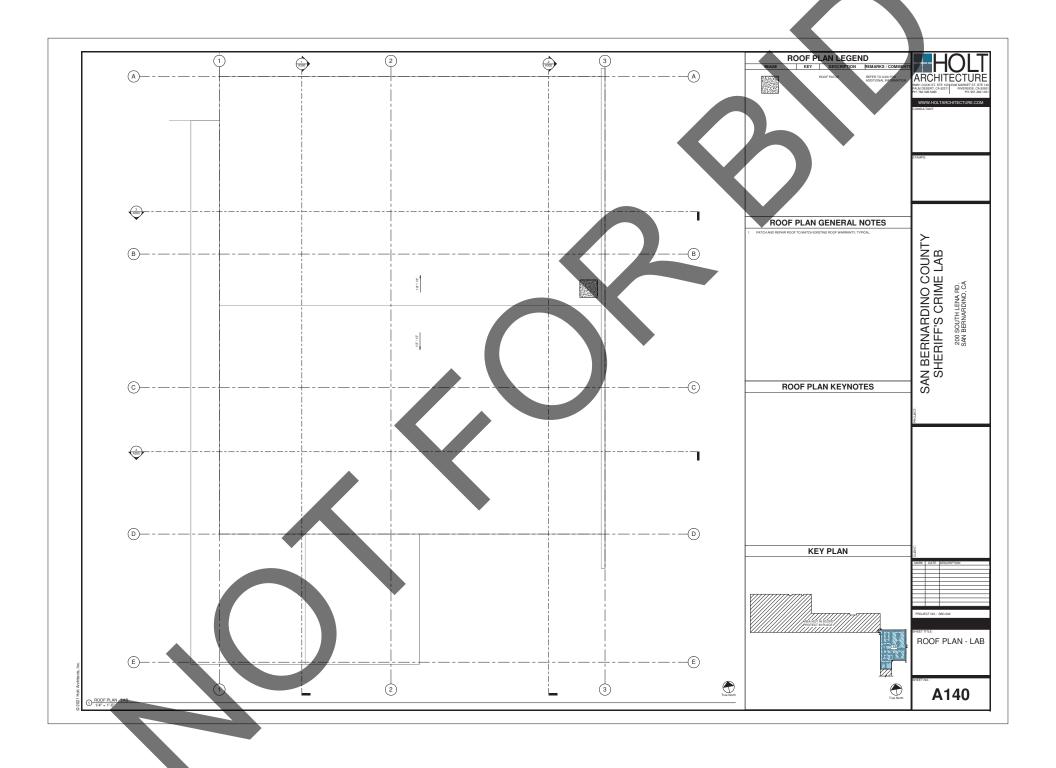


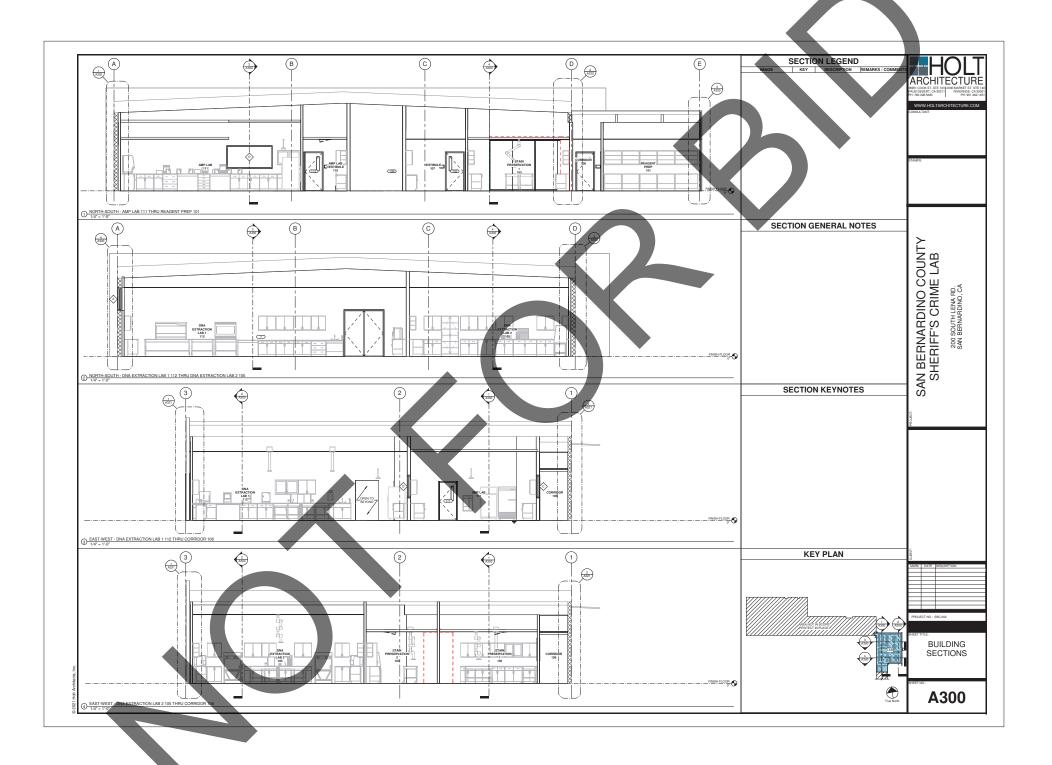


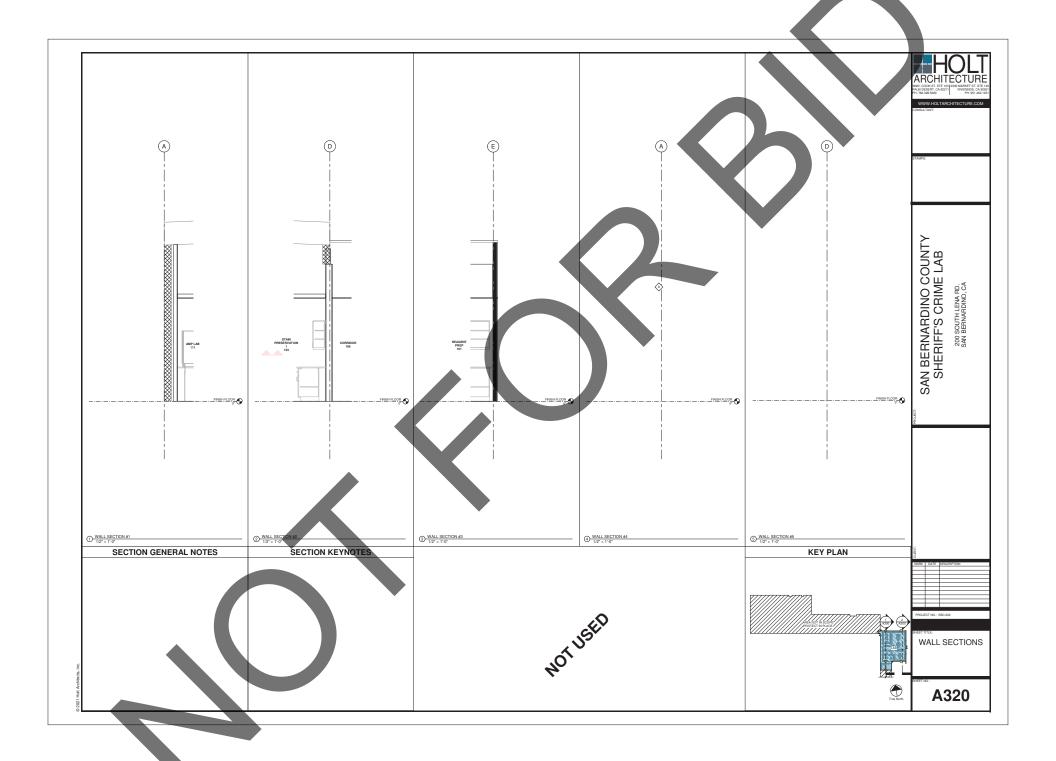


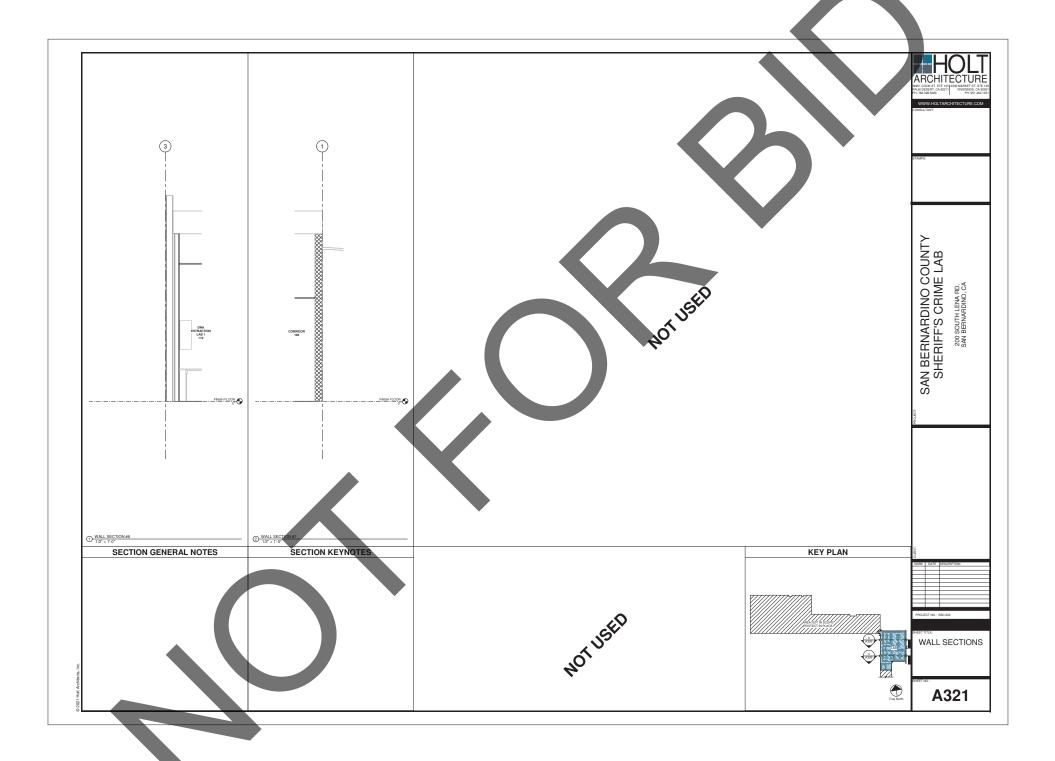


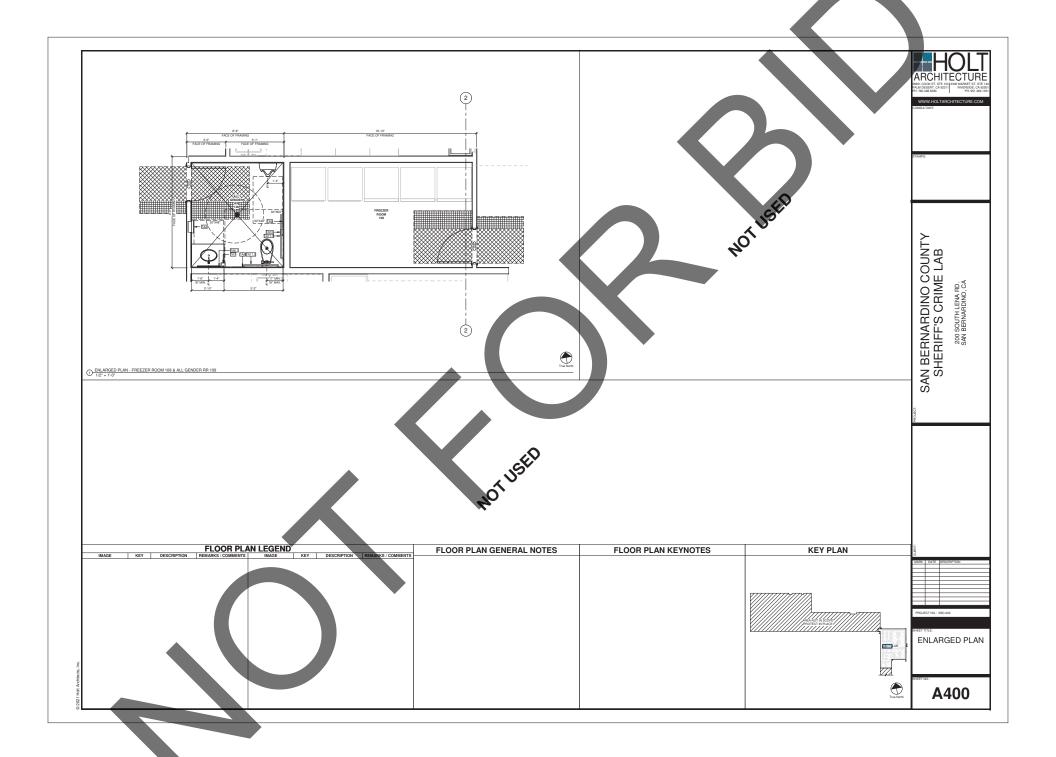


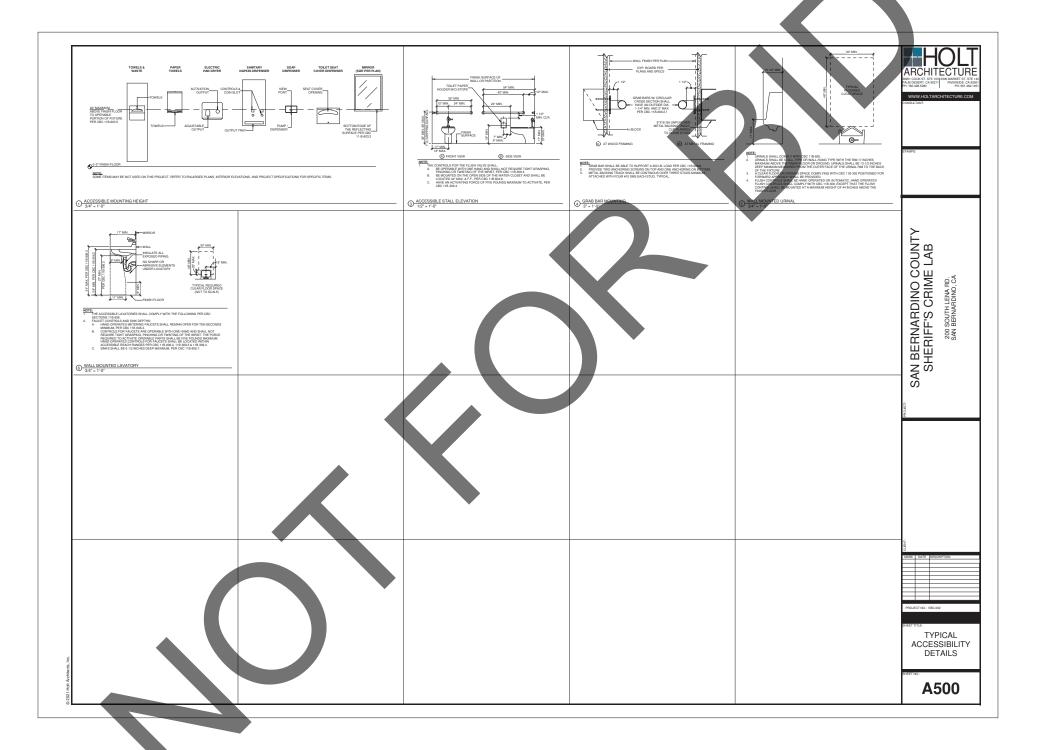


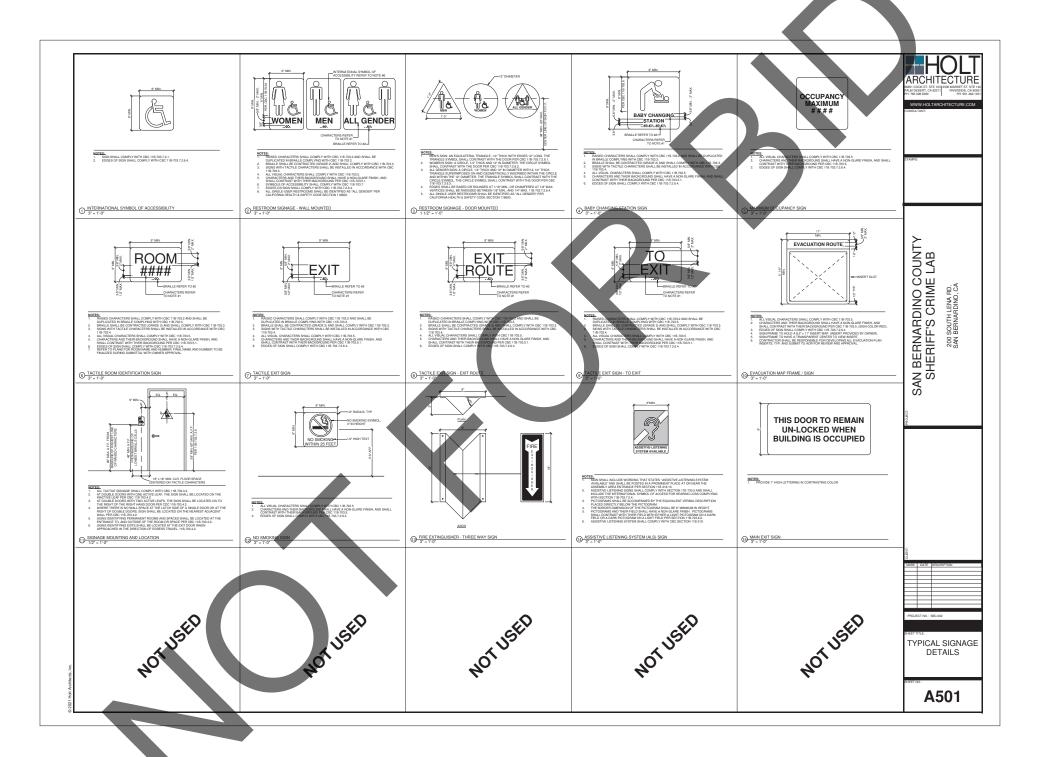


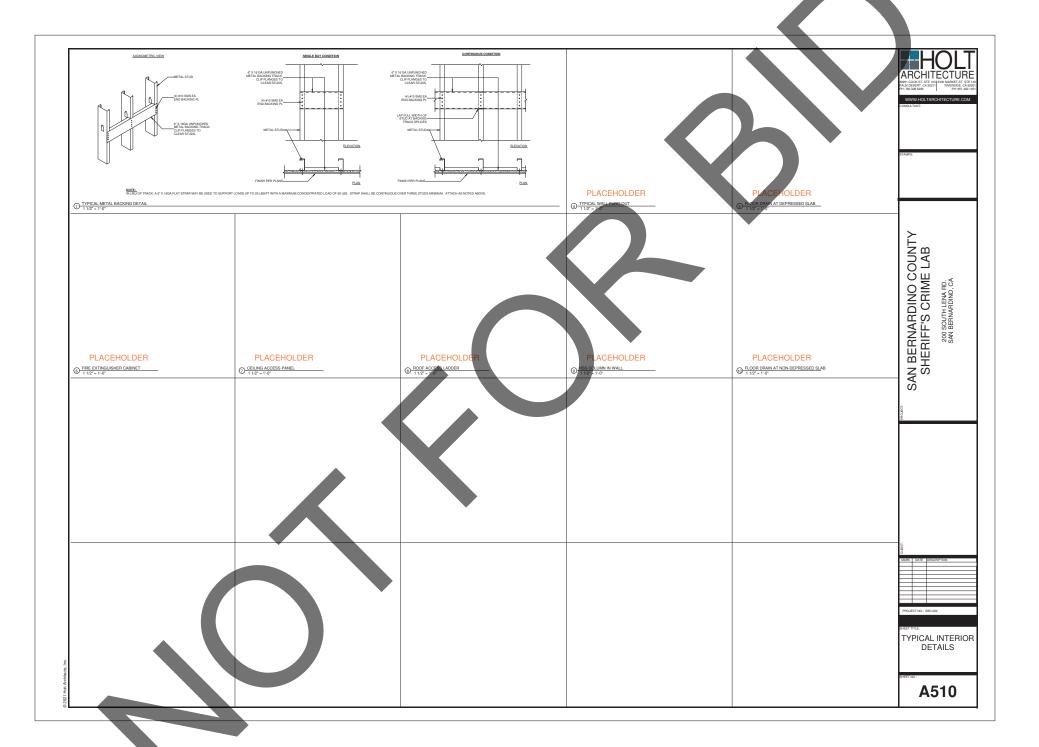




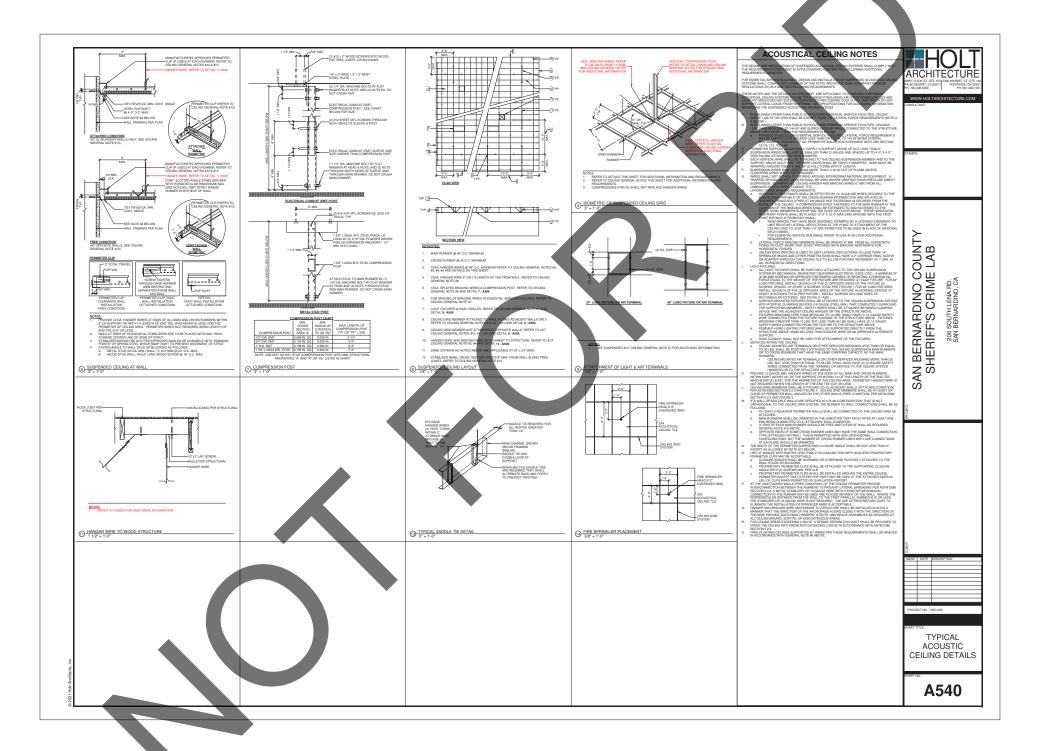








				ARCHITECTURE MINI DOZINE TO THE T
PLACEHOLDER  O TYPICAL EXTERIOR DOOR - HEAD	PLACEHOLDER  O TYPICAL EXTERIOR DOOR - JAME	PLACEHOLDER  © TYPICAL EXTERIOR DOOR - THRESHOLD  112" - 10"	PLACEHOLDER  © 1007 ACCES SCONTROL DIAGRAM.	
PLACEHOLDER  PPICAL INTERIOR DOOR - HEAD  PPICAL INTERIOR DOOR - HEAD  TYPICAL INTERIOR DOOR - HEAD  11/2" + 1-0"	PLACEHOLDER  TYPEAL INTERIOR DOOR - JAMB  PLACEHOLDER  TYPEAL INTERIOR DOOR - JAMB	PLACEHOLDER  TYPEAL BURROOR DOOR - THE SHOLD	0112-72	SAN BERNARDINO COUNTY SHERIFF'S CRIME LAB  200 SOUTH LEW, RD. SAN BERNARDINO, CA
PLACEHOLDER  **Prical Exterior Window - HEAD**  11/2" + 1'-0'-1	PLACEMOLDER  TYPEAL EXEMISER WITCOW - JAMES  112" - 14	PLACEHOLDER  TYPEAL EXTERIOR WINDOW - SIL.  1127 - 11-07		S)
PLACEHOLDER  TIEST 152  PLACEHOLDER  TIEST 152  PLACEHOLDER	PLACEFOLDER  TYPICAL INTERIOR WINDOWJAMB  1/12'-170'	PLACEHOLDER  (a) TPPCA 1700  T127 - 1700		MANK DATE DESCRIPTION  MANK DATE DESCRIPTION  PROJECT NO. BECSE  TYPICAL DOOR & WINDOW DETAILS  DIEST NO.  A530



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	PLACEHOLDER © TOPS ASSESSED BOOF FENERATION	PLACEHOLDER  O TIGE = 100 THE CALLWALL NELL AT DOOR					
	PLACEHOLDER  Ones and some per noor person	PLACEHOLDEN  OTTO A TOTAL METER COMMANDE NELLAT WINDOW					
	PLACE HOLDER © negociation mou	PLACEHOLDER  O PROLEGING FOR HELL PAIDH  172" = 110"					
	PLACEHOLDER © PLANSMAT PROC ACCESS HATCH	PLACEHOLDER  © 1922 and these than took theology incore					
		PLACEHOLDER  @_FLASHINGATIONSTEDERATION  @_11/2" +1-0"					
MODELLO SECONO  TOPICAL EXTERIOR DETAILS  DETAILS  DETAILS	SAN BERNARDINO (SHERIFF'S CRIMI)  200 SOUTH LENA RD, SAN BERNARDINO, CA	E LAB	ARCHITECTURE AND STATE OF THE S				

