



22253 West Southern Ave.
Buckeye, AZ 85326

623-386-8462

PRCA20240398 - Revision 3

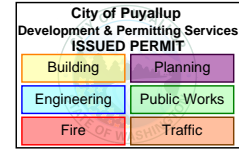
Calculations required to be provided by the Permittee on site for all Inspections

**STRUCTURAL CALCULATIONS
STEEL GIRDER and JOIST DESIGNS**

September 27, 2024

**Project Eveler Freezer
Puyallup, WA**

**CSC Project #501994
Steelfab Oregon**



REFERENCES

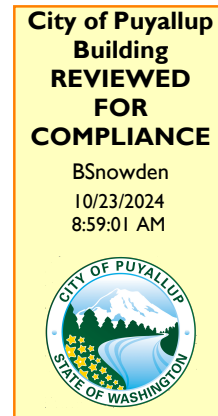
*** S.J.I. STEEL JOIST SPECIFICATIONS
STEEL JOIST INSTITUTE
EDITION 45**



9/27/2024

*** A.I.S.C. STEEL CONSTRUCTION MANUAL
AMERICAN INSTITUTE OF STEEL CONSTRUCTION
14TH EDITION**

*** WELDING OF OPEN WEB STEEL JOISTS
STEEL JOIST INSTITUTE
TECHNICAL DIGEST
NO. 8 - JULY 2020**



RECORD CALCS

Design Enclosed :

G1, G2, G3, G4, G5, G6, G7, G8, G9, G10, G11, G12, G13, G14, G15, G16, G17, G18, G19, G20, G21, G22, G23, G24, G25, G26, G27, G28, G29, G30, G31, J1, J2, J3, J3A, J4, J5, J6, J6A, J6B, J8, J9, J11, J11A, J12, J12A, J13, J14, J16, J18, J18A, J19, J20, J21, J22, J24, J25, J26, J27, J27A, J27B, J28, J29, J31, J32, J32A, J34, J34A, TJ1, TJ3, TJ3A, TJ3B, TJ6, TJ6B, TJ7, TJ12, TJ12B, TJ14, TJ14A, TJ16, TJ19, TJ22, TJ23B, TJ23C, TJ25, TJ26, TJ27, TJ27B, TJ27C, TJ27D, TJ29, TJ32, TJ34, TJ34A

The Professional Engineer's Seal affixed hereto is not intended to certify or imply that this building does or does not conform to any national or local building codes. The seal indicates that the above listed and attached joist design calculations have been prepared under my supervision in accordance with the Steel Joist Institute's Standard Specification to resist specified loads and designations of the Structural Contract Drawings.

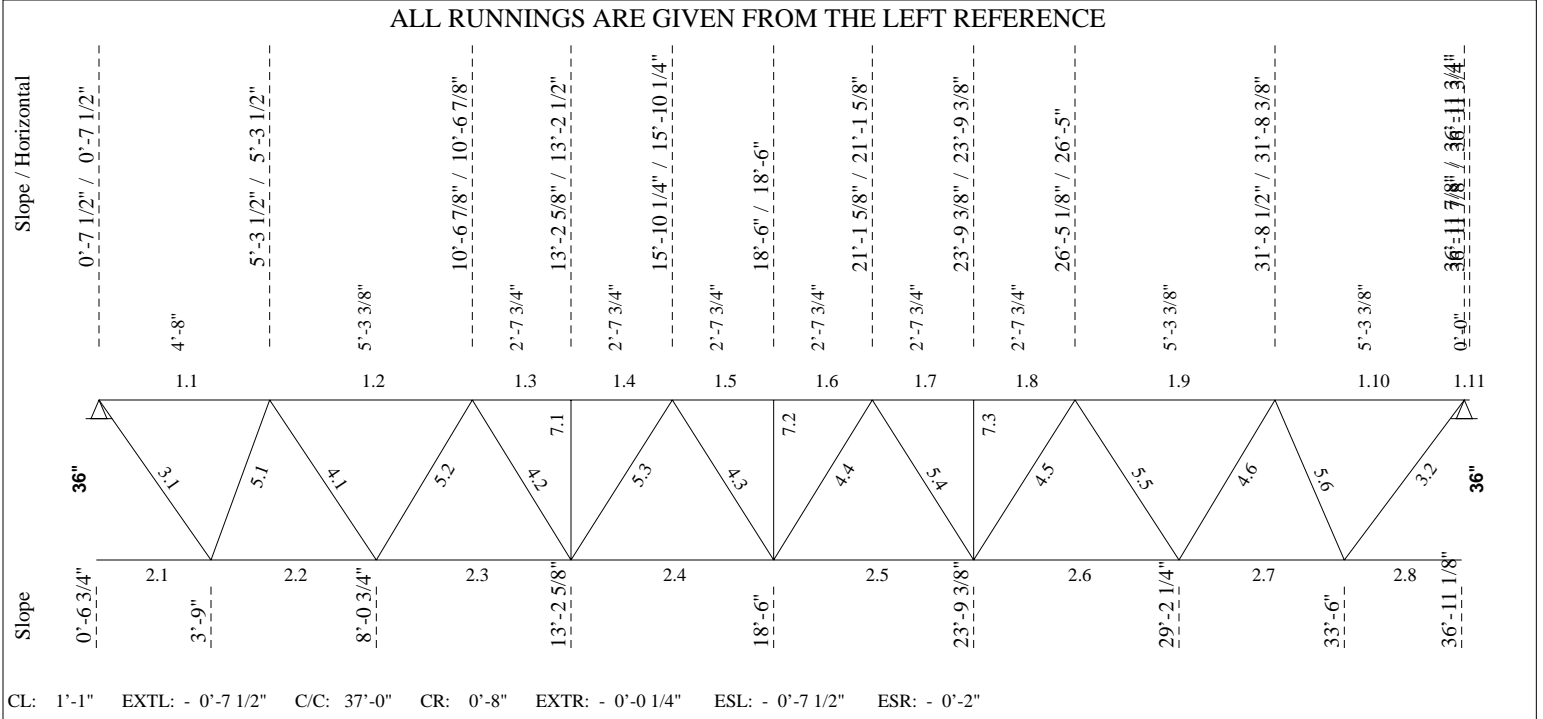
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G1 (G (3), Asymmetrical,, Free ends)

$\Delta = \frac{9}{12}$ 0 1/4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N9 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-R 0'-1 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.256)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02
 I = 4.90 in⁴ Cal.D. LL = L/ 9999 = 0.00 TL = L/ -229 = -0.01

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	9.00	4.05	2.80	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	9.00	4.05	2.80	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	No	3.80	3.80	3.80	10'-6 7/8"	0'-0"	5	1	90	0
5	1	Both	Yes	9.00	4.05	2.80	15'-10 1/4"	0'-0"	5	1	90	0
4	1	Both	No	3.80	3.80	3.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	9.00	4.05	2.80	21'-1 5/8"	5'-3 3/8"	5	1	90	0
7	1	Both	Yes	9.00	4.05	2.30	26'-5"	5'-3 3/8"	5	1	90	0
8	1	Both	Yes	9.00	4.05	2.30	31'-8 3/8"	5'-3 3/8"	5	1	90	0



Mark : G1

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:36

----- DEFLECTION -----

Allowed deflection under live load..... = 1.20 in (L/ 360)
 Calculated deflection under service live load..... = 0.67 in (L/ 646)
 Joist inertia..... = 2332.70 in⁴
 Required camber..... = 0.53 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.03 in)

Left Reaction = 32.35/ -13.26 kips Right Reaction = 29.29/ -10.14 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.1	14.13	-34.45	LL 3.5 X .313	z 78 0.59	4'-8"		
1.2	31.49	-74.59 x	do	xx 59 0.83	5'-3 3/8"		
1.3	44.23	-104.82	do	z 46 0.98	2'-7 3/4"		
1.4	44.23	-104.82	do	z 46 0.98	do		
1.5	45.14	-112.22 x	do	xx 29 0.99	do		
1.6	45.14	-112.22 x	do	xx 29 0.99	do		
1.7	37.38	-99.39	do	z 46 0.93	do		
1.8	37.38	-99.39	do	z 46 0.93	2'-7 3/4"		
1.9	24.53	-68.88 x	do	xx 59 0.79	5'-3 3/8"		
1.10	11.13	-32.17	do	z 86 0.55	5'-1 5/8"		
1.11	0.00	0.00	LL 3.5 X .313	z 3 0.26	0'-3 3/4"		
Bottom Chord							
2.1	0.00	0.00	LL 3.5 X .287	yy 99 0.41	3'-2 1/4"		
2.2	51.31	-21.05	do	yy 99 0.76	4'-3 3/4"		
2.3	94.78	-40.54	do	yy 99 0.91	5'-1 7/8"		
2.4	114.39	-47.74	do	yy 99 0.99	5'-3 3/8"		
2.5	110.15	-42.65	do	yy101 0.95	5'-3 3/8"		
2.6	89.12	-32.35	do	yy101 0.88	5'-4 7/8"		
2.7	51.33	-17.76	do	yy101 0.71	4'-3 3/4"		
2.8	0.00	0.00	LL 3.5 X .287	yy101 0.41	3'-3 3/8"		
End Diagonal							
3.1	46.72	-19.17 x	LL 2 X .247	xx 81 0.84	4'-2 5/8"	.247 - 6 3/8"	
3.2	43.99	-15.22	LL 2 X .247	z 131 0.93	4'-4 1/2"	.247 - 6"	
Diagonal Towards End							
4.1	32.59	-14.62 x	LL 2 X .156	xx 76 0.91	4'-1"	.156 - 7"	T45
4.2	14.40	-5.28	LL 1.5 X .155	z 158 0.99	4'-0"	.155 - 3 1/8"	
4.3	12.16	-3.11 x	do	xx101 0.46	do	.155 - 2 5/8"	
4.4	3.12	-12.16 x	LL 1.5 X .155	xx101 0.97	do	.155 - 2 5/8"	
4.5	15.43	-7.56 d	U 1 3/8 X 0.176	z 105 0.92	4'-0"	.176 - 3"	
4.6	27.12	-10.47 x	LL 2 X .156	xx 73 0.75	3'-11"	.156 - 5 7/8"	
Diagonal Towards Center							
5.1	15.10	-36.80 x	LL 2 X .247	xx 64 0.89	3'-4 1/2"	.247 - 5"	
5.2	13.99	-31.19 x	LL 2 X .247	xx 75 0.84	3'-11"	.247 - 4 1/4"	
5.3	5.28	-14.38 x	LL 2 X .156	xx 75 0.63	4'-0"	.156 - 3 1/8"	
5.4	7.56	-15.42 x	LL 2 X .156	xx 75 0.67	4'-0"	.156 - 3 3/8"	
5.5	10.94	-28.34 x	LL 2 X .247	xx 78 0.80	4'-1"	.247 - 3 7/8"	
5.6	11.99	-34.65 x	LL 2 X .247	xx 66 0.86	3'-5 7/8"	.247 - 4 3/4"	
Secondary Web Member							
7.1	0.00	-2.18 d	U 1 3/8 x 1 1/4 x 0.118	z 85 0.33	3'-0"	.118 - 1 1/2"	
7.2	0.00	-2.33 d	do	z 85 0.35	do	do	
7.3	0.00	-2.07 d	U 1 3/8 x 1 1/4 x 0.118	z 85 0.31	3'-0"	.118 - 1 1/2"	



Mark : G1

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:36

----- BRIDGING -----

Maximum spacing between rows of bridging					Lateral Supports
@ Top Chord:	26'-8 5/8" ==>	0 Row(s) Minimum			Concentrated loads
@ Bottom Chord:	37'-4 1/4" ==>	2 Row(s) Minimum			Acc. to the force

POSITION	@ Top Chord	@ Bottom Chord	
		KB 15'-10 1/4" (15'-10 1/4")	
		KB 21'-1 5/8" (21'-1 5/8")	

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
1258	/	1296	Area to Paint	:	246.88 ft2
					Material Sort : Cost

This mark has been edited

829(859)-829(859)-25-10/8-1258(1296) NNN,NNN

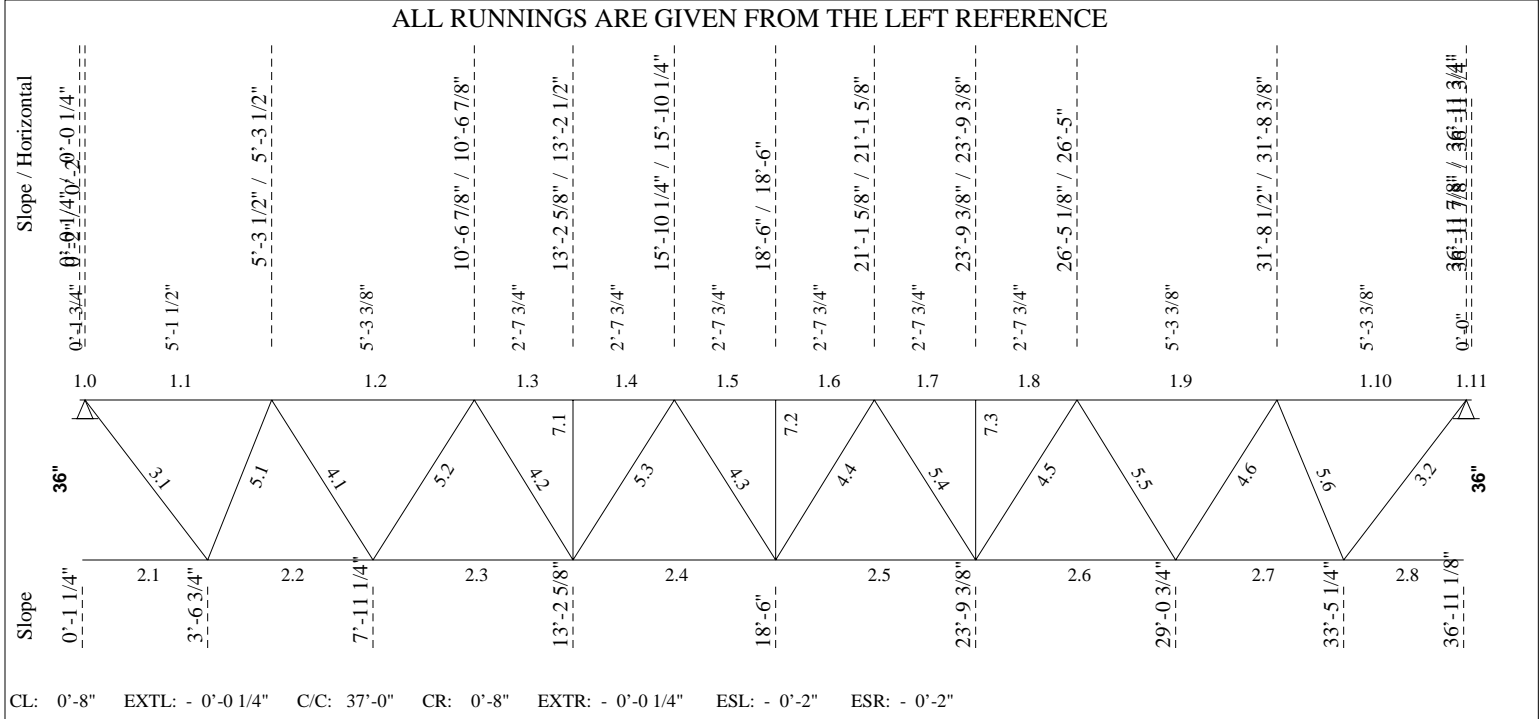
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G2 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{1}{8}}{12} = 0 \frac{1}{4}"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N9 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-1 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.270)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.01 TL = L/	90 = 0.02
I =	4.55 in^4				Cal.D. LL = L/	9999 =	0.00 TL = L/	-206 = -0.01

Tcx-R	0'-1 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.260)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.01 TL = L/	90 = 0.02
I =	4.55 in^4				Cal.D. LL = L/	9999 =	0.00 TL = L/	-205 = -0.01

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl. [deg]	Cmp
1	1	Both	Yes	9.00	4.05	2.30	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	9.00	4.05	2.30	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	9.00	4.05	2.30	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	9.00	4.05	2.30	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	9.00	4.05	2.30	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	9.00	4.05	2.30	31'-8 3/8"	5'-3 3/8"	5	1	90	0



----- DEFLECTION -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 0.54 in (L/ 801)
 Joist inertia..... = 2166.05 in⁴
 Required camber..... = 0.54 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.15 in)

Left Reaction = 27.02/ -6.90 kips Right Reaction = 27.01/ -6.90 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 3.5 X .287	z 3 0.27	0'-3 3/4"		
1.1	7.98	-31.25	do	z 86 0.56	5'-1 1/2"		
1.2	16.39	-64.19	x do	xx 58 0.77	5'-3 3/8"		
1.3	22.75	-89.09	do	z 46 0.93	2'-7 3/4"		
1.4	22.75	-89.09	do	z 46 0.93	do		
1.5	24.84	-97.26	x do	xx 29 0.96	do		
1.6	24.84	-97.26	x do	xx 29 0.96	do		
1.7	22.66	-88.72	do	z 46 0.93	do		
1.8	22.66	-88.72	do	z 46 0.93	2'-7 3/4"		
1.9	16.21	-63.46	x do	xx 58 0.77	5'-3 3/8"		
1.10	7.69	-30.09	do	z 86 0.55	5'-1 5/8"		
1.11	0.00	0.00	LL 3.5 X .287	z 3 0.26	0'-3 3/4"		
Bottom Chord							
2.1	0.00	0.00	LL 3 X .313	yy114 0.41	3'-5 1/2"		
2.2	47.08	-12.02	do	yy114 0.70	4'-4 1/2"		
2.3	80.52	-20.56	do	yy114 0.84	5'-3 3/8"		
2.4	97.25	-24.83	do	z 108 0.91	do		
2.5	97.27	-24.84	do	yy113 0.91	do		
2.6	80.56	-20.57	do	yy113 0.84	5'-3 3/8"		
2.7	47.15	-12.04	do	yy113 0.70	4'-4 1/2"		
2.8	0.00	0.00	LL 3 X .313	yy113 0.41	3'-4 1/8"		
End Diagonal							
3.1	40.86	-10.44	LL 2 X .247	z 132 0.74	4'-4 7/8"	.247 - 5 5/8"	
3.2	40.88	-10.44	LL 2 X .247	z 132 0.74	4'-5"	.247 - 5 5/8"	
Diagonal Towards End							
4.1	24.58	-6.28	x LL 1.5 X .155	xx101 0.93	4'-0"	.155 - 5 3/8"	
4.2	12.31	-3.14	d U 1 3/8 x 0.136	z 108 0.82	do	.136 - 3 1/8"	
4.3	10.75	-2.69	x LL 1.5 X .155	xx101 0.41	do	.155 - 2 3/8"	
4.4	0.00	-10.75	x LL 1.5 X .155	xx101 0.86	do	.155 - 2 3/8"	
4.5	12.29	-3.13	d U 1 3/8 x 0.136	z 108 0.82	do	.136 - 3 1/8"	
4.6	24.56	-6.27	x LL 1.5 X .155	xx101 0.93	4'-0"	.155 - 5 3/8"	
Diagonal Towards Center							
5.1	8.07	-31.61	x LL 2 X .247	xx 66 0.78	3'-5 1/2"	.247 - 4 3/8"	
5.2	6.28	-24.58	x LL 2 X .186	xx 75 0.88	4'-0"	.186 - 4 1/2"	
5.3	3.14	-12.29	x LL 1.5 X .155	xx101 0.98	do	.155 - 2 5/8"	
5.4	3.13	-12.27	x LL 1.5 X .155	xx101 0.98	do	.155 - 2 5/8"	
5.5	6.27	-24.56	x LL 2 X .186	xx 75 0.88	4'-0"	.186 - 4 1/2"	
5.6	8.08	-31.62	x LL 2 X .247	xx 66 0.78	3'-5 5/8"	.247 - 4 3/8"	



Mark : G2

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:36

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
Secondary Web Member								
7.1	0.00	-1.86	d	U 1 3/8 x 1 1/4 x 0.118	z 85	0.28	3'-0"	.118 - 1 1/2"
7.2	0.00	-2.03	d	do	z 85	0.31	do	do
7.3	0.00	-1.85	d	U 1 3/8 x 1 1/4 x 0.118	z 85	0.28	3'-0"	.118 - 1 1/2"

----- **BRIDGING** -----

Maximum spacing between rows of bridging
 @ Top Chord: 26'-2 1/4" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 33'-1 3/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 1/4" (15'-10 1/4")
 KB 21'-1 5/8" (21'-1 5/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 1156 / 1196 Area to Paint : 231.66 ft2 Material Sort : Cost

758(789)-758(789)-25-10/8-1156(1196) NNN,NNN

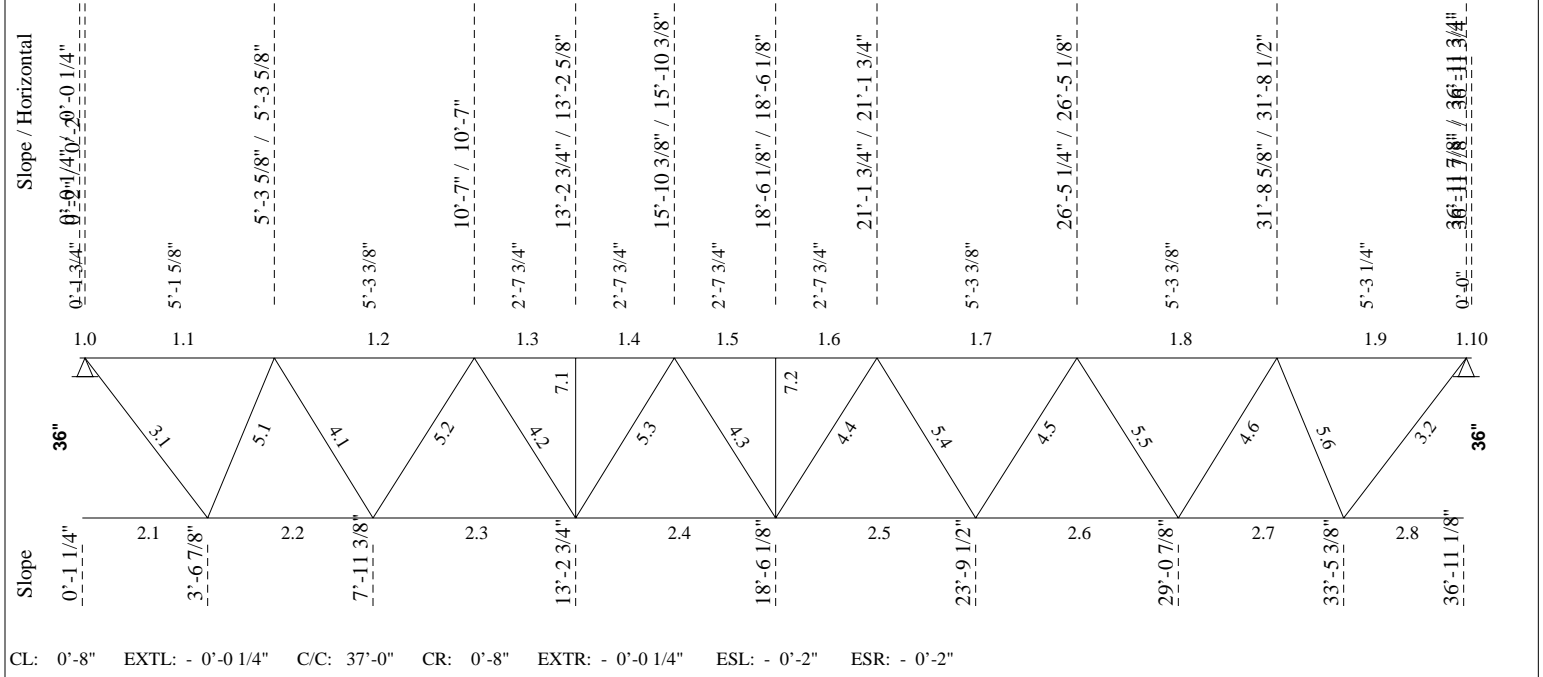
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G3 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{1}{8}}{12} = 0 \frac{1}{4}"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N9 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-1 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.306)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/ 180 =	0.01 TL = L/ 90 =	0.02	
I =	4.90 in ⁴				Cal.D. LL = L/ 9999 =	0.00 TL = L/ -222 =	-0.01	

Tcx-R	0'-1 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.254)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/ 180 =	0.01 TL = L/ 90 =	0.02	
I =	4.90 in ⁴				Cal.D. LL = L/ 9999 =	0.00 TL = L/ -221 =	-0.01	

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 0-9 1/2	Incl. [deg]	Cmp
2	1	Both	No	3.80	3.80	3.80	5'-3 5/8"	0'-0"	5	1	90	0
1	1	Both	Yes	9.00	4.05	2.30	5'-3 5/8"	5'-3 5/8"	5	1	90	0
3	1	Both	No	3.80	3.80	3.80	10'-7"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	9.00	4.05	2.30	10'-7"	0'-0"	5	1	90	0
5	1	Both	Yes	9.00	4.05	2.30	15'-10 3/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	9.00	4.05	2.30	21'-1 3/4"	5'-3 3/8"	5	1	90	0
7	1	Both	Yes	9.00	4.05	2.30	26'-5 1/8"	5'-3 3/8"	5	1	90	0
8	1	Both	Yes	9.00	4.05	2.30	31'-8 1/2"	5'-3 3/8"	5	1	90	0



Mark : G3

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:36

----- DEFLECTION -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 0.64 in (L/ 685)
 Joist inertia..... = 2332.70 in⁴
 Required camber..... = 0.54 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.03 in)

Left Reaction = 33.01/ -12.90 kips Right Reaction = 28.61/ -8.50 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.0	0.00	0.00	LL 3.5 X .313	z 3 0.31	0'-3 3/4"		
1.1	15.00	-38.38	do	z 86 0.61	5'-1 5/8"		
1.2	29.10	-77.11	x do	xx 59 0.82	5'-3 3/8"		
1.3	35.96	-102.55	do	z 46 0.96	2'-7 3/4"		
1.4	35.96	-102.55	do	z 46 0.96	do		
1.5	35.09	-107.76	x do	xx 29 0.95	do		
1.6	35.09	-107.76	x do	xx 29 0.95	2'-7 3/4"		
1.7	29.93	-96.18	x do	xx 59 0.99	5'-3 3/8"		
1.8	20.48	-67.85	x do	xx 59 0.77	5'-3 3/8"		
1.9	9.48	-31.94	do	z 86 0.54	5'-1 1/2"		
1.10	0.00	0.00	LL 3.5 X .313	z 3 0.25	0'-3 3/4"		
Bottom Chord							
2.1	0.00	0.00	LL 3.5 X .287	yy102 0.46	3'-5 5/8"		
2.2	57.84	-22.61	do	yy102 0.76	4'-4 1/2"		
2.3	95.49	-35.29	do	yy102 0.87	5'-3 3/8"		
2.4	109.28	-36.61	do	yy102 0.95	do		
2.5	106.29	-33.64	do	yy101 0.92	do		
2.6	86.54	-26.39	do	yy101 0.85	5'-3 3/8"		
2.7	50.02	-14.85	do	yy101 0.69	4'-4 1/2"		
2.8	0.00	0.00	LL 3.5 X .287	yy101 0.40	3'-4"		
End Diagonal							
3.1	50.07	-19.57	x LL 2 X .247	xx 85 0.90	4'-5"	.247 - 6 7/8"	T45
3.2	43.35	-12.87	x LL 2 X .247	xx 85 0.78	4'-4 7/8"	.247 - 6"	
Diagonal Towards End							
4.1	27.62	-9.30	x LL 2 X .156	xx 75 0.77	4'-0"	.156 - 6"	
4.2	12.41	-3.10	LL 1.5 X .155	z 158 0.58	do	.155 - 2 3/4"	
4.3	2.18	-12.41	x do	xx101 0.99	do	do	
4.4	12.41	-3.10	x LL 1.5 X .155	xx101 0.47	do	.155 - 2 3/4"	
4.5	14.49	-5.32	d U 1 3/8 x 0.136	z 108 0.97	do	.136 - 3 5/8"	
4.6	26.79	-8.46	x LL 2 X .156	xx 75 0.75	4'-0"	.156 - 5 3/4"	
Diagonal Towards Center							
5.1	15.13	-38.69	x LL 2 X .247	xx 65 0.95	3'-5 5/8"	.247 - 5 1/4"	
5.2	9.30	-27.62	x LL 2 X .186	xx 75 0.98	4'-0"	.186 - 5"	
5.3	0.97	-12.41	x LL 2 X .156	xx 75 0.54	do	.156 - 2 5/8"	
5.4	5.32	-14.49	x LL 2 X .156	xx 75 0.63	do	.156 - 3 1/8"	
5.5	8.46	-26.79	x LL 2 X .186	xx 75 0.95	4'-0"	.186 - 4 7/8"	
5.6	9.95	-33.50	x LL 2 X .247	xx 65 0.82	3'-5 1/2"	.247 - 4 5/8"	
Secondary Web Member							
7.1	0.00	-2.13	d U 1 3/8 x 1 1/4 x 0.118	z 85 0.32	3'-0"	.118 - 1 1/2"	
7.2	0.00	-2.24	d U 1 3/8 x 1 1/4 x 0.118	z 85 0.34	3'-0"	.118 - 1 1/2"	



Mark : G3

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:36

----- BRIDGING -----

Maximum spacing between rows of bridging				Lateral Supports
@ Top Chord:	26'-3 1/8" ==>	0 Row(s) Minimum		Concentrated loads
@ Bottom Chord:	36'-10 3/4" ==>	2 Row(s) Minimum		Acc. to the force

POSITION	@ Top Chord	@ Bottom Chord	
		KB 15'-10 3/8" (15'-10 3/8")	
		KB 21'-1 3/4" (21'-1 3/4")	

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	1257 / 1296		Area to Paint	:	248.74 ft2
					Material Sort : Cost

This mark has been edited

827(859)-827(859)-25-9/8-1257(1296) NNN,NNN

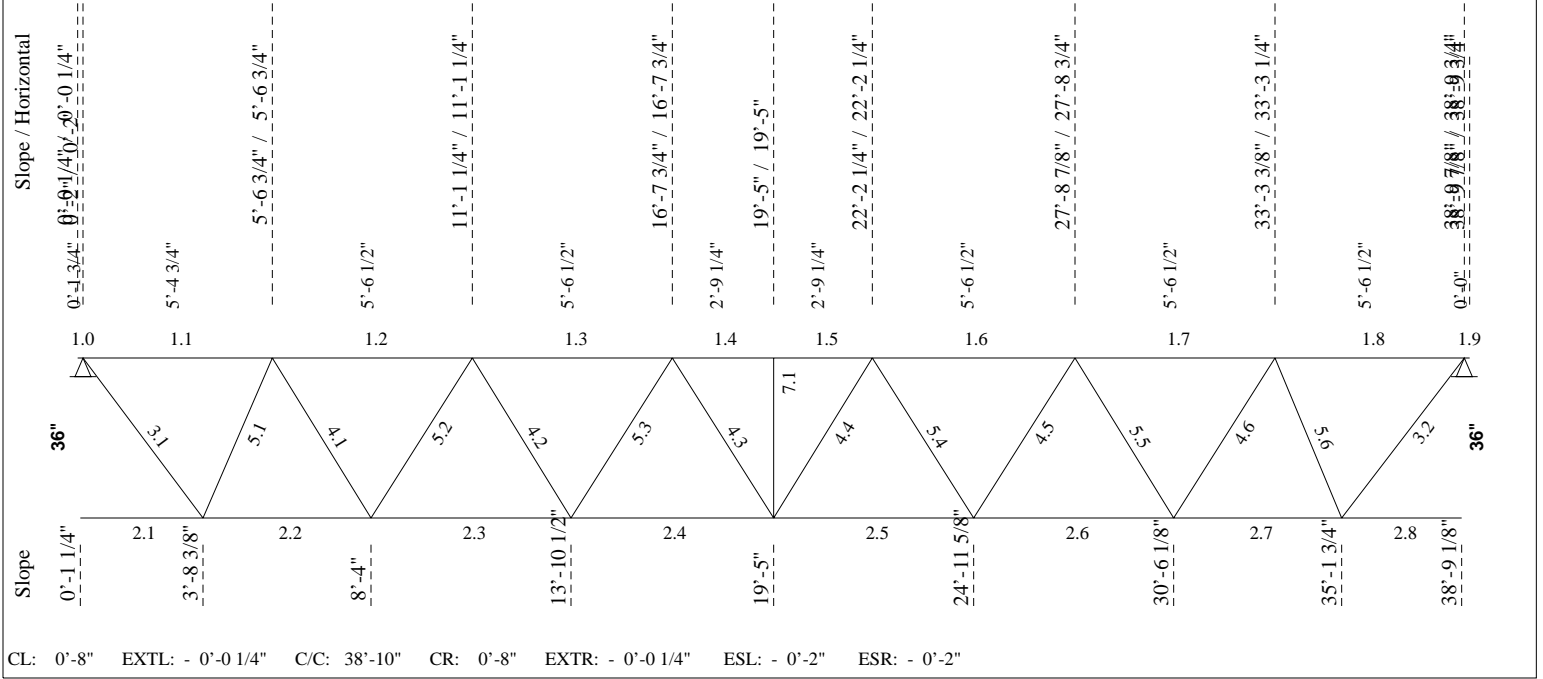
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G4 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9.5/8}{12} = 0.1/4"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N9 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-1 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.259)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/ 180 =	0.01 TL = L/ 90 =	0.02	
I =	4.90 in^4				Cal.D. LL = L/ 9999 =	0.00 TL = L/ -194 =	-0.01	

Tcx-R	0'-1 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.250)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/ 180 =	0.01 TL = L/ 90 =	0.02	
I =	4.90 in^4				Cal.D. LL = L/ 9999 =	0.00 TL = L/ -193 =	-0.01	

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl. [deg]	Cmp
1	1	Both	Yes	9.00	4.05	2.30	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	9.00	4.05	2.30	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	9.00	4.05	2.30	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	9.00	4.05	2.30	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	9.00	4.05	2.30	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	9.00	4.05	2.30	33'-3 1/4"	5'-6 1/2"	5	1	90	0



Mark : G4

Project: PROJECT EVELER FREEZER PUYALL

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----- DEFLECTION -----

Allowed deflection under live load..... = 1.27 in (L/ 360)
 Calculated deflection under service live load..... = 0.61 in (L/ 754)
 Joist inertia..... = 2250.85 in⁴
 Required camber..... = 0.59 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.14 in)

Left Reaction = 27.00/ -6.90 kips Right Reaction = 27.01/ -6.90 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.0	0.00	0.00	LL 3.5 X .313	z 3 0.26	0'-3 3/4"		
1.1	8.31	-32.52	do	z 91 0.54	5'-4 3/4"		
1.2	17.26	-67.56	x do	xx 61 0.75	5'-6 1/2"		
1.3	23.93	-93.66	x do	xx 61 0.99	5'-6 1/2"		
1.4	26.12	-102.24	do	z 48 0.98	2'-9 1/4"		
1.5	26.12	-102.24	do	z 48 0.98	2'-9 1/4"		
1.6	23.83	-93.27	x do	xx 61 0.99	5'-6 1/2"		
1.7	17.06	-66.77	x do	xx 61 0.74	5'-6 1/2"		
1.8	8.01	-31.34	do	z 91 0.53	5'-4 3/4"		
1.9	0.00	0.00	LL 3.5 X .313	z 3 0.25	0'-3 3/4"		
Bottom Chord							
2.1	0.00	0.00	LL 3 X .313	yy119 0.43	3'-7 1/8"		
2.2	49.63	-12.68	do	yy119 0.73	4'-7 5/8"		
2.3	84.70	-21.64	do	yy119 0.88	5'-6 1/2"		
2.4	102.23	-26.12	do	z 113 0.96	do		
2.5	102.23	-26.12	do	yy118 0.96	do		
2.6	84.70	-21.64	do	yy118 0.88	5'-6 1/2"		
2.7	49.63	-12.68	do	yy118 0.73	4'-7 5/8"		
2.8	0.00	0.00	LL 3 X .313	yy118 0.43	3'-5 5/8"		
End Diagonal							
3.1	41.82	-10.68	LL 2 X .247	z 135 0.75	4'-6 1/8"	.247 - 5 3/4"	
3.2	41.82	-10.68	LL 2 X .247	z 135 0.75	4'-6 1/8"	.247 - 5 3/4"	
Diagonal Towards End							
4.1	25.13	-6.42	x LL 1.5 X .155	xx103 0.95	4'-1"	.155 - 5 1/2"	
4.2	12.57	-3.21	d U 1 3/8 x 0.136	z 110 0.84	do	.136 - 3 1/8"	
4.3	11.00	-2.75	U 1 x 1 1/4 x 0.136	z 127 0.91	do	.136 - 2 3/4"	
4.4	11.00	-2.75	U 1 x 1 1/4 x 0.136	z 127 0.91	do	.136 - 2 3/4"	
4.5	12.57	-3.21	d U 1 3/8 x 0.136	z 110 0.84	do	.136 - 3 1/8"	
4.6	25.13	-6.42	x LL 1.5 X .155	xx103 0.95	4'-1"	.155 - 5 1/2"	
Diagonal Towards Center							
5.1	8.25	-32.28	x LL 2 X .247	xx 67 0.81	3'-6 3/8"	.247 - 4 3/8"	
5.2	6.42	-25.13	x LL 2 X .186	xx 77 0.91	4'-1"	.186 - 4 5/8"	
5.3	3.21	-12.57	x LL 2 X .156	xx 77 0.56	do	.156 - 2 3/4"	
5.4	3.21	-12.57	x LL 2 X .156	xx 77 0.56	do	.156 - 2 3/4"	
5.5	6.42	-25.13	x LL 2 X .186	xx 77 0.91	4'-1"	.186 - 4 5/8"	
5.6	8.25	-32.28	x LL 2 X .247	xx 67 0.81	3'-6 3/8"	.247 - 4 3/8"	
Secondary Web Member							
7.1	0.00	-2.13	d U 1 3/8 x 1 1/4 x 0.118	z 85 0.32	3'-0"	.118 - 1 1/2"	



Mark : G4

Project: PROJECT EVELER FREEZER PUYALL

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BRIDGING

Maximum spacing between rows of bridging				Lateral Supports
@ Top Chord:	26'-2 1/8" ==>	0 Row(s) Minimum		Concentrated loads
@ Bottom Chord:	33'-1 3/8" ==>	2 Row(s) Minimum		Acc. to the force

POSITION	@ Top Chord	@ Bottom Chord	
		KB 16'-7 3/4"	(16'-7 3/4")
		KB 22'-2 1/4"	(22'-2 1/4")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	1242 / 1285		Area to Paint	:	236.06 ft2
					Material Sort : Cost

813(846)-813(846)-25-8/8-1242(1285) NNN,NNN

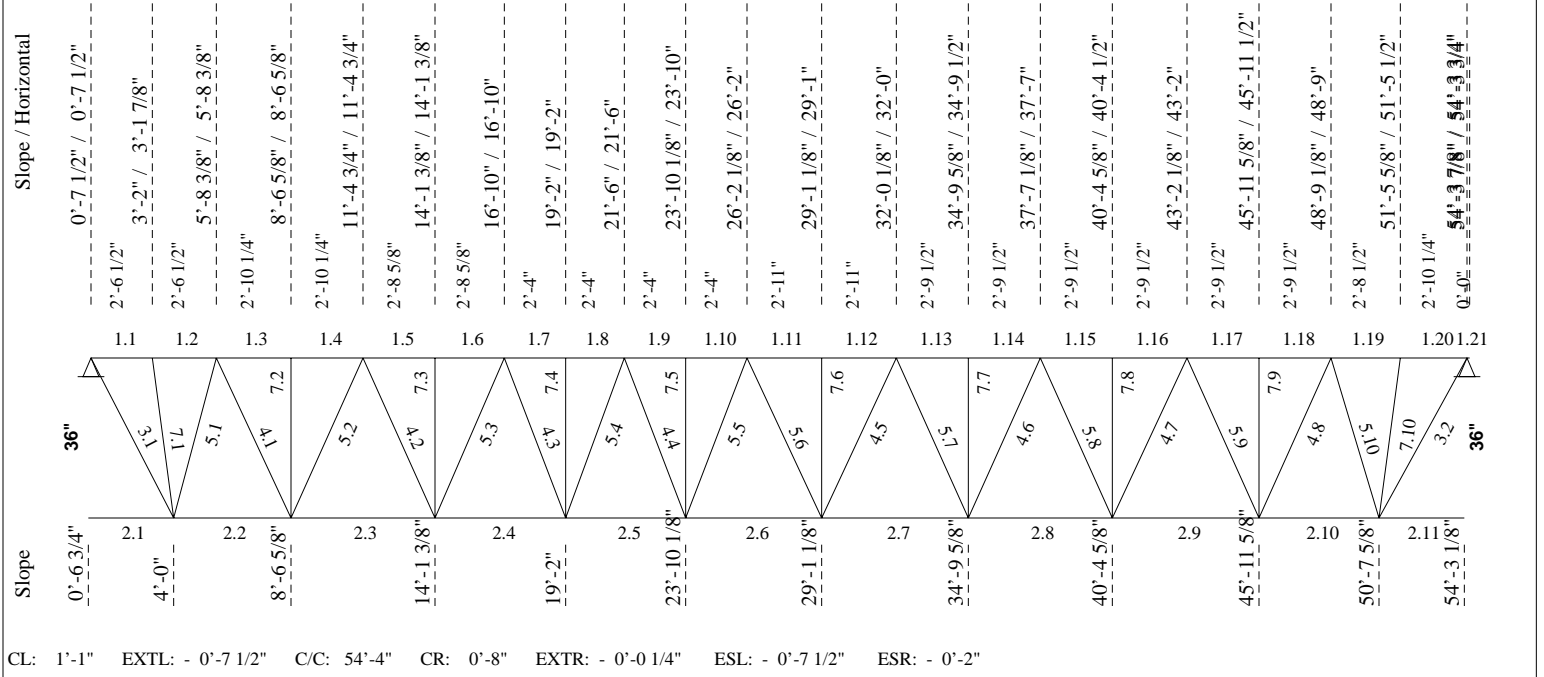
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G5 (G (3), Asymmetrical,, Free ends)

$\Delta = 13 \frac{3}{8}$ 0 1/4"
12

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G10N9 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-R 0'-1 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.147)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02
 I = 48.32 in⁴ Cal.D. LL = L/ 9999 = 0.00 TL = L/ -136 = -0.01

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
16	1	Near	Yes	4.10	1.90	1.20	5'-5"*	- 43'-4"	6	1	90	0
1	1	Far	Yes	4.90	2.20	1.60	5'-8 3/8"	5'-8 3/8"	5	1	90	0
17	1	Near	Yes	4.10	1.90	1.20	10'-10 1/4"*	37'-10 3/4"	6	1	90	0
2	1	Far	Yes	4.90	2.20	1.60	11'-4 3/4"	5'-8 3/8"	5	1	90	0
3	1	Far	Yes	3.80	3.80	3.80	11'-4 3/4"	0'-0"	5	1	90	0
18	1	Near	Yes	4.10	1.90	1.20	16'-3 1/2"*	32'-5 1/2"	6	1	90	0
4	1	Far	Yes	4.90	2.20	1.60	16'-10"	5'-5 1/4"	5	1	90	0
5	1	Far	Yes	6.75	0.00	0.00	16'-10"	0'-0"	5	1	90	0
6	1	Far	Yes	3.80	3.80	3.80	16'-10"	0'-0"	5	1	90	0
7	1	Far	Yes	4.90	2.20	1.60	21'-6"	4'-8"	5	1	90	0
8	1	Far	Yes	6.75	0.00	0.00	21'-6"	0'-0"	5	1	90	0
19	1	Near	Yes	4.10	1.90	1.20	21'-8 3/4"*	27'-0 1/4"	6	1	90	0
9	1	Far	Yes	4.90	2.20	1.60	26'-2"	4'-8"	5	1	90	0
10	1	Far	Yes	6.75	0.00	0.00	26'-2"	0'-0"	5	1	90	0



Mark : G5

Project: PROJECT EVELER FREEZER PUYALL

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-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
20	1	Near	Yes	4.10	1.90	1.20	27'-2"*	- 21'-7"	6	1	90	0
11	1	Far	Yes	4.90	2.20	1.60	32'-0"	5'-10"	5	1	90	0
21	1	Near	Yes	4.10	1.90	1.20	32'-7 1/4"*	- 16'-1 3/4"	6	1	90	0
12	1	Far	Yes	4.90	2.20	1.60	37'-7"	5'-7"	5	1	90	0
22	1	Near	Yes	4.10	1.90	1.20	38'-0 1/2"*	- 10'-8 1/2"	6	1	90	0
13	1	Far	Yes	4.90	2.20	1.60	43'-2"	5'-7"	5	1	90	0
23	1	Near	Yes	4.10	1.90	1.20	43'-5 3/4"*	- 5'-3 1/4"	6	1	90	0
14	1	Far	Yes	4.90	2.20	1.60	48'-9"	5'-7"	5	1	90	0
15	1	Far	Yes	1.90	1.90	1.90	48'-9"	0'-0"	5	1	90	0
24	1	Near	Yes	4.10	1.90	1.20	48'-11"*	0'-2"	6	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.77 in (L/ 360)
 Calculated deflection under service live load..... = 0.97 in (L/ 655)
 Joist inertia..... = 6838.83 in^4
 Required camber..... = 1.18 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 32.59 in)

Left Reaction = 59.26/ -18.63 kips Right Reaction = 51.52/ -16.07 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	22.41	-71.25	LL 6 X .625	z 24	0.18	2'-6 3/8"		
1.2	22.37	-71.10	do	z 26	0.39	2'-6 1/2"		
1.3	50.54	-160.51	do	z 29	0.41	2'-10 1/4"		
1.4	50.53	-160.49	do	z 29	0.61	2'-10 1/4"		
1.5	76.01	-249.62	do	z 28	0.63	2'-8 5/8"		
1.6	76.01	-249.60	do	z 28	0.74	2'-8 5/8"		
1.7	87.14	-301.23	do	z 24	0.74	2'-4"		
1.8	87.14	-301.23	do	z 24	0.77	do		
1.9	89.31	-318.44	do	z 24	0.78	do		
1.10	89.31	-318.43	do	z 24	0.79	2'-4"		
1.11	86.37	-306.83	do	z 30	0.79	2'-11"		
1.12	86.36	-306.80	do	z 30	0.79	2'-11"		
1.13	77.47	-269.66	do	z 28	0.74	2'-9 1/2"		
1.14	77.46	-269.64	do	z 28	0.68	do		
1.15	62.88	-214.40	do	z 28	0.65	do		
1.16	62.88	-214.39	do	z 28	0.54	do		
1.17	42.47	-140.42	do	z 28	0.52	do		
1.18	42.47	-140.41	do	z 28	0.36	2'-9 1/2"		
1.19	19.59	-62.84	do	z 28	0.34	2'-8 1/2"		
1.20	19.59	-62.84	do	z 26	0.16	2'-8 1/2"		
1.21	0.00	0.00	LL 6 X .625	z 1	0.15	0'-3 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 6 X .5	yy111	0.29	3'-5 1/8"		
2.2	106.63	-33.55	do	yy111	0.57	4'-6 5/8"		
2.3	211.26	-66.55	do	yy111	0.76	5'-6 7/8"		
2.4	285.43	-84.81	do	yy111	0.85	5'-0 5/8"		
2.5	316.19	-89.35	do	yy111	0.92	4'-8"		
2.6	320.22	-89.17	do	yy111	0.93	5'-3"		
2.7	292.49	-83.25	do	yy112	0.86	5'-8 1/2"		
2.8	246.92	-71.67	do	yy112	0.78	5'-7"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
2.9	182.62	-54.27	do	yy112	0.66	5'-7"		
2.10	99.59	-31.05	do	yy112	0.49	4'-8"		
2.11	0.00	0.00	LL 6 X .5	yy112	0.27	3'-5 3/4"		
End Diagonal								
3.1	91.61	-28.82	LL 3 X .313	z 86	0.86	4'-4 5/8"	.313 - 9 7/8"	
3.2	82.17	-25.62	LL 3 X .25	z 88	0.95	4'-6 1/4"	.250 - 11 1/8"	
Diagonal Towards End								
4.1	72.83	-22.95	x LL 3 X .25	xx 51	0.85	4'-1 5/8"	.250 - 9 7/8"	
4.2	52.99	-13.25	x LL 2 X .247	xx 76	0.95	4'-0 5/8"	.247 - 7 1/4"	
4.3	23.60	-5.90	LL 1.5 X .155	z 146	0.95	3'-9 5/8"	.155 - 5 1/8"	
4.4	20.19	-5.05	1" SQUARE BAR	z 149	0.74	3'-9 5/8"	.250 - 2 3/4"	
4.5	22.47	-5.62	x LL 1.5 X .155	xx104	0.85	4'-2 1/4"	.155 - 4 7/8"	
4.6	32.42	-8.26	x LL 2 X .156	xx 75	0.90	4'-1 1/8"	.156 - 7"	
4.7	45.33	-12.28	x LL 2 X .247	xx 77	0.82	do	.247 - 6 1/4"	
4.8	58.23	-16.29	x LL 2.5 X .25	xx 61	0.82	4'-1 1/8"	.250 - 7 7/8"	
Diagonal Towards Center								
5.1	21.84	-69.40	x LL 3 X .25	xx 41	0.94	3'-5 3/8"	.250 - 9 3/8"	
5.2	22.62	-71.70	x LL 3 X .313	xx 51	0.81	4'-1 5/8"	.313 - 7 3/4"	
5.3	12.73	-51.83	x LL 2.5 X .25	xx 60	0.95	4'-0 5/8"	.250 - 7"	
5.4	3.48	-23.59	x LL 2 X .156	xx 69	0.97	3'-9 5/8"	.156 - 5 1/8"	
5.5	0.00	-20.19	x LL 2 X .156	xx 69	0.83	3'-9 5/8"	.156 - 4 3/8"	
5.6	3.74	-22.47	x LL 2 X .186	xx 77	0.82	4'-2 1/4"	.186 - 4 1/8"	
5.7	7.89	-31.15	x LL 2 X .247	xx 77	0.86	4'-1 1/8"	.247 - 4 1/4"	
5.8	11.99	-44.36	x LL 2.5 X .25	xx 61	0.82	do	.250 - 6"	
5.9	16.10	-57.58	x LL 3 X .25	xx 50	0.83	4'-1 1/8"	.250 - 7 3/4"	
5.10	19.52	-62.59	x LL 3 X .25	xx 43	0.86	3'-6 1/2"	.250 - 8 1/2"	
Secondary Web Member								
7.1	0.14	-1.43	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.22	3'-1 3/8"	.118 - 1 1/2"	
7.2	0.23	-3.20	d do	z 81	0.46	3'-0"	do	
7.3	0.24	-4.97	d do	z 81	0.72	do	.118 - 1 1/2"	
7.4	0.00	-6.00	d do	z 81	0.87	do	.118 - 1 3/4"	
7.5	0.12	-6.34	d do	z 81	0.92	do	do	
7.6	0.41	-6.11	d do	z 81	0.88	do	.118 - 1 3/4"	
7.7	0.26	-5.37	d do	z 81	0.78	do	.118 - 1 1/2"	
7.8	0.20	-4.27	d do	z 81	0.62	do	do	
7.9	0.13	-2.80	d do	z 81	0.40	3'-0"	do	
7.10	0.00	-1.26	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.19	3'-1 3/8"	.118 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 40'-10 7/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 58'-0 1/4" ==> 1 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 27'-2" (27'-1 7/8")

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle



Mark : G5

Project: PROJECT EVELER FREEZER PUYALL

(501994)

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10:14:37

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

6 = within a panel with no reinforcement and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
5262 / 5388 Area to Paint : 574.90 ft2 Material Sort : Cost

This mark has been edited

3539(3630)-3539(3630)-25-20/11-5262(5388) NNN,NNN

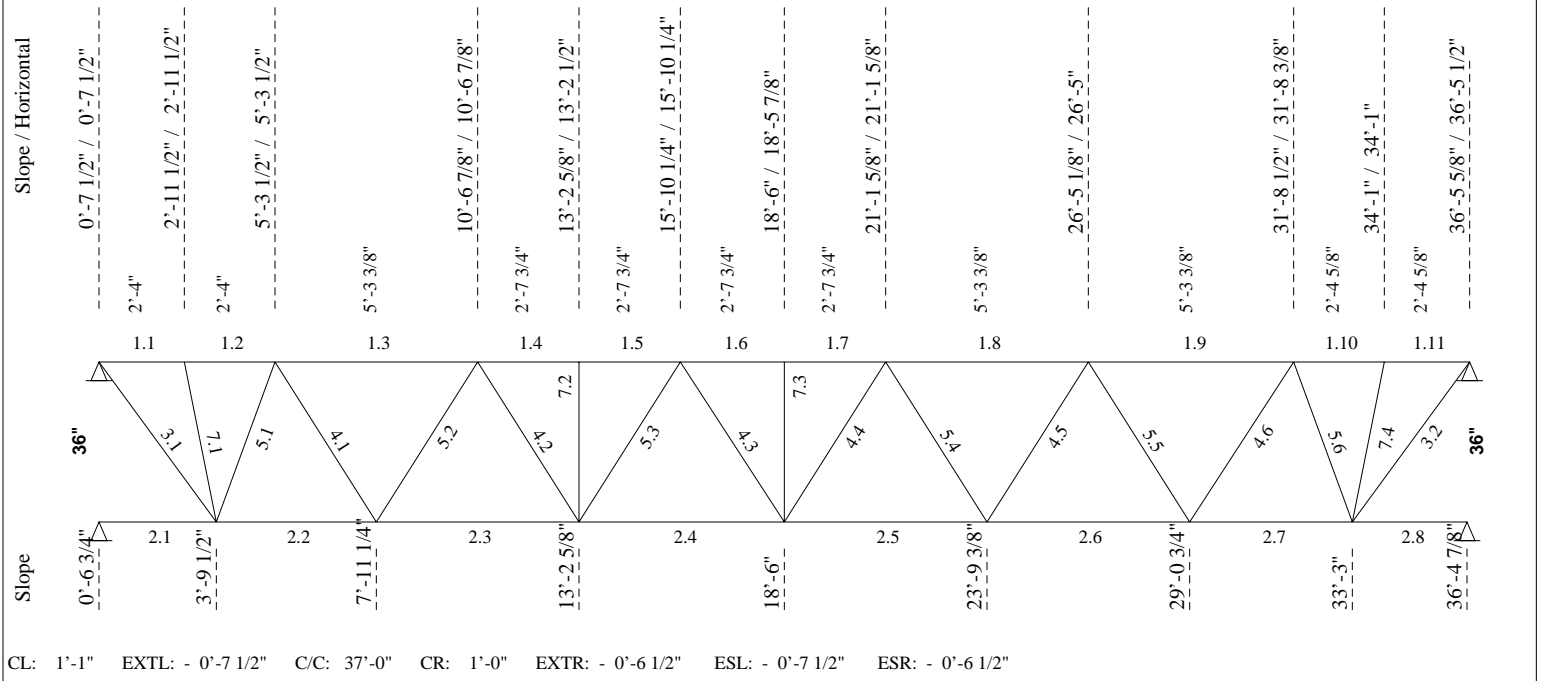
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G6 (G (3), Asymmetrical,, Free ends)

$\Delta = \frac{9}{12} = 0.75$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



CL: 1'-1" EXTL: - 0'-7 1/2" C/C: 37'-0" CR: 1'-0" EXTR: - 0'-6 1/2" ESL: - 0'-7 1/2" ESR: - 0'-6 1/2"

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	6.00	2.70	1.60	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	6.00	2.70	1.60	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	3.80	3.80	3.80	10'-6 7/8"	0'-0"	5	1	90	0
4	1	Both	Yes	6.00	2.70	1.60	15'-10 1/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	3.80	3.80	3.80	15'-10 1/4"	0'-0"	5	1	90	0
6	1	Both	Yes	6.00	2.70	1.60	21'-1 5/8"	5'-3 3/8"	5	1	90	0
7	1	Both	Yes	6.00	2.70	1.10	26'-5"	5'-3 3/8"	5	1	90	0
8	1	Both	Yes	6.00	2.70	1.10	31'-8 3/8"	5'-3 3/8"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.64 in (L/ 670)
 Joist inertia..... = 1791.04 in^4
 Required camber..... = 0.52 in



Mark : G6

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:37

=====**LOAD NO 2 (G6#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	0.00	0.00	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	4.00	0.00	0.00	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	0.00	0.00	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	0.00	0.00	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	0.00	0.00	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	0.00	0.00	31'-8 3/8"	5'-3 3/8"	5	1	90	0

-----**END MOMENTS [ft-kip] & AXIAL LOADS[kips]**-----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	11.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-11.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type...: at left: C [0] at right: C [0]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

=====**End of multiple loads**=====

-----**F O R C E S I N M E M B E R S [kips]**-----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.30 in)

Left Reaction = 23.02/ -9.55 kips Right Reaction = 20.64/ -6.65 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	10.23	-24.65	LL 3 X .281	z 44 0.72	2'-4"		
1.2	10.23	-24.64	do	z 47 0.54	2'-4"		
1.3	22.55	-52.29	x do	xx 68 0.77	5'-3 3/8"		
1.4	32.13	-74.43	do	z 54 0.95	2'-7 3/4"		
1.5	32.13	-74.43	do	z 54 0.95	do		
1.6	31.73	-78.44	x do	xx 34 0.91	do		
1.7	31.73	-78.44	x do	xx 34 0.91	2'-7 3/4"		
1.8	24.95	-67.93	x do	xx 68 0.99	5'-3 3/8"		
1.9	15.69	-46.33	x do	xx 68 0.70	5'-3 3/8"		
1.10	6.94	-21.53	do	z 48 0.67	2'-4 5/8"		
1.11	7.26	-22.52	LL 3 X .281	z 37 0.75	2'-4 5/8"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11r			[0]Flat Bar 3 x 1 (50 ksi)			3'-2 3/4"		D = 4.00
Bottom Chord								
2.1	0.00	0.00	LL 3 X .25	yy111	0.43	3'-2 3/4"		
2.2	36.21	-15.03	do	yy111	0.85	4'-1 3/4"		
2.3	67.62	-29.72	do	yy111	0.99	5'-3 3/8"		
2.4	80.91	-34.43	do	yy111	0.99	do		
2.5	76.08	-29.16	do	yy111	0.88	do		
2.6	60.15	-20.94	do	yy111	0.83	5'-3 3/8"		
2.7	33.14	-10.69	do	yy111	0.64	4'-2 1/4"		
2.8	0.00	0.00	LL 3 X .25	yy111	0.37	3'-1 7/8"		
End Diagonal								
3.1	33.35	-13.84	x LL 2 X .186	xx 81	0.78	4'-2 7/8"	.186 - 6 1/8"	T45
3.2	30.15	-9.72	LL 2 X .156	z 127	0.87	4'-3 3/8"	.156 - 6 1/2"	T45
Diagonal Towards End								
4.1	23.14	-10.82	x LL 1.5 X .155	xx101	0.88	4'-0"	.155 - 5"	
4.2	9.80	-3.47	do	z 159	0.66	do	.155 - 2 1/8"	
4.3	8.62	-3.55	x do	xx101	0.33	do	.155 - 1 7/8"	
4.4	3.57	-8.62	x LL 1.5 X .155	xx101	0.69	do	.155 - 1 7/8"	
4.5	11.73	-6.06	d U 1 3/8 x 0.157	z 106	0.83	do	.158 - 2 1/2"	
4.6	19.90	-7.56	x LL 1.5 X .155	xx101	0.75	4'-0"	.155 - 4 3/8"	
Diagonal Towards Center								
5.1	10.78	-25.97	x LL 2 X .186	xx 63	0.81	3'-4 1/4"	.186 - 4 3/4"	
5.2	10.82	-23.14	x LL 2 X .186	xx 76	0.83	4'-0"	.186 - 4 1/4"	
5.3	3.47	-9.79	x LL 1.5 X .155	xx101	0.78	do	.155 - 2 1/8"	
5.4	6.06	-11.73	x LL 1.5 X .155	xx101	0.94	do	.155 - 2 1/2"	
5.5	7.56	-19.90	x LL 2 X .186	xx 76	0.71	4'-0"	.186 - 3 5/8"	
5.6	7.56	-23.44	x LL 2 X .156	xx 63	0.91	3'-4 1/2"	.156 - 5 1/8"	
Secondary Web Member								
7.1	0.83	-1.17	d U 1 3/8 x 1 1/4 x 0.118	z 89	0.19	3'-1 3/8"	.118 - 1 1/2"	
7.2	0.00	-1.56	d do	z 85	0.24	3'-0"	do	
7.3	0.00	-1.64	d do	z 85	0.25	3'-0"	do	
7.4	2.99	-3.32	d U 1 3/8 x 1 1/4 x 0.118	z 89	0.52	3'-1 3/8"	.118 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	23'-10 3/8" ==>	0 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	33'-3 1/2" ==>	2 Row(s) Minimum	Concentrated loads
			Acc. to the force

POSITION @ Top Chord @ Bottom Chord

		KB 15'-10 1/4" (15'-10 1/4")
		KB 21'-1 5/8" (21'-1 5/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads



Mark : G6

Project: PROJECT EVELER FREEZER PUYALL

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Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

963 / 999

Area to Paint

: 218.25 ft2

Material Sort : Cost

This mark has been edited

639(664)-639(664)-25-11/8-963(999) NNN,NNN

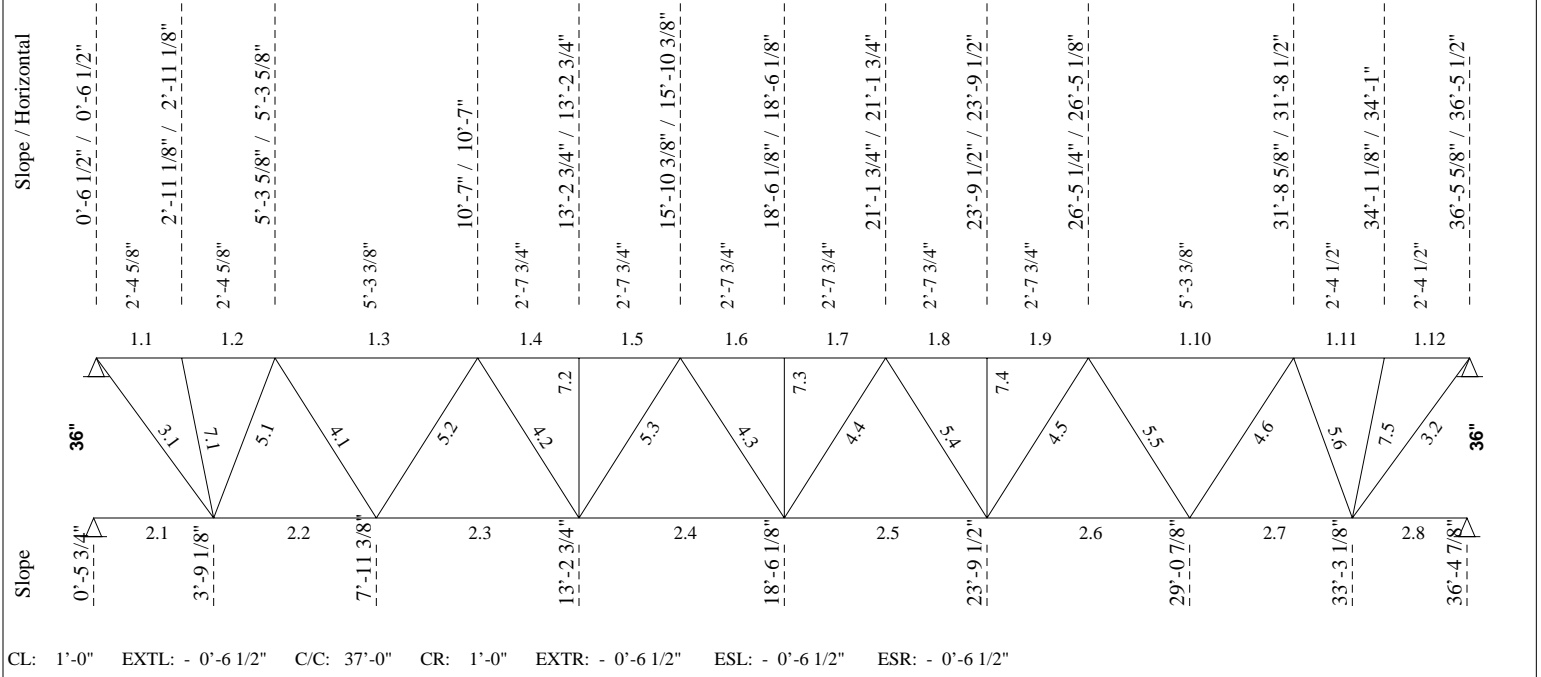
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G7 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9}{12} = 0.75$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	6.00	2.70	1.10	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	6.00	2.70	1.10	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	6.00	2.70	1.10	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	6.00	2.70	1.10	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	6.00	2.70	1.10	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	6.00	2.70	1.10	31'-8 1/2"	5'-3 3/8"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.39 in (L/ 1092)
 Joist inertia..... = 1859.58 in⁴
 Required camber..... = 0.52 in



Mark : G7

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:37

=====**LOAD NO 2 (G7#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	0.00	0.00	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	4.00	0.00	0.00	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	0.00	0.00	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	0.00	0.00	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	0.00	0.00	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	0.00	0.00	31'-8 1/2"	5'-3 3/8"	5	1	90	0

-----**END MOMENTS [ft-kip] & AXIAL LOADS[kips]**-----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-27.00	38.00	0.00	0.00
(case 2).....:	0.00	0.00	27.00	-38.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [2] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

=====**End of multiple loads**=====

-----**F O R C E S I N M E M B E R S [kips]**-----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.15 in)

Left Reaction = 18.03/ -3.30 kips Right Reaction = 18.04/ -3.30 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	22.76	-45.99	LL 4 X .375	z 29 0.67	2'-4 5/8"		
1.1 r			[2]Flat Bar 6 x 1 (50 ksi)		2'-2 5/8"		D = 7.00
1.2	20.59	-41.60	LL 4 X .375	z 36 0.76	2'-4 5/8"		
1.3	12.26	-55.47	x do	xx 51 0.39	5'-3 3/8"		
1.4	10.45	-66.54	do	z 40 0.44	2'-7 3/4"		
1.5	10.45	-66.54	do	z 40 0.44	do		
1.6	11.44	-70.17	x do	xx 26 0.44	do		
1.7	11.44	-70.17	x do	xx 26 0.44	do		
1.8	10.40	-66.35	do	z 40 0.44	do		
1.9	10.40	-66.35	do	z 40 0.44	2'-7 3/4"		
1.10	12.49	-55.09	x do	xx 51 0.39	5'-3 3/8"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	20.91	-41.06	do	z 36	0.96	2'-4 1/2"		
1.12	23.12	-45.39	LL 4 X .375	z 29	0.89	2'-4 1/2"		
1.12r			[2]Flat Bar 6 x 1 (50 ksi)			3'-3 3/8"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 2.5 X .230	yy127	0.45	3'-3 3/8"		
2.2	29.08	-5.32	do	yy127	0.72	4'-2 1/4"		
2.3	51.36	-9.41	do	z 129	0.88	5'-3 3/8"		
2.4	62.51	-11.45	do	z 129	0.95	do		
2.5	62.50	-11.44	do	z 129	0.95	do		
2.6	51.33	-9.40	do	z 129	0.88	5'-3 3/8"		
2.7	29.03	-5.32	do	yy126	0.72	4'-2 1/4"		
2.8	0.00	0.00	LL 2.5 X .230	yy126	0.45	3'-1 3/4"		
End Diagonal								
3.1	27.71	-14.50	x LL 2 X .247	xx 82	0.50	4'-3 3/8"	.247 - 3 3/4"	
3.2	31.84	-18.64	x LL 2 X .247	xx 82	0.57	4'-3 1/4"	.247 - 4 3/8"	
Diagonal Towards End								
4.1	16.38	-4.10	1" SQUARE BAR	z 161	0.71	4'-0"	.250 - 2 1/4"	
4.2	8.20	-2.05	U 1 x 1 1/8 x 0.118	z 135	0.82	do	.118 - 2 3/8"	
4.3	7.18	-5.01	d U 1 3/8 x 0.136	z 108	0.83	do	.136 - 1 3/4"	
4.4	7.18	-1.79	d U 1 3/8 x 0.136	z 108	0.48	do	.136 - 1 3/4"	
4.5	8.21	-2.05	U 1 x 1 1/8 x 0.118	z 135	0.83	do	.118 - 2 3/8"	
4.6	16.40	-4.10	1" SQUARE BAR	z 161	0.71	4'-0"	.250 - 2 1/4"	
Diagonal Towards Center								
5.1	3.75	-20.49	x LL 2 X .156	xx 63	0.80	3'-4 1/2"	.156 - 4 1/2"	
5.2	3.00	-16.38	x LL 2 X .156	xx 75	0.72	4'-0"	.156 - 3 1/2"	
5.3	1.50	-8.18	x LL 1.5 X .155	xx101	0.65	do	.155 - 1 3/4"	
5.4	1.50	-8.20	x LL 1.5 X .155	xx101	0.65	do	.155 - 1 3/4"	
5.5	3.00	-16.40	x LL 2 X .156	xx 75	0.72	4'-0"	.156 - 3 1/2"	
5.6	3.75	-20.49	x LL 2 X .156	xx 62	0.80	3'-4 1/2"	.156 - 4 1/2"	
Secondary Web Member								
7.1	7.18	-8.06	d U 1 3/8 X 0.176	z 80	0.72	3'-1 3/8"	.176 - 1 1/2"	
7.2	0.00	-1.39	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.21	3'-0"	.118 - 1 1/2"	
7.3	0.00	-1.46	d do	z 85	0.22	do	do	
7.4	0.00	-1.38	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.21	3'-0"	.118 - 1 1/2"	
7.5	10.14	-11.00	d U 1 3/8 X 0.176	z 80	0.99	3'-1 3/8"	.176 - 2 1/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 29'-6 1/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 29'-3" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 3/8" (15'-10 3/8")
 KB 21'-1 3/4" (21'-1 3/4")

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back,
- BL = 2 angles welded in box,
- BR = Round bar
- U = 1 U profile,
- UU = 2 U profiles one inside the other,
- CL = Crimped angle



Mark : G7

Project: PROJECT EVELER FREEZER PUYALL

(501994)

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CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1260 / 1296 Area to Paint : 226.16 ft2 Material Sort : Cost

This mark has been edited

840(864)-840(864)-25-12/8-1260(1296) NNN,NNN

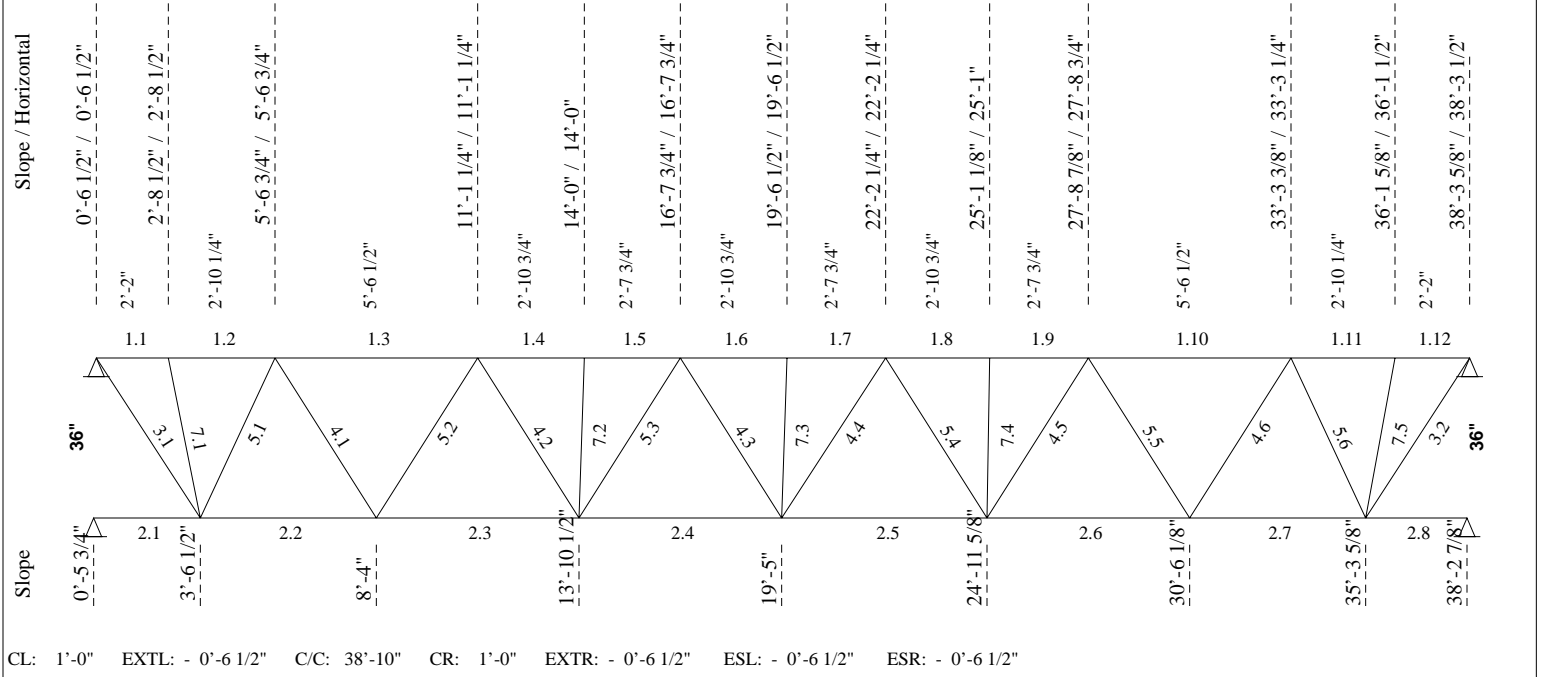
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G8 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{3}{8}}{12} = 0 \frac{1}{4}''$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



LOADING CONDITIONS

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

CONCENTRATED LOADS (From Axis)

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	6.00	2.70	1.10	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	6.00	2.70	1.10	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	6.00	2.70	1.10	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	6.00	2.70	1.10	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	6.00	2.70	1.10	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	6.00	2.70	1.10	33'-3 1/4"	5'-6 1/2"	5	1	90	0

DEFLECTION

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.47 in (L/ 952)
 Joist inertia..... = 1795.34 in⁴
 Required camber..... = 0.57 in



Mark : G8

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:37

===== LOAD NO 2 (G8#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	0.00	0.00	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	4.00	0.00	0.00	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	4.00	0.00	0.00	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	4.00	0.00	0.00	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	4.00	0.00	0.00	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	4.00	0.00	0.00	33'-3 1/4"	5'-6 1/2"	5	1	90	0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-17.00	27.00	0.00	0.00
(case 2).....:	0.00	0.00	17.00	-27.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [2] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

===== End of multiple loads =====

----- FORCES IN MEMBERS [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.28 in)

Left Reaction = 18.03/ -3.30 kips Right Reaction = 18.04/ -3.30 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	11.23	-32.00	LL 3.5 X .375	yy 42 0.74	2'-2"		
1.1 r			[2]Flat Bar 4 x 1 (50 ksi)		2'-0"		D = 5.00
1.2	10.55	-30.05	LL 3.5 X .375	z 50 0.63	2'-10 1/4"		
1.3	7.79	-46.23	x do	xx 62 0.41	5'-6 1/2"		
1.4	10.97	-59.90	do	z 51 0.48	2'-10 3/4"		
1.5	10.97	-59.90	do	z 46 0.47	2'-7 3/4"		
1.6	12.01	-65.60	x do	xx 32 0.48	2'-10 3/4"		
1.7	12.01	-65.60	do	z 46 0.51	2'-7 3/4"		
1.8	10.92	-59.63	do	z 51 0.48	2'-10 3/4"		
1.9	10.92	-59.63	do	z 46 0.47	2'-7 3/4"		
1.10	7.69	-45.88	x do	xx 62 0.41	5'-6 1/2"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	10.86	-29.52	do	z 50	0.88	2'-10 1/4"		
1.12	12.03	-32.71	LL 3.5 X .375	yy 46	0.67	2'-2"		
1.12r			[2]Flat Bar 6 x 1 (50 ksi)			3'-0 3/4"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 2.5 X .230	yy134	0.46	3'-0 3/4"		
2.2	30.62	-5.61	do	yy134	0.76	4'-9 1/2"		
2.3	53.93	-9.88	do	z 135	0.92	5'-6 1/2"		
2.4	65.59	-12.01	do	z 135	1.00	do		
2.5	65.59	-12.01	do	z 135	1.00	do		
2.6	53.93	-9.88	do	z 135	0.92	5'-6 1/2"		
2.7	30.62	-5.61	do	yy133	0.76	4'-9 1/2"		
2.8	0.00	0.00	LL 2.5 X .230	yy133	0.48	2'-11 1/4"		
End Diagonal								
3.1	25.39	-11.01	x LL 2 X .186	xx 78	0.60	4'-1 1/2"	.186 - 4 5/8"	
3.2	27.71	-15.00	x LL 2 X .186	xx 78	0.65	4'-1 1/2"	.186 - 5"	
Diagonal Towards End								
4.1	16.74	-4.18	1" SQUARE BAR	z 165	0.76	4'-1"	.250 - 2 1/4"	
4.2	8.38	-2.09	U 1 x 1 1/8 x 0.118	z 138	0.84	do	.118 - 2 3/8"	
4.3	7.33	-1.83	do	z 138	0.74	do	.118 - 2 1/8"	
4.4	7.33	-1.83	do	z 138	0.74	do	.118 - 2 1/8"	
4.5	8.38	-2.09	U 1 x 1 1/8 x 0.118	z 138	0.84	do	.118 - 2 3/8"	
4.6	16.74	-4.18	1" SQUARE BAR	z 165	0.76	4'-1"	.250 - 2 1/4"	
Diagonal Towards Center								
5.1	4.04	-22.06	x LL 2 X .156	xx 68	0.90	3'-7 3/8"	.156 - 4 3/4"	
5.2	3.06	-16.74	x LL 2 X .156	xx 77	0.75	4'-1"	.156 - 3 5/8"	
5.3	1.53	-8.37	x LL 1.5 X .155	xx104	0.69	do	.155 - 1 3/4"	
5.4	1.53	-8.37	x LL 1.5 X .155	xx104	0.69	do	.155 - 1 3/4"	
5.5	3.06	-16.74	x LL 2 X .156	xx 77	0.75	4'-1"	.156 - 3 5/8"	
5.6	4.04	-22.06	x LL 2 X .156	xx 68	0.90	3'-7 3/8"	.156 - 4 3/4"	
Secondary Web Member								
7.1	5.01	-5.65	d U 1 3/8 x 0.157	z 81	0.57	3'-1 3/8"	.158 - 1 1/2"	
7.2	0.00	-1.25	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.19	3'-0"	.118 - 1 1/2"	
7.3	0.00	-1.37	d do	z 85	0.21	do	do	
7.4	0.00	-1.25	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.19	3'-0"	.118 - 1 1/2"	
7.5	7.96	-8.59	d U 1 3/8 x 0.157	z 81	0.87	3'-1 3/8"	.158 - 1 7/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 26'-8 3/4" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 29'-3" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 16'-7 3/4" (16'-7 3/4")
 KB 22'-2 1/4" (22'-2 1/4")

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back,
- BL = 2 angles welded in box,
- BR = Round bar
- U = 1 U profile,
- UU = 2 U profiles one inside the other,
- CL = Crimped angle



Mark : G8

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:37

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1175 / 1207 Area to Paint : 218.92 ft2 Material Sort : Cost

This mark has been edited

783(805)-783(805)-25-12/8-1175(1207) NNN,NNN

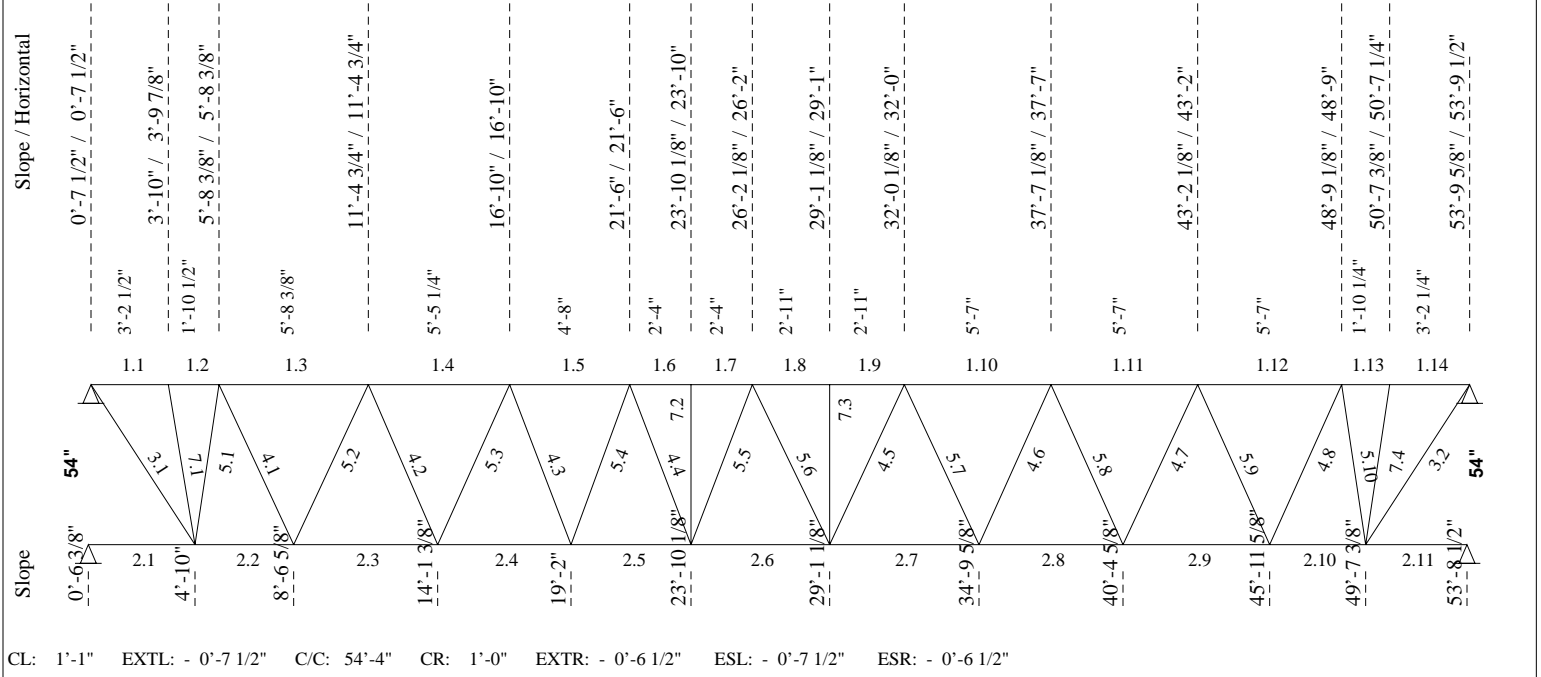
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G9 (G (3), Asymmetrical,, Free ends)

$\Delta = \frac{13 \frac{1}{4}}{12}$ 0 1/4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



CL: 1'-1" EXTL: - 0'-7 1/2" C/C: 54'-4" CR: 1'-0" EXTR: - 0'-6 1/2" ESL: - 0'-7 1/2" ESR: - 0'-6 1/2"

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	6.00	2.70	1.60	5'-8 3/8"	5'-8 3/8"	5	1	90	0
2	1	Both	Yes	6.00	2.70	1.60	11'-4 3/4"	5'-8 3/8"	5	1	90	0
3	1	Both	Yes	3.80	3.80	3.80	11'-4 3/4"	0'-0"	5	1	90	0
4	1	Both	Yes	3.80	3.80	3.80	16'-10"	5'-5 1/4"	5	1	90	0
5	1	Both	Yes	6.00	2.70	1.60	16'-10"	0'-0"	5	1	90	0
6	1	Both	Yes	3.00	0.00	0.00	16'-10"	0'-0"	5	1	90	0
7	1	Both	Yes	3.00	0.00	0.00	21'-6"	4'-8"	5	1	90	0
8	1	Both	Yes	6.00	2.70	1.60	21'-6"	0'-0"	5	1	90	0
9	1	Both	Yes	3.00	0.00	0.00	26'-2"	4'-8"	5	1	90	0
10	1	Both	Yes	6.00	2.70	1.10	26'-2"	0'-0"	5	1	90	0
11	1	Both	Yes	6.00	2.70	1.10	32'-0"	5'-10"	5	1	90	0
12	1	Both	Yes	6.00	2.70	1.10	37'-7"	5'-7"	5	1	90	0
13	1	Both	Yes	6.00	2.70	1.10	43'-2"	5'-7"	5	1	90	0
14	1	Both	Yes	6.00	2.70	1.10	48'-9"	5'-7"	5	1	90	0



Mark : G9

Project: PROJECT EVELER FREEZER PUYALL

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----- DEFLECTION -----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.69 in (L/ 924)
 Joist inertia..... = 6722.51 in⁴
 Required camber..... = 1.16 in

===== LOAD NO 2 (G9#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 1/2	Incl. Cmp [deg]
1	1	Both	Yes	4.00	0.00	0.00	5'-8 3/8"	5'-8 3/8"	5	1	90 0
2	1	Both	Yes	4.00	0.00	0.00	11'-4 3/4"	5'-8 3/8"	5	1	90 0
3	1	Both	Yes	4.00	0.00	0.00	16'-10"	5'-5 1/4"	5	1	90 0
4	1	Both	Yes	3.40	0.00	0.00	16'-10"	0'-0"	5	1	90 0
5	1	Both	Yes	3.40	0.00	0.00	21'-6"	4'-8"	5	1	90 0
6	1	Both	Yes	4.00	0.00	0.00	21'-6"	0'-0"	5	1	90 0
7	1	Both	Yes	3.40	0.00	0.00	26'-2"	4'-8"	5	1	90 0
8	1	Both	Yes	4.00	0.00	0.00	26'-2"	0'-0"	5	1	90 0
9	1	Both	Yes	4.00	0.00	0.00	32'-0"	5'-10"	5	1	90 0
10	1	Both	Yes	4.00	0.00	0.00	37'-7"	5'-7"	5	1	90 0
11	1	Both	Yes	4.00	0.00	0.00	43'-2"	5'-7"	5	1	90 0
12	1	Both	Yes	4.00	0.00	0.00	48'-9"	5'-7"	5	1	90 0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

MOMENTS

AXIAL LOADS

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top	Chord >>>	<< Bottom	Chord >>
			---L---	---R---	---L---	---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	17.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-17.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [0] at right: C [0]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.06 in (L/ 9999)

===== End of multiple loads =====



Mark : G9

Project: PROJECT EVELER FREEZER PUYALL

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----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 51.97 in)

Left Reaction = 38.39/ -12.17 kips Right Reaction = 32.27/ -7.33 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	11.61	-36.59	LL 3.5 X .375	z 53	0.48	3'-2 3/8"		
1.2	11.61	-36.59	do	z 33	0.44	1'-10 1/2"		
1.3	20.98	-65.46	x do	xx 64	0.68	5'-8 3/8"		
1.4	31.07	-100.71	x do	xx 61	0.89	5'-5 1/4"		
1.5	34.08	-119.86	x do	xx 52	0.98	4'-8"		
1.6	32.94	-125.34	do	z 41	0.95	2'-4"		
1.7	32.94	-125.34	do	z 41	0.95	2'-4"		
1.8	29.97	-120.01	do	z 51	0.97	2'-11"		
1.9	29.97	-120.01	do	z 51	0.97	2'-11"		
1.10	25.38	-105.13	x do	xx 62	0.94	5'-7"		
1.11	19.46	-82.76	x do	xx 62	0.74	do		
1.12	12.12	-52.66	x do	xx 62	0.56	5'-7"		
1.13	6.64	-29.25	do	z 32	0.57	1'-10 1/4"		
1.14	6.92	-30.47	LL 3.5 X .375	z 43	0.69	3'-2 1/4"		
1.14r			[0]Flat Bar 4 x 1 (50 ksi)			4'-3 5/8"		D = 5.00
Bottom Chord								
2.1	0.00	0.00	LL 3.5 X .375	yy135	0.33	4'-3 5/8"		
2.2	43.47	-13.79	do	yy135	0.67	3'-8 5/8"		
2.3	86.05	-27.71	do	yy135	0.83	5'-6 7/8"		
2.4	114.39	-34.20	do	yy135	0.83	5'-0 5/8"		
2.5	124.91	-33.96	do	z 82	0.84	4'-8"		
2.6	125.73	-32.00	do	z 92	0.84	5'-3"		
2.7	114.63	-28.06	do	z 100	0.78	5'-8 1/2"		
2.8	96.26	-22.87	do	yy139	0.73	5'-7"		
2.9	70.15	-16.27	do	yy139	0.60	5'-7"		
2.10	36.31	-8.24	do	yy139	0.43	3'-7 3/4"		
2.11	0.00	0.00	LL 3.5 X .375	yy139	0.23	4'-1 1/8"		
End Diagonal								
3.1	52.45	-16.64	x LL 2.5 X .25	xx 92	0.74	6'-0 1/2"	.250 - 7 1/8"	T45
3.2	44.01	-11.72	x LL 2.5 X .25	xx 92	0.62	6'-0 3/8"	.250 - 6"	
Diagonal Towards End								
4.1	38.74	-12.66	x LL 2 X .247	xx102	0.70	5'-3 7/8"	.247 - 5 3/8"	
4.2	26.64	-6.66	x LL 2 X .156	xx 99	0.74	5'-3 1/8"	.156 - 5 3/4"	
4.3	11.45	-2.86	d U 1 3/8 x 0.136	z 137	0.77	5'-0 7/8"	.136 - 2 7/8"	
4.4	11.45	-2.86	d U 1 3/8 x 0.136	z 137	0.77	5'-0 7/8"	.136 - 2 7/8"	
4.5	12.15	-3.52	d U 1 3/8 x 0.157	z 142	0.85	5'-4 3/8"	.158 - 2 5/8"	
4.6	16.95	-4.79	x LL 1.5 X .155	xx134	0.65	5'-3 1/2"	.155 - 3 3/4"	
4.7	24.09	-6.10	x LL 1.5 X .155	xx134	0.91	do	.155 - 5 1/4"	
4.8	31.23	-7.81	x LL 2 X .156	xx 99	0.87	5'-3 1/2"	.156 - 6 3/4"	
Diagonal Towards Center								
5.1	12.42	-39.13	x LL 2.5 X .25	xx 69	0.78	4'-7"	.250 - 5 1/4"	
5.2	12.66	-38.74	x LL 2.5 X .25	xx 81	0.88	5'-3 7/8"	.250 - 5 1/4"	
5.3	6.11	-26.64	x LL 2.5 X .188	xx 79	0.81	5'-3 1/8"	.187 - 4 3/4"	
5.4	0.00	-11.45	x LL 2 X .156	xx 95	0.63	5'-0 7/8"	.156 - 2 1/2"	
5.5	0.00	-11.45	x do	xx 95	0.63	5'-0 7/8"	.156 - 2 1/2"	
5.6	3.52	-12.15	x do	xx101	0.72	5'-4 3/8"	.156 - 2 5/8"	
5.7	4.79	-16.95	x LL 2 X .156	xx 99	0.99	5'-3 1/2"	.156 - 3 5/8"	
5.8	6.10	-24.09	x LL 2 X .247	xx101	0.92	do	.247 - 3 1/4"	
5.9	7.40	-31.23	x LL 2.5 X .188	xx 79	0.96	5'-3 1/2"	.187 - 5 5/8"	



Mark : G9

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:38

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	x	REQUIRED MATERIAL			Length	REQUIRED WELD		Remarks
				x = tied at mid-length	Slend.	Util.		Weld-Ea.Side		
5.10	7.46	-32.87	x	LL 2.5 X .25	xx 69	0.65	4'-7"	.250 - 4 1/2"		
Secondary Web Member										
7.1	0.56	-1.12	d	U 1 3/8 x 0.136	z 123	0.24	4'-7 3/8"	.136 - 1 1/2"		
7.2	0.00	-2.65	d	U 1 3/8 x 1 1/4 x 0.118	z 129	0.74	4'-6"	.118 - 1 1/2"		
7.3	0.00	-2.54	d	U 1 3/8 x 1 1/4 x 0.118	z 129	0.71	4'-6"	.118 - 1 1/2"		
7.4	3.20	-3.69	d	U 1 3/8 x 0.136	z 123	0.78	4'-7 3/8"	.136 - 1 1/2"		

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	26'-10 7/8" ==>	0 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	37'-8 3/4" ==>	2 Row(s) Minimum	Concentrated loads
			Acc. to the force

POSITION	@ Top Chord	@ Bottom Chord	
		KB 21'-6"	(21'-6")
		KB 32'-0 1/8"	(32'-0")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads
 Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
2350 / 2447	Area to Paint	: 406.11 ft2
		Material Sort : Cost

This mark has been edited

1553(1619)-1553(1619)-25-14/11-2350(2447) NNN,NNN

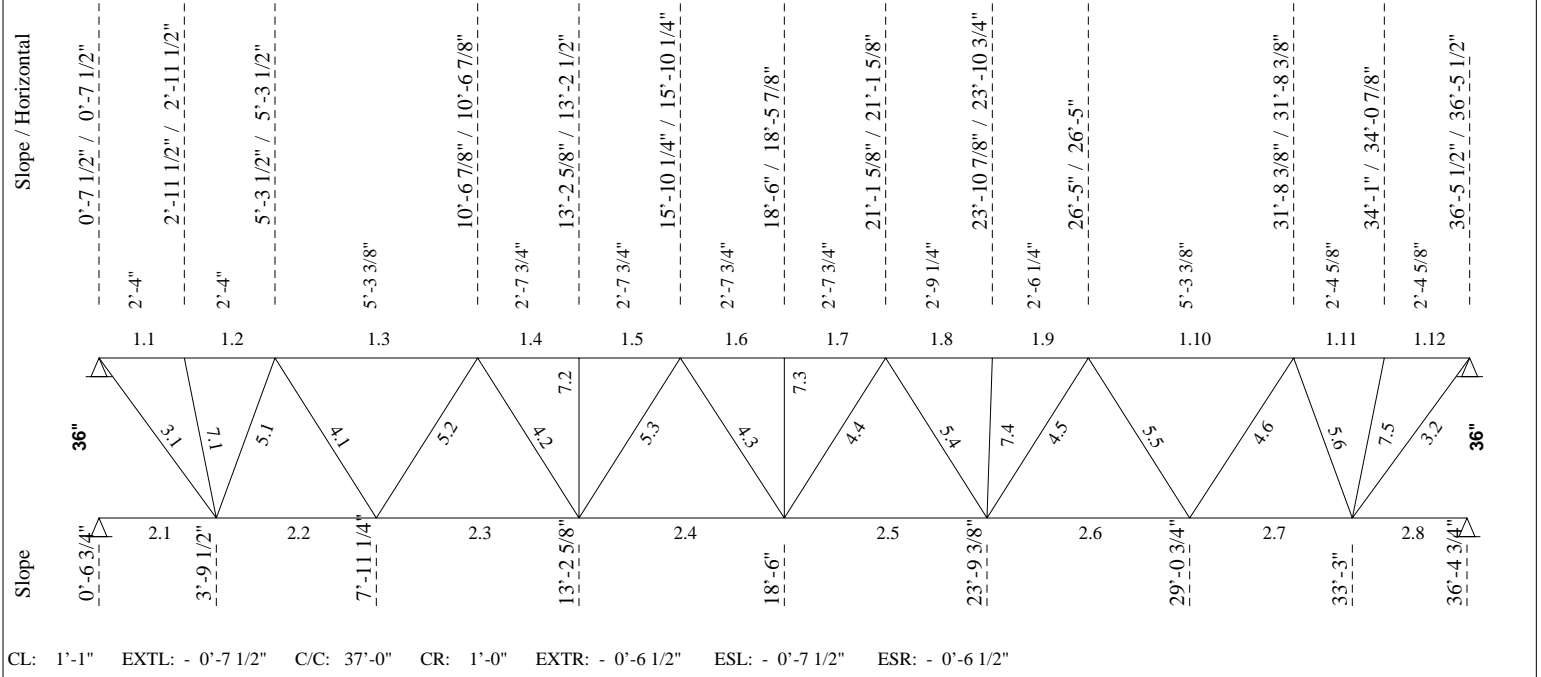
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G10 (G (3), Asymmetrical,, Free ends) aligned on G6

$$\frac{\Delta = 9}{12} = 0.75$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N5 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	5.00	2.25	0.80	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	5.00	2.25	0.80	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	5.00	2.25	0.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	5.00	2.25	0.80	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	5.00	2.25	0.80	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	5.00	2.25	0.80	31'-8 3/8"	5'-3 3/8"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.43 in (L/ 999)
 Joist inertia..... = 1407.42 in⁴
 Required camber..... = 0.52 in



Mark : G10

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:38

=====**LOAD NO 2 (G10#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. Cmp [deg]
1	1	Both	Yes	3.20	0.00	0.00	5'-3 1/2"	5'-3 1/2"	5	1	90 0
2	1	Both	Yes	3.20	0.00	0.00	10'-6 7/8"	5'-3 3/8"	5	1	90 0
3	1	Both	Yes	3.20	0.00	0.00	15'-10 1/4"	5'-3 3/8"	5	1	90 0
4	1	Both	Yes	3.20	0.00	0.00	21'-1 5/8"	5'-3 3/8"	5	1	90 0
5	1	Both	Yes	3.20	0.00	0.00	26'-5"	5'-3 3/8"	5	1	90 0
6	1	Both	Yes	3.20	0.00	0.00	31'-8 3/8"	5'-3 3/8"	5	1	90 0

-----**END MOMENTS [ft-kip] & AXIAL LOADS[kips]**-----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	17.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-17.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type...: at left: C [0] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

=====**End of multiple loads**=====

-----**F O R C E S I N M E M B E R S [kips]**-----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.56 in)

Left Reaction = 15.07/ -2.41 kips Right Reaction = 15.00/ -2.39 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	2.56	-16.02	LL 3 X .281	z 44 0.69	2'-4"		
1.2	2.56	-16.02	do	z 47 0.34	2'-4"		
1.3	5.27	-32.97	x do	xx 68 0.48	5'-3 3/8"		
1.4	7.46	-46.71	do	z 54 0.60	2'-7 3/4"		
1.5	7.46	-46.71	do	z 54 0.60	do		
1.6	8.19	-51.27	x do	xx 34 0.59	do		
1.7	8.19	-51.27	x do	xx 34 0.59	2'-7 3/4"		
1.8	7.45	-46.64	do	z 56 0.61	2'-9 1/4"		
1.9	7.45	-46.64	do	z 51 0.59	2'-6 1/4"		
1.10	5.24	-32.82	x do	xx 68 0.48	5'-3 3/8"		
1.11	2.48	-15.51	do	z 48 0.91	2'-4 5/8"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
1.12	2.64	-16.52	LL 3 X .281	z 39 0.79	2'-4 5/8"			
1.12r			[2]Flat Bar 4 x 1 (50 ksi)		3'-2 3/4"			D = 5.00
Bottom Chord								
2.1	0.00	0.00	LL 2 X .247	yy145 0.39	3'-2 3/4"			
2.2	23.53	-3.76	do	yy145 0.70	4'-1 3/4"			
2.3	41.97	-6.71	do	z 162 0.85	5'-3 3/8"			
2.4	51.23	-8.18	do	z 162 0.92	do			
2.5	51.30	-8.20	do	z 162 0.92	do			
2.6	42.19	-6.74	do	z 162 0.85	5'-3 3/8"			
2.7	23.90	-3.82	do	yy145 0.70	4'-2 1/4"			
2.8	0.00	0.00	LL 2 X .247	yy145 0.42	3'-1 3/4"			
End Diagonal								
3.1	21.75	-5.44	LL 2 X .186	z 127 0.51	4'-2 7/8"	.186 - 3 7/8"		
3.2	21.80	-9.96	LL 2 X .186	z 128 0.76	4'-3 1/4"	.186 - 4"		
Diagonal Towards End								
4.1	13.64	-3.41	1" SQUARE BAR	z 162 0.60	4'-0"	.250 - 1 7/8"		
4.2	6.86	-1.71	U 1 x 1 1/8 x 0.118	z 135 0.69	do	.118 - 2"		
4.3	5.97	-1.49 d	U 1 3/8 x 0.136	z 109 0.40	do	.136 - 1 1/2"		
4.4	0.01	-5.96 d	U 1 3/8 x 0.136	z 109 1.00	do	.136 - 1 1/2"		
4.5	6.75	-1.69	U 1 x 1 1/8 x 0.118	z 135 0.68	4'-0"	.118 - 1 7/8"		
4.6	13.53	-3.38	1" SQUARE BAR	z 162 0.59	3'-11 7/8"	.250 - 1 3/4"		
Diagonal Towards Center								
5.1	2.71	-16.97 x	LL 2 X .156	xx 63 0.66	3'-4 1/4"	.156 - 3 5/8"		
5.2	2.18	-13.64 x	LL 2 X .156	xx 75 0.60	4'-0"	.156 - 3"		
5.3	1.09	-6.84 d	U 1 3/8 x 0.157	z 106 0.94	do	.158 - 1 1/2"		
5.4	1.08	-6.74 d	U 1 3/8 x 0.157	z 106 0.92	do	.158 - 1 1/2"		
5.5	2.16	-13.54 x	LL 2 X .156	xx 75 0.59	4'-0"	.156 - 2 7/8"		
5.6	2.72	-17.01 x	LL 2 X .156	xx 63 0.66	3'-4 1/2"	.156 - 3 3/4"		
Secondary Web Member								
7.1	0.83	-1.12 d	U 1 3/8 x 1 1/4 x 0.118	z 89 0.18	3'-1 3/8"	.118 - 1 1/2"		
7.2	0.00	-0.99 d	do	z 86 0.15	3'-0"	do		
7.3	0.00	-1.08 d	do	z 86 0.17	do	do		
7.4	0.00	-0.98 d	do	z 86 0.15	3'-0"	do		
7.5	4.63	-4.90 d	U 1 3/8 x 1 1/4 x 0.118	z 89 0.78	3'-1 3/8"	.118 - 1 1/2"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 23'-9 1/4" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 25'-7 3/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 1/4" (15'-10 1/4")
 KB 21'-1 5/8" (21'-1 5/8")

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)



Mark : G10

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

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Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

828 / 853

Area to Paint

: 182.62 ft2

Material Sort : Cost

This mark has been edited

552(570)-552(570)-25-12/8-828(853) NNN,NNN

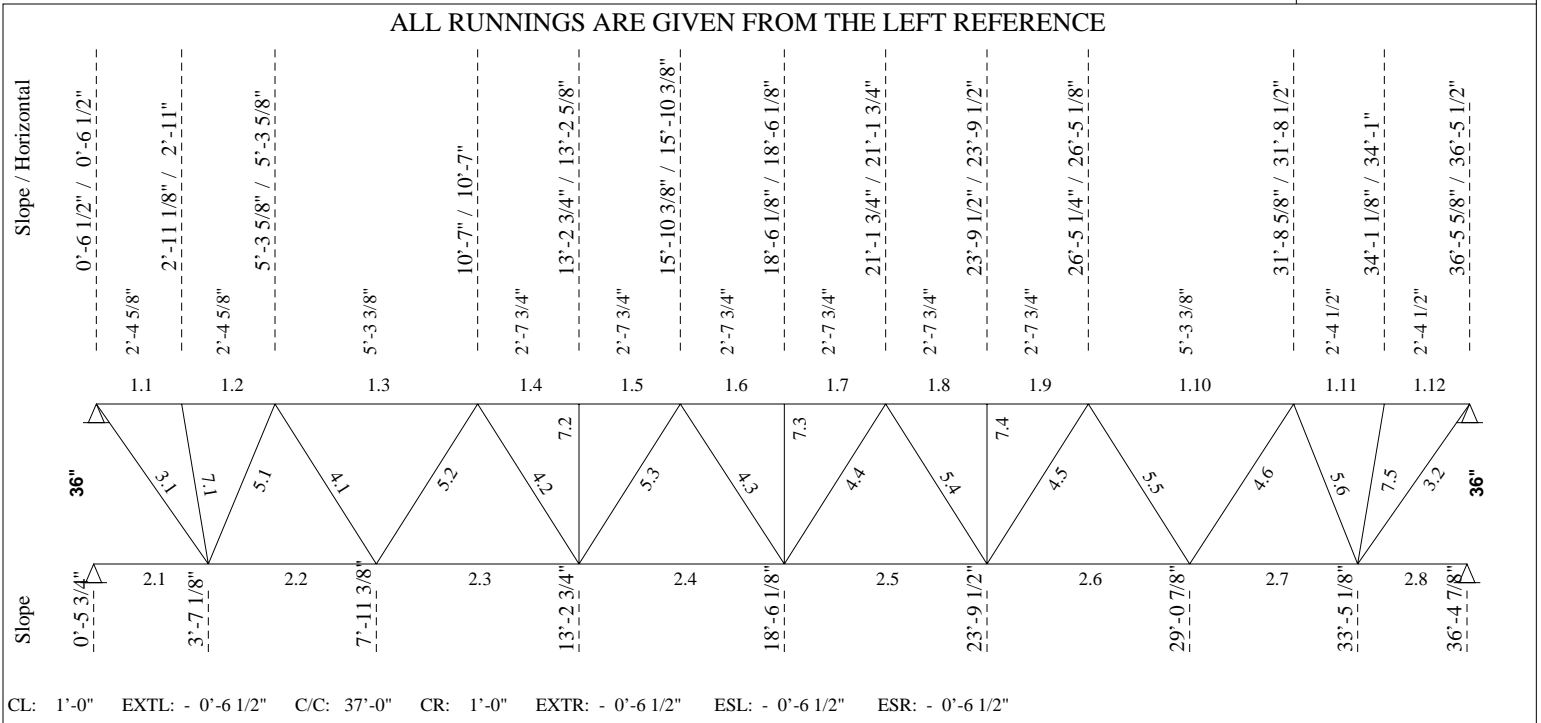
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G11 (G (3), Asymmetrical,, Free ends)

$\Delta = \frac{9}{12} = 0.75$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N5 LIVE LOAD...: 0.00 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	5.00	2.25	0.80	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	5.00	2.25	0.80	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	5.00	2.25	0.80	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	5.00	2.25	0.80	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	5.00	2.25	0.80	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	5.00	2.25	0.80	31'-8 1/2"	5'-3 3/8"	5	1	90	0

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.27 in (L/ 1595)
 Joist inertia..... = 2263.29 in⁴
 Required camber..... = 0.52 in



Mark : G11

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:38

===== LOAD NO 2 (G11#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	3.20	0.00	0.00	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	3.20	0.00	0.00	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	3.20	0.00	0.00	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	3.20	0.00	0.00	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	3.20	0.00	0.00	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	3.20	0.00	0.00	31'-8 1/2"	5'-3 3/8"	5	1	90	0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-40.00	57.00	0.00	0.00
(case 2).....:	0.00	0.00	40.00	-57.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [2] at right: C [1]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

===== End of multiple loads =====

----- FORCES IN MEMBERS [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 33.60 in)

Left Reaction = 15.03/ -2.40 kips Right Reaction = 15.04/ -2.40 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	40.20	-57.87	LL 6 X .5	z 17 0.62	2'-4 5/8"		
1.1 r			[2]Flat Bar 6 x 1 (50 ksi)		2'-2 5/8"		D = 7.00
1.2	36.80	-52.98	LL 6 X .5	z 24 0.40	2'-4 5/8"		
1.3	29.69	-64.84	x do	xx 34 0.21	5'-3 3/8"		
1.4	24.28	-73.84	do	z 27 0.23	2'-7 3/4"		
1.5	24.28	-73.84	do	z 27 0.23	do		
1.6	22.51	-76.79	do	z 27 0.24	do		
1.7	22.51	-76.79	do	z 27 0.24	do		
1.8	24.38	-73.69	do	z 27 0.23	do		
1.9	24.38	-73.69	do	z 27 0.23	2'-7 3/4"		
1.10	29.87	-64.53	x do	xx 34 0.21	5'-3 3/8"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	37.07	-52.54	do	z 24	0.50	2'-4 1/2"		
1.12	40.48	-57.38	LL 6 X .5	z 17	0.84	2'-4 1/2"		
1.12r			[1]Flat Bar 6 x 1 (50 ksi)			3'-1 3/8"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 2.5 X .25	yy127	0.35	3'-1 3/8"		
2.2	24.64	-3.94	do	yy127	0.56	4'-4 1/4"		
2.3	43.52	-6.95	do	z 129	0.69	5'-3 3/8"		
2.4	52.96	-8.46	do	yy170	0.74	do		
2.5	52.95	-8.46	do	yy170	0.74	do		
2.6	43.49	-6.95	do	yy170	0.69	5'-3 3/8"		
2.7	24.59	-3.93	do	yy170	0.56	4'-4 1/4"		
2.8	0.00	0.00	LL 2.5 X .25	yy170	0.35	2'-11 3/4"		
End Diagonal								
3.1	28.21	-17.85	x LL 2 X .247	xx 79	0.51	4'-1 7/8"	.247 - 3 7/8"	
3.2	34.35	-24.01	x LL 2 X .247	xx 79	0.68	4'-1 7/8"	.247 - 4 5/8"	
Diagonal Towards End								
4.1	13.76	-3.44	1" SQUARE BAR	z 160	0.59	4'-0"	.250 - 1 7/8"	
4.2	6.89	-1.72	U 1 x 1 1/8 x 0.118	z 133	0.69	do	.118 - 2"	
4.3	6.03	-1.51	U 1 x 0.091	z 139	0.80	do	.090 - 2 1/4"	
4.4	6.03	-1.51	U 1 x 0.091	z 139	0.80	do	.090 - 2 1/4"	
4.5	6.90	-1.72	U 1 x 1 1/8 x 0.118	z 133	0.69	do	.118 - 2"	
4.6	13.77	-3.44	1" SQUARE BAR	z 160	0.59	4'-0"	.250 - 1 7/8"	
Diagonal Towards Center								
5.1	2.81	-17.60	x LL 2 X .156	xx 63	0.69	3'-5 1/2"	.156 - 3 7/8"	
5.2	2.20	-13.76	x do	xx 74	0.60	4'-0"	.156 - 3"	
5.3	1.10	-6.87	do	z 117	0.52	do	.156 - 1 1/2"	
5.4	1.10	-6.89	do	z 117	0.52	do	.156 - 1 1/2"	
5.5	2.20	-13.77	x do	xx 74	0.60	4'-0"	.156 - 3"	
5.6	2.81	-17.59	x LL 2 X .156	xx 63	0.69	3'-5 3/8"	.156 - 3 7/8"	
Secondary Web Member								
7.1	10.32	-11.41	1"RB + U1-3/8X.157 (50%)	z 121	0.81	3'-0 7/8"	.230 - 1 3/4"	
7.2	0.00	-1.52	d U 1 3/8 x 1 1/4 x 0.118	z 84	0.23	3'-0"	.118 - 1 1/2"	
7.3	0.00	-1.58	d do	z 84	0.23	do	do	
7.4	0.00	-1.51	d U 1 3/8 x 1 1/4 x 0.118	z 84	0.23	3'-0"	.118 - 1 1/2"	
7.5	14.74	-15.83	1"SB + U1-3/8X.157 (50%)	z 109	0.80	3'-0 7/8"	.230 - 2 3/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 41'-1 3/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 29'-4 1/8" ==> 1 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 3/8" (15'-10 3/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)



Mark : G11

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:38

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

2010 / 2047

Area to Paint

: 281.64 ft2

Material Sort : Cost

This mark has been edited

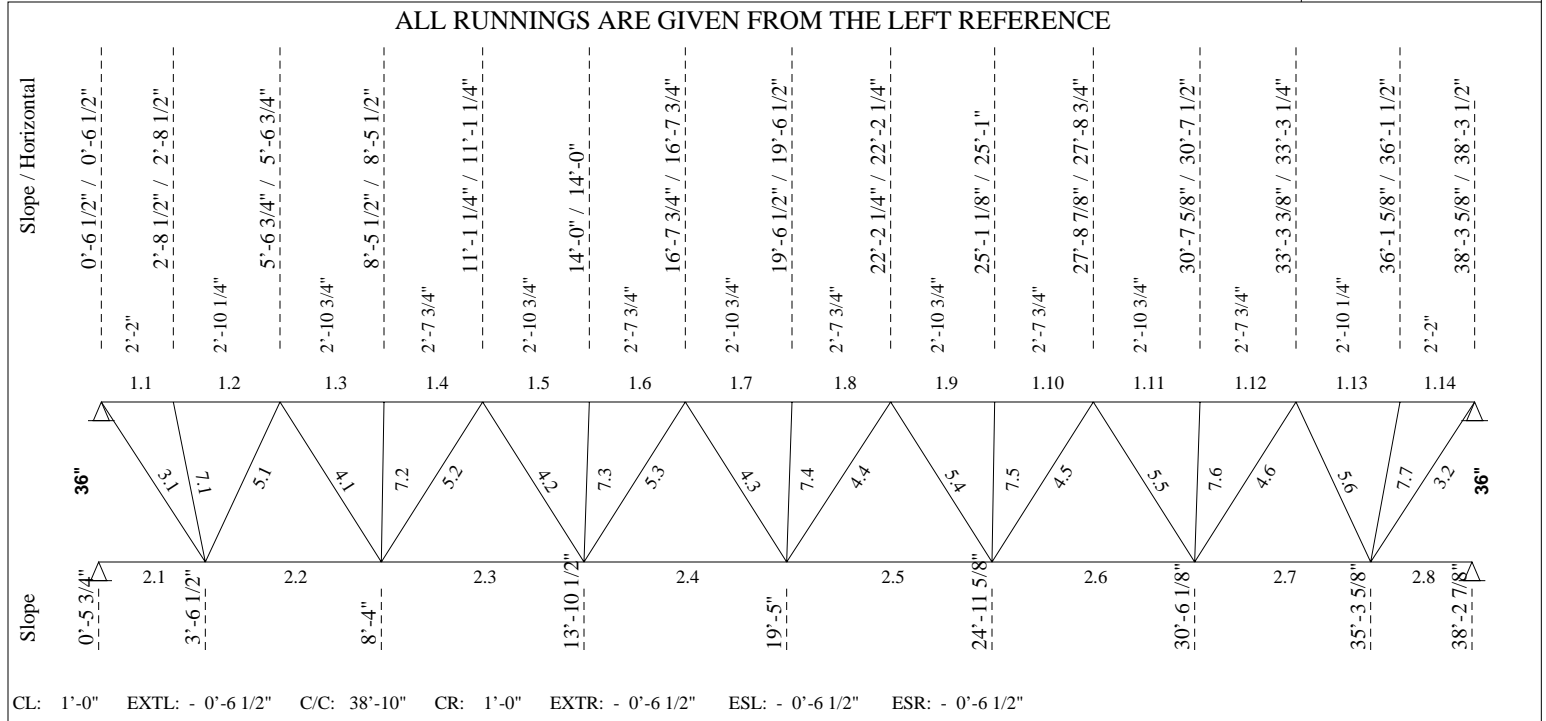
1355(1379)-1355(1379)-25-12/8-2010(2047) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G12 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{3}{8}}{12} = 0 \frac{1}{4}''$$



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N5 LIVE LOAD...: 0.00 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	5.00	2.25	0.80	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	5.00	2.25	0.80	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	5.00	2.25	0.89	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	5.00	2.25	0.80	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	5.00	2.25	0.80	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	5.00	2.25	0.80	33'-3 1/4"	5'-6 1/2"	5	1	90	0

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.38 in (L/ 1183)
 Joist inertia..... = 1859.58 in⁴
 Required camber..... = 0.57 in



Mark : G12

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:38

===== LOAD NO 2 (G12#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	3.20	0.00	0.00	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	3.20	0.00	0.00	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	3.20	0.00	0.00	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	3.20	0.00	0.00	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	3.20	0.00	0.00	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	3.20	0.00	0.00	33'-3 1/4"	5'-6 1/2"	5	1	90	0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-23.00	40.00	0.00	0.00
(case 2).....:	0.00	0.00	23.00	-40.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [2] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

===== End of multiple loads =====

----- FORCES IN MEMBERS [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.15 in)

Left Reaction = 15.04/ -2.45 kips Right Reaction = 15.05/ -2.44 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	20.30	-37.64	LL 4 X .375	yy 40 0.57	2'-2"		
1.1 r			[2]Flat Bar 6 x 1 (50 ksi)		2'-0"		D = 7.00
1.2	18.37	-34.05	LL 4 X .375	z 43 0.64	2'-10 1/4"		
1.3	10.56	-47.07	do	z 44 0.32	2'-10 3/4"		
1.4	10.56	-47.07	do	z 40 0.33	2'-7 3/4"		
1.5	8.25	-56.37	x do	xx 28 0.36	2'-10 3/4"		
1.6	8.25	-56.38	x do	xx 26 0.35	2'-7 3/4"		
1.7	9.02	-59.43	x do	xx 28 0.37	2'-10 3/4"		
1.8	9.02	-59.43	x do	xx 26 0.37	2'-7 3/4"		
1.9	8.15	-56.23	x do	xx 28 0.35	2'-10 3/4"		
1.10	8.15	-56.23	x do	xx 26 0.35	2'-7 3/4"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	10.73	-46.79	do	z 44	0.33	2'-10 3/4"		
1.12	10.73	-46.79	do	z 40	0.31	2'-7 3/4"		
1.13	18.62	-33.63	do	z 43	0.95	2'-10 1/4"		
1.14	20.59	-37.18	LL 4 X .375	yy 40	0.91	2'-2"		
1.14r			[2]Flat Bar 6 x 1 (50 ksi)			3'-0 3/4"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 2.5 X .230	yy180	0.45	3'-0 3/4"		
2.2	25.63	-4.18	do	yy180	0.73	4'-9 1/2"		
2.3	45.14	-7.40	do	yy180	0.89	5'-6 1/2"		
2.4	54.90	-9.06	do	yy180	0.89	do		
2.5	54.90	-8.98	do	yy180	0.89	do		
2.6	45.14	-7.35	do	z 135	0.77	5'-6 1/2"		
2.7	25.63	-4.16	do	yy133	0.63	4'-9 1/2"		
2.8	0.00	0.00	LL 2.5 X .230	yy133	0.40	2'-11 1/4"		
End Diagonal								
3.1	22.79	-12.59	x LL 2 X .186	xx 78	0.54	4'-1 1/2"	.186 - 4 1/8"	
3.2	29.58	-19.38	x LL 2 X .186	xx 78	0.71	4'-1 1/2"	.186 - 5 3/8"	
Diagonal Towards End								
4.1	13.99	-3.50	1" SQUARE BAR	z 165	0.63	4'-1"	.250 - 1 7/8"	
4.2	7.00	-1.75	U 1 x 1 1/8 x 0.118	z 138	0.70	do	.118 - 2"	
4.3	6.13	-1.53	d U 1 3/8 x 0.157	z 108	0.35	do	.158 - 1 1/2"	
4.4	4.12	-6.13	d U 1 3/8 x 0.157	z 108	0.86	do	.158 - 1 1/2"	
4.5	7.00	-1.75	U 1 x 1 1/8 x 0.118	z 138	0.70	do	.118 - 2"	
4.6	13.99	-3.50	1" SQUARE BAR	z 165	0.63	4'-1"	.250 - 1 7/8"	
Diagonal Towards Center								
5.1	3.01	-18.42	x LL 2 X .156	xx 67	0.75	3'-7 3/8"	.156 - 4"	
5.2	2.30	-13.98	x LL 2 X .156	xx 77	0.62	4'-1"	.156 - 3"	
5.3	1.19	-6.98	d U 1 3/8 x 0.157	z 108	0.98	do	.158 - 1 1/2"	
5.4	1.17	-6.98	d U 1 3/8 x 0.157	z 108	0.98	do	.158 - 1 1/2"	
5.5	2.29	-13.98	x LL 2 X .156	xx 77	0.62	4'-1"	.156 - 3"	
5.6	2.99	-18.43	x LL 2 X .156	xx 67	0.75	3'-7 3/8"	.156 - 4"	
Secondary Web Member								
7.1	6.79	-7.50	d U 1 3/8 x 0.136	z 82	0.92	3'-1 3/8"	.136 - 1 7/8"	
7.2	0.00	-0.98	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.15	3'-0"	.118 - 1 1/2"	
7.3	0.00	-1.18	d do	z 85	0.18	do	do	
7.4	0.00	-1.24	d do	z 85	0.19	do	do	
7.5	0.00	-1.17	d do	z 85	0.18	do	do	
7.6	0.00	-0.98	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.15	3'-0"	.118 - 1 1/2"	
7.7	11.80	-12.51	1"RB + U1-3/8X.157 (50%)	z 125	0.94	3'-1 3/8"	.230 - 1 7/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 29'-6 1/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 29'-3" ==> 1 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 22'-2 1/4" (22'-2 1/4")

Equally Spaced Bridging between Uplift Rows : No



Mark : G12

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

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-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1301 / 1333 Area to Paint : 234.97 ft2 Material Sort : Cost

This mark has been edited

868(890)-868(890)-25-14/8-1301(1333) NNN,NNN

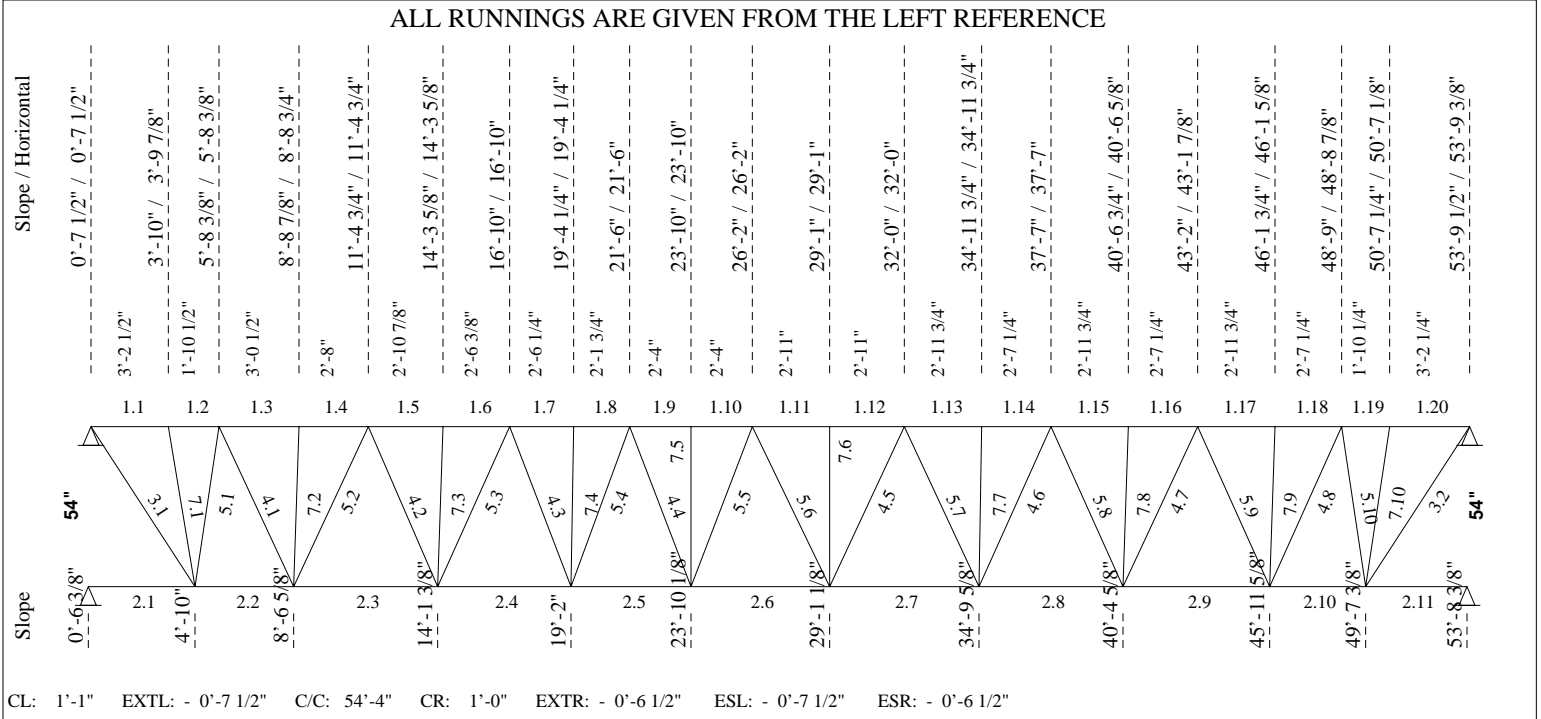
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G13 (G (3), Asymmetrical,, Free ends) aligned on G9

$\Delta = \frac{13 \frac{1}{4}}{12}$ 0 1/4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N6 LIVE LOAD...: 0.00 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	6.00	2.70	1.60	5'-5"*	5'-5"	5	1	90	0
2	1	Both	Yes	6.00	2.70	1.60	10'-10 1/4"*	5'-5 1/4"	5	1	90	0
3	1	Both	Yes	3.80	3.80	3.80	10'-10 1/4"*	0'-0"	5	1	90	0
4	1	Both	Yes	3.80	3.80	3.80	16'-3 1/2"*	5'-5 1/4"	5	1	90	0
5	1	Both	Yes	6.00	2.70	1.60	16'-3 1/2"*	0'-0"	5	1	90	0
6	1	Both	Yes	6.00	2.70	1.60	21'-8 3/4"*	5'-5 1/4"	5	1	90	0
7	1	Both	Yes	6.00	2.70	1.60	27'-2"*	5'-5 1/4"	5	1	90	0
8	1	Both	Yes	6.00	2.70	1.60	32'-7 1/4"*	5'-5 1/4"	5	1	90	0
9	1	Both	Yes	6.00	2.70	1.60	38'-0 1/2"*	5'-5 1/4"	5	1	90	0
10	1	Both	Yes	6.00	2.70	1.60	43'-5 3/4"*	5'-5 1/4"	5	1	90	0
11	1	Both	Yes	6.00	2.70	1.60	48'-11"*	5'-5 1/4"	5	1	90	0

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.90 in (L/ 708)
 Joist inertia..... = 5040.76 in⁴
 Required camber..... = 1.16 in



Mark : G13

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:39

=====**LOAD NO 2 (G13#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N6 LIVE LOAD...: 0.00 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 0-9 1/2	Incl. Cmp [deg]
1	1	Both	Yes	4.00	0.00	0.00	5'-5"*	5'-5"	5	1	90 0
2	1	Both	Yes	4.00	0.00	0.00	10'-10 1/4"*	5'-5 1/4"	5	1	90 0
3	1	Both	Yes	4.00	0.00	0.00	16'-3 1/2"*	5'-5 1/4"	5	1	90 0
4	1	Both	Yes	4.00	0.00	0.00	21'-8 3/4"*	5'-5 1/4"	5	1	90 0
5	1	Both	Yes	4.00	0.00	0.00	27'-2"*	5'-5 1/4"	5	1	90 0
6	1	Both	Yes	4.00	0.00	0.00	32'-7 1/4"*	5'-5 1/4"	5	1	90 0
7	1	Both	Yes	4.00	0.00	0.00	38'-0 1/2"*	5'-5 1/4"	5	1	90 0
8	1	Both	Yes	4.00	0.00	0.00	43'-5 3/4"*	5'-5 1/4"	5	1	90 0
9	1	Both	Yes	4.00	0.00	0.00	48'-11"*	5'-5 1/4"	5	1	90 0

-----**END MOMENTS [ft-kip] & AXIAL LOADS[kips]**-----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	23.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-23.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [0] at right: C [1]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.06 in (L/ 9999)

=====**End of multiple loads**=====

-----**FORCES IN MEMBERS [kips]**-----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 52.15 in)

Left Reaction = 32.91/ -12.97 kips Right Reaction = 28.90/ -9.03 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	12.33	-31.26	LL 3.5 X .287	z 53 0.56	3'-2 3/8"		
1.2	12.35	-31.36	do	z 32 0.52	1'-10 1/2"		
1.3	22.24	-54.94	do	z 53 0.60	3'-0 1/2"		
1.4	22.79	-55.94	do	z 46 0.78	2'-8"		
1.5	32.64	-81.79	do	z 50 0.88	2'-10 7/8"		
1.6	33.19	-82.78	do	z 44 0.90	2'-6 3/8"		
1.7	35.89	-94.90	do	z 44 0.98	2'-6 1/4"		
1.8	35.89	-94.90	do	z 37 0.95	2'-1 3/4"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL				REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side		
1.9	35.78	-99.93	x	do	xx 26	0.99	2'-4"		
1.10	35.70	-99.62	x	do	xx 26	0.99	2'-4"		
1.11	33.97	-99.26	x	do	xx 32	0.98	2'-11"		
1.12	33.71	-98.29	x	do	xx 32	0.97	2'-11"		
1.13	29.60	-89.46		do	z 52	0.98	2'-11 3/4"		
1.14	29.42	-88.81		do	z 45	0.93	2'-7 1/4"		
1.15	23.24	-72.07		do	z 52	0.84	2'-11 3/4"		
1.16	23.10	-71.54		do	z 45	0.75	2'-7 1/4"		
1.17	14.76	-46.71		do	z 52	0.68	2'-11 3/4"		
1.18	14.66	-46.33		do	z 45	0.48	2'-7 1/4"		
1.19	8.17	-26.16		do	z 32	0.90	1'-10 1/4"		
1.20	8.47	-27.10		LL 3.5 X .287	z 44	0.97	3'-2 1/4"		
1.20r				[1]Flat Bar 4 x 1 (50 ksi)			4'-3 5/8"		D = 5.00
Bottom Chord									
2.1	0.00	0.00		LL 3 X .313	yy114	0.35	4'-3 5/8"		
2.2	36.74	-14.54		do	yy114	0.69	3'-8 5/8"		
2.3	70.75	-28.77		do	yy114	0.86	5'-6 7/8"		
2.4	90.86	-35.57		do	z 103	0.86	5'-0 5/8"		
2.5	98.62	-36.19		do	z 95	0.92	4'-8"		
2.6	100.24	-35.17		do	z 107	0.94	5'-3"		
2.7	95.17	-32.01		do	z 116	0.89	5'-8 1/2"		
2.8	82.10	-26.80		do	z 114	0.82	5'-7"		
2.9	61.10	-19.49		do	z 114	0.71	5'-7"		
2.10	32.17	-10.06		do	yy113	0.53	3'-7 3/4"		
2.11	0.00	0.00		LL 3 X .313	yy113	0.29	4'-1"		
End Diagonal									
3.1	44.89	-17.70	x	LL 2.5 X .25	xx 93	0.63	6'-0 1/2"	.250 - 6 1/8"	
3.2	39.32	-12.29	x	LL 2.5 X .25	xx 92	0.55	6'-0 3/8"	.250 - 5 3/8"	
Diagonal Towards End									
4.1	32.13	-13.60	x	LL 2 X .186	xx101	0.76	5'-3 7/8"	.186 - 5 7/8"	
4.2	20.12	-7.04	x	LL 1.5 X .155	xx133	0.95	5'-3 1/8"	.155 - 4 3/8"	
4.3	10.01	-2.50	d	U 1 3/8 x 1 1/4 x 0.118	z 147	0.90	5'-0 7/8"	.118 - 2 7/8"	
4.4	10.01	-2.50	d	U 1 3/8 x 1 1/4 x 0.118	z 147	0.90	5'-0 7/8"	.118 - 2 7/8"	
4.5	10.61	-3.16	d	U 1 3/8 x 0.136	z 145	0.93	5'-4 3/8"	.136 - 2 5/8"	
4.6	12.87	-5.02	x	LL 1.5 X .155	xx134	0.68	5'-3 1/2"	.155 - 2 3/4"	
4.7	20.02	-6.92	x	LL 1.5 X .155	xx134	0.94	do	.155 - 4 3/8"	
4.8	27.16	-8.82	x	LL 2 X .156	xx100	0.76	5'-3 1/2"	.156 - 5 7/8"	
Diagonal Towards Center									
5.1	11.60	-27.43	x	LL 2 X .247	xx 87	0.86	4'-7"	.247 - 3 3/4"	
5.2	7.19	-20.49	x	LL 2 X .247	xx102	0.79	5'-3 7/8"	.247 - 2 3/4"	
5.3	0.72	-10.39	x	LL 2 X .156	xx 99	0.60	5'-3 1/8"	.156 - 2 1/4"	
5.4	0.65	-10.00	x	do	xx 95	0.55	5'-0 3/4"	.156 - 2 1/8"	
5.5	0.00	-10.00	x	LL 2 X .156	xx 95	0.55	5'-0 3/4"	.156 - 2 1/8"	
5.6	10.62	-2.65	d	U 1 3/8 x 0.136	z 145	0.78	5'-4 3/8"	.136 - 2 5/8"	
5.7	3.11	-10.48	x	LL 2 X .156	xx100	0.62	5'-3 5/8"	.156 - 2 1/4"	
5.8	5.01	-12.82	x	LL 2 X .156	xx100	0.75	do	.156 - 2 3/4"	
5.9	6.91	-19.98	x	LL 2 X .186	xx100	0.98	5'-3 5/8"	.186 - 3 5/8"	
5.10	7.57	-23.30	x	LL 2 X .247	xx 87	0.73	4'-7"	.247 - 3 1/4"	
Secondary Web Member									
7.1	0.57	-1.01	d	U 1 3/8 x 0.157	z 121	0.18	4'-7 3/8"	.158 - 1 1/2"	
7.2	0.01	-1.19	d	U 1 3/8 x 1 1/4 x 0.118	z 130	0.33	4'-6"	.118 - 1 1/2"	
7.3	0.01	-1.76	d	do	z 130	0.49	do	do	
7.4	0.00	-2.02	d	do	z 130	0.57	do	do	
7.5	0.00	-2.12	d	do	z 130	0.59	do	do	
7.6	0.01	-2.11	d	do	z 130	0.59	do	do	



Mark : G13

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:39

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL				REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side		
7.7	0.00	-1.90	d	do	z 130	0.53	do	do	
7.8	0.00	-1.53	d	do	z 130	0.43	do	do	
7.9	0.00	-0.99	d	U 1 3/8 x 1 1/4 x 0.118	z 130	0.28	4'-6"	.118 - 1 1/2"	
7.10	4.43	-4.84	d	U 1 3/8 x 0.157	z 121	0.85	4'-7 1/4"	.158 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 26'-7 3/4" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 33'-6 7/8" ==> 3 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 16'-3 1/2" (16'-3 1/2")
 KB 27'-2" (27'-1 7/8")
 KB 38'-0 5/8" (38'-0 1/2")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 1862 / 1933 Area to Paint : 390.77 ft2 Material Sort : Cost

This mark has been edited

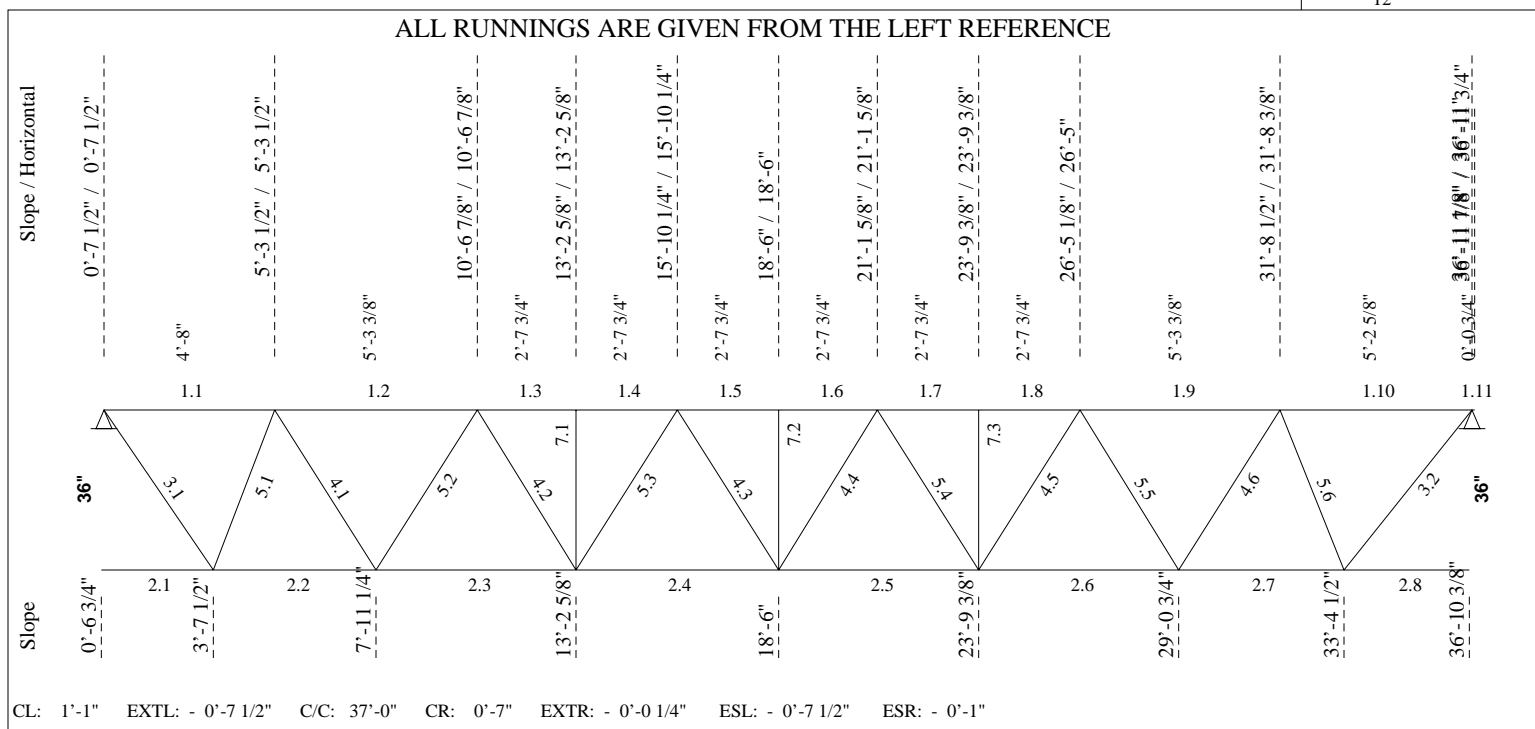
1231(1280)-1231(1280)-25-20/11-1862(1933) NNN,NNN



Project: PROJECT EVELER FREEZER PUYALL
 JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G14 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \ 1/8}{12} = 0 \ 1/4"$$



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N4 LIVE LOAD...: 0.00 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-0 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.251)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.00 TL = L/ 90 = 0.01
 I = 1.09 in^4 Cal.D. LL = L/ 9999 = 0.00 TL = L/ -211 = 0.00

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	31'-8 3/8"	5'-3 3/8"	5	1	90	0

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.20 in (L/ 360)
 Calculated deflection under service live load..... = 0.53 in (L/ 822)
 Joist inertia..... = 959.90 in^4
 Required camber..... = 0.53 in



Mark : G14

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:39

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 34.74 in)

Left Reaction = 12.21/ -2.44 kips Right Reaction = 11.83/ -2.36 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	2.44	-12.20	LL 2.5 X .188	z 109	0.55	4'-8"		
1.2	5.32	-26.62	do	xx 81	0.84	5'-3 3/8"		
1.3	7.56	-37.85	do	xx 41	0.85	2'-7 3/4"		
1.4	7.56	-37.84	do	xx 41	0.85	do		
1.5	8.34	-41.75	do	xx 41	0.94	do		
1.6	8.34	-41.75	do	xx 41	0.94	do		
1.7	7.66	-38.35	do	xx 41	0.86	do		
1.8	7.66	-38.34	do	xx 41	0.86	2'-7 3/4"		
1.9	5.52	-27.62	do	xx 81	0.87	5'-3 3/8"		
1.10	2.71	-13.58	do	xx 78	0.51	5'-2 5/8"		
1.11	0.00	0.00	LL 2.5 X .188	z 2	0.25	0'-2 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .186	yy130	0.41	3'-0 3/4"		
2.2	18.96	-3.79	do	z 131	0.74	4'-3 3/4"		
2.3	33.92	-6.77	do	z 161	0.90	5'-3 3/8"		
2.4	41.58	-8.30	do	yy130	0.98	do		
2.5	41.91	-8.37	do	xx103	0.98	do		
2.6	34.93	-6.98	do	z 161	0.91	5'-3 3/8"		
2.7	20.65	-4.12	do	yy133	0.76	4'-3 3/4"		
2.8	0.00	0.00	LL 2 X .186	yy133	0.45	3'-5 7/8"		
End Diagonal								
3.1	17.07	-4.27	LL 1.5 X .155	z 165	0.88	4'-1 1/2"	.155 - 3 3/4"	
3.2	18.20	-4.55	LL 1.5 X .155	xx116	0.69	4'-6 1/4"	.155 - 4"	
Diagonal Towards End								
4.1	11.10	-2.77	U 1 3/8 x 0.157	z 106	0.64	4'-0"	.158 - 2 3/8"	
4.2	5.68	-1.42	U 1 3/8 x 1 1/4 x 0.118	z 117	0.46	do	.118 - 1 5/8"	
4.3	4.82	-1.21	U 1 3/8 x 0.136	z 109	0.32	do	.136 - 1 1/2"	
4.4	0.05	-4.82	U 1 3/8 x 0.136	z 109	0.81	do	.136 - 1 1/2"	
4.5	5.18	-1.30	U 1 3/8 x 1 1/4 x 0.118	z 117	0.42	do	.118 - 1 1/2"	
4.6	10.60	-2.65	U 1 3/8 x 0.157	z 106	0.61	4'-0"	.158 - 2 1/4"	
Diagonal Towards Center								
5.1	2.81	-14.07	U 1 3/4 x 0.197	z 72	0.82	3'-5 1/8"	.197 - 2 3/8"	
5.2	2.22	-11.10	U 1 3/4 x 0.197	z 84	0.72	4'-0"	.197 - 1 7/8"	
5.3	1.13	-5.67	U 1 3/8 x 0.136	z 109	0.95	do	.136 - 1 1/2"	
5.4	1.03	-5.17	U 1 3/8 x 0.136	z 109	0.87	do	.136 - 1 1/2"	
5.5	2.12	-10.60	U 1 3/4 x 0.197	z 84	0.69	4'-0"	.197 - 1 3/4"	
5.6	2.73	-13.65	U 1 3/4 x 0.197	z 72	0.79	3'-5 1/8"	.197 - 2 3/8"	
Secondary Web Member								
7.1	0.00	-0.80	U 1 3/8 x 1 1/4 x 0.118	z 86	0.12	3'-0"	.118 - 1 1/2"	
7.2	0.00	-0.89	do	z 86	0.14	do	do	
7.3	0.00	-0.81	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	



Mark : G14

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:39

----- BRIDGING -----

Maximum spacing between rows of bridging					Lateral Supports
@ Top Chord:	23'-1 3/8" ==>	0 Row(s) Minimum			Concentrated loads
@ Bottom Chord:	28'-7 3/4" ==>	2 Row(s) Minimum			Acc. to the force

POSITION	@ Top Chord	@ Bottom Chord	
		KB 15'-10 1/4" (15'-10 1/4")	
		KB 21'-1 5/8" (21'-1 5/8")	

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	547 / 556		Area to Paint	:	160.36 ft2
					Material Sort : Cost

369(380)-369(380)-25-10/8-547(556) NNN,NNN

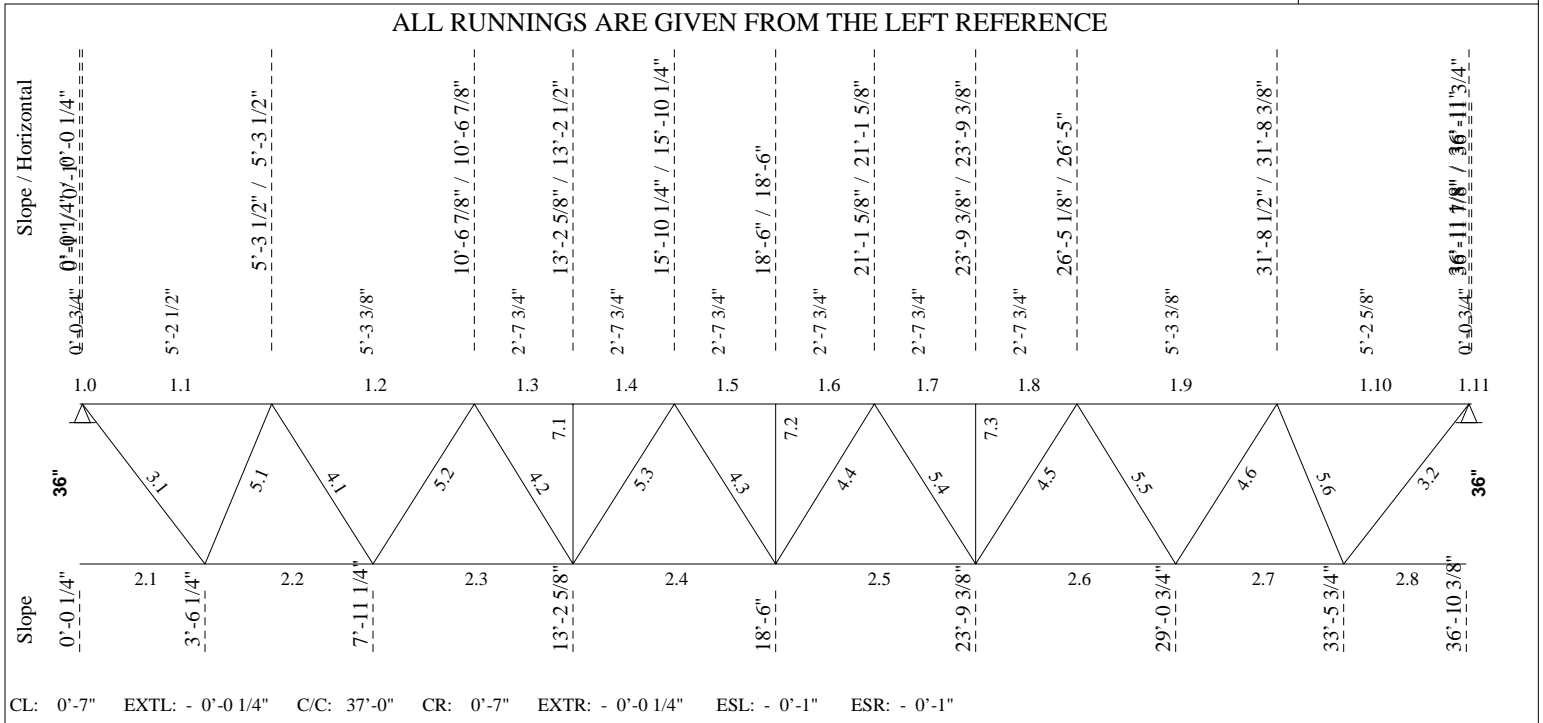
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G15 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{1}{4}}{12} = 0 \frac{1}{4}"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N4 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.256)
TL =	0 LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 =	0.01
I =	1.09 in^4			Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 =	0.00

Tcx-R	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.246)
TL =	0 LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 =	0.01
I =	1.09 in^4			Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 =	0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	31'-8 3/8"	5'-3 3/8"	5	1	90	0



----- DEFLECTION -----

Allowed deflection under live load..... = 1.22 in (L/ 360)
 Calculated deflection under service live load..... = 0.53 in (L/ 825)
 Joist inertia..... = 1004.30 in⁴
 Required camber..... = 0.55 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 34.73 in)

Left Reaction = 12.02/ -2.40 kips Right Reaction = 12.01/ -2.40 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00		LL 2.5 X .188	z 2 0.26	0'-2 3/4"			
1.1	2.76	-13.84 x		do	xx 78 0.53	5'-2 1/2"			
1.2	5.68	-28.42 x		do	xx 81 0.89	5'-3 3/8"			
1.3	7.85	-39.32 x		do	xx 41 0.88	2'-7 3/4"			
1.4	7.85	-39.32 x		do	xx 41 0.88	do			
1.5	8.56	-42.90 x		do	xx 41 0.96	do			
1.6	8.56	-42.90 x		do	xx 41 0.96	do			
1.7	7.82	-39.16 x		do	xx 41 0.88	do			
1.8	7.82	-39.16 x		do	xx 41 0.88	2'-7 3/4"			
1.9	5.61	-28.10 x		do	xx 81 0.88	5'-3 3/8"			
1.10	2.66	-13.34 x		do	xx 78 0.52	5'-2 5/8"			
1.11	0.00	0.00		LL 2.5 X .188	z 2 0.25	0'-2 3/4"			
Bottom Chord									
2.1	0.00	0.00		LL 2 X .203	yy134 0.42	3'-6"			
2.2	20.93	-4.18		do	z 135 0.71	4'-5"			
2.3	35.57	-7.10		do	z 161 0.86	5'-3 3/8"			
2.4	42.89	-8.56		do	z 161 0.96	do			
2.5	42.90	-8.56		do	z 161 0.96	do			
2.6	35.59	-7.11		do	z 161 0.86	5'-3 3/8"			
2.7	20.97	-4.19		do	z 135 0.71	4'-5"			
2.8	0.00	0.00		LL 2 X .203	yy133 0.42	3'-4 1/2"			
End Diagonal									
3.1	18.13	-4.53 x		LL 1.5 X .155	xx114 0.69	4'-5 1/4"	.155 -	3 7/8"	
3.2	18.14	-4.53 x		LL 1.5 X .155	xx114 0.69	4'-5 1/4"	.155 -	3 7/8"	
Diagonal Towards End									
4.1	10.85	-2.71		U 1 3/8 x 0.157	z 106 0.62	4'-0"	.158 -	2 3/8"	
4.2	5.44	-1.36		U 1 3/8 x 1 1/4 x 0.118	z 117 0.44	do	.118 -	1 5/8"	
4.3	4.75	-1.19		do	z 117 0.38	do	.118 -	1 1/2"	
4.4	4.75	-1.19		do	z 117 0.38	do	.118 -	1 1/2"	
4.5	5.43	-1.36		U 1 3/8 x 1 1/4 x 0.118	z 117 0.44	do	.118 -	1 5/8"	
4.6	10.84	-2.71		U 1 3/8 x 0.157	z 106 0.62	4'-0"	.158 -	2 3/8"	
Diagonal Towards Center									
5.1	2.81	-14.09 d		U 1 3/4 x 0.197	z 73 0.83	3'-5 3/4"	.197 -	2 3/8"	
5.2	2.17	-10.85 d		U 1 3/4 x 0.197	z 84 0.70	4'-0"	.197 -	1 7/8"	
5.3	1.08	-5.43		U 1 3/8 x 0.136	z 109 0.91	do	.136 -	1 1/2"	
5.4	1.08	-5.42		U 1 3/8 x 0.136	z 109 0.91	do	.136 -	1 1/2"	
5.5	2.16	-10.84 d		U 1 3/4 x 0.197	z 84 0.70	4'-0"	.197 -	1 7/8"	
5.6	2.81	-14.09 d		U 1 3/4 x 0.197	z 73 0.83	3'-5 7/8"	.197 -	2 3/8"	



Mark : G15

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
Secondary Web Member								
7.1	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	
7.2	0.00	-0.91	do	z 86	0.14	do	do	
7.3	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 22'-6 7/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 28'-2 3/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 1/4" (15'-10 1/4")
 KB 21'-1 5/8" (21'-1 5/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 566 / 578 Area to Paint : 162.55 ft2 Material Sort : Cost

381(395)-381(395)-25-10/8-566(578) NNN,NNN

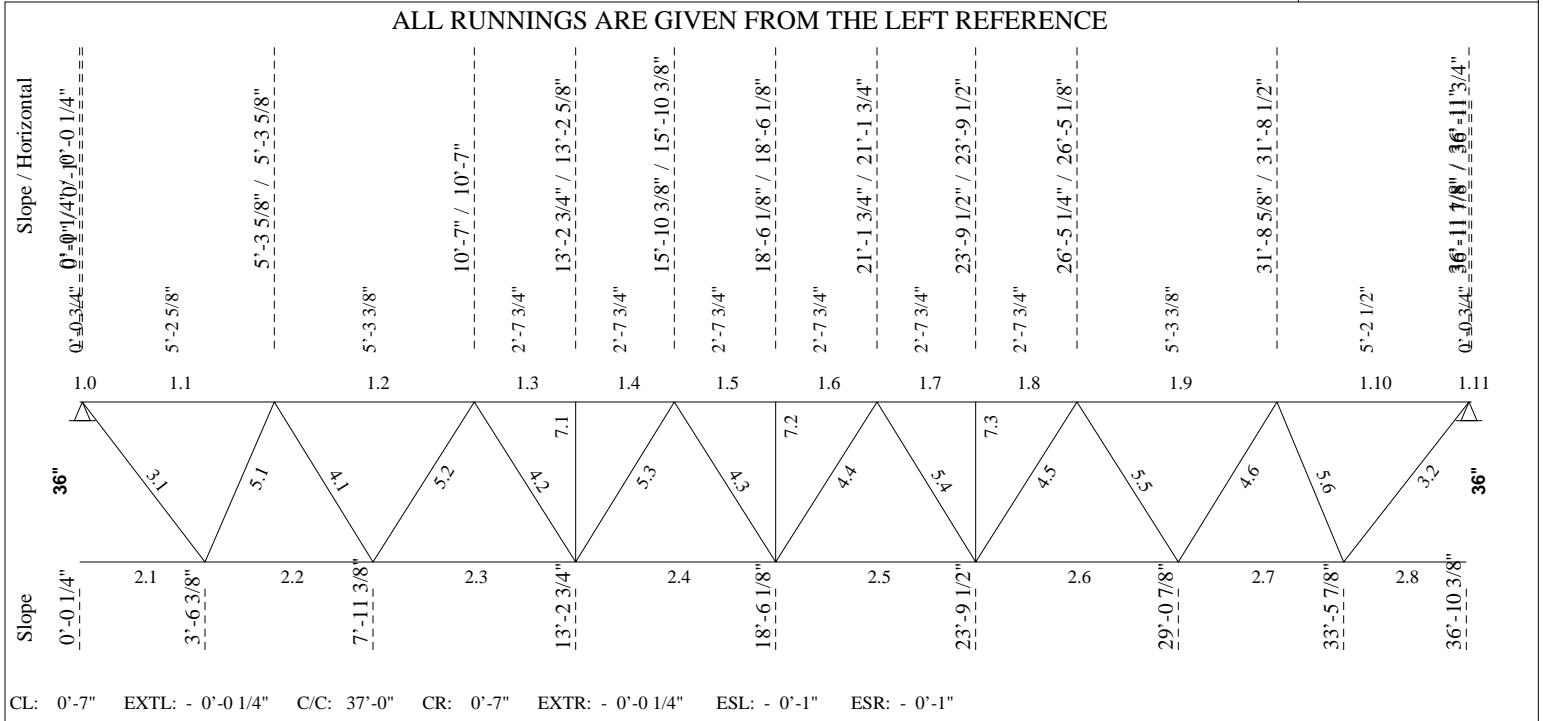
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G16 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{1}{4}}{12} = 0 \frac{1}{4}"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N4 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.256)
TL =	0 LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 =	0.01
I =	1.09 in^4			Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 =	0.00

Tcx-R	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.246)
TL =	0 LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 =	0.01
I =	1.09 in^4			Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 =	0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	31'-8 1/2"	5'-3 3/8"	5	1	90	0



----- DEFLECTION -----

Allowed deflection under live load..... = 1.22 in (L/ 360)
 Calculated deflection under service live load..... = 0.53 in (L/ 825)
 Joist inertia..... = 1004.30 in⁴
 Required camber..... = 0.55 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 34.73 in)

Left Reaction = 12.01/ -2.40 kips Right Reaction = 12.02/ -2.40 kips

No	Tension		Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks	
					x = tied at mid-length				Weld-Ea.Side			
Top Chord												
1.0	0.00	0.00			LL 2.5 X .188		z 2 0.26	0'-2 3/4"				
1.1	2.77	-13.85	x		do		xx 78 0.53	5'-2 5/8"				
1.2	5.68	-28.45	x		do		xx 81 0.89	5'-3 3/8"				
1.3	7.85	-39.33	x		do		xx 41 0.88	2'-7 3/4"				
1.4	7.85	-39.33	x		do		xx 41 0.88	do				
1.5	8.56	-42.90	x		do		xx 41 0.96	do				
1.6	8.56	-42.90	x		do		xx 41 0.96	do				
1.7	7.82	-39.15	x		do		xx 41 0.88	do				
1.8	7.82	-39.15	x		do		xx 41 0.88	2'-7 3/4"				
1.9	5.61	-28.08	x		do		xx 81 0.88	5'-3 3/8"				
1.10	2.66	-13.32	x		do		xx 78 0.52	5'-2 1/2"				
1.11	0.00	0.00			LL 2.5 X .188		z 2 0.25	0'-2 3/4"				
Bottom Chord												
2.1	0.00	0.00			LL 2 X .203		yy134 0.42	3'-6"				
2.2	20.97	-4.19			do		z 135 0.71	4'-5"				
2.3	35.59	-7.11			do		z 161 0.86	5'-3 3/8"				
2.4	42.90	-8.56			do		z 161 0.96	do				
2.5	42.89	-8.56			do		z 161 0.96	do				
2.6	35.57	-7.10			do		z 161 0.86	5'-3 3/8"				
2.7	20.93	-4.18			do		z 135 0.71	4'-5"				
2.8	0.00	0.00			LL 2 X .203		yy133 0.42	3'-4 1/2"				
End Diagonal												
3.1	18.14	-4.53	x		LL 1.5 X .155		xx114 0.69	4'-5 1/4"	.155 -	3 7/8"		
3.2	18.13	-4.53	x		LL 1.5 X .155		xx114 0.69	4'-5 1/4"	.155 -	3 7/8"		
Diagonal Towards End												
4.1	10.84	-2.71			U 1 3/8 x 0.157		z 106 0.62	4'-0"	.158 -	2 3/8"		
4.2	5.43	-1.36			U 1 3/8 x 1 1/4 x 0.118		z 117 0.44	do	.118 -	1 1/2"		
4.3	4.75	-1.19			do		z 117 0.38	do		do		
4.4	4.75	-1.19			do		z 117 0.38	do	.118 -	1 1/2"		
4.5	5.44	-1.36			U 1 3/8 x 1 1/4 x 0.118		z 117 0.44	do	.118 -	1 5/8"		
4.6	10.85	-2.71			U 1 3/8 x 0.157		z 106 0.62	4'-0"	.158 -	2 3/8"		
Diagonal Towards Center												
5.1	2.81	-14.09	d		U 1 3/4 x 0.197		z 73 0.83	3'-5 7/8"	.197 -	2 3/8"		
5.2	2.16	-10.84	d		U 1 3/4 x 0.197		z 84 0.70	4'-0"	.197 -	1 7/8"		
5.3	1.08	-5.42			U 1 3/8 x 0.136		z 109 0.91	do	.136 -	1 1/2"		
5.4	1.08	-5.43			U 1 3/8 x 0.136		z 109 0.91	do	.136 -	1 1/2"		
5.5	2.17	-10.85	d		U 1 3/4 x 0.197		z 84 0.70	4'-0"	.197 -	1 7/8"		
5.6	2.81	-14.09	d		U 1 3/4 x 0.197		z 73 0.83	3'-5 3/4"	.197 -	2 3/8"		



Mark : G16

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:39

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
Secondary Web Member								
7.1	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	
7.2	0.00	-0.91	do	z 86	0.14	do	do	
7.3	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 22'-6 7/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 28'-2 3/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 3/8" (15'-10 3/8")
 KB 21'-1 3/4" (21'-1 3/4")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 566 / 578 Area to Paint : 162.55 ft2 Material Sort : Cost

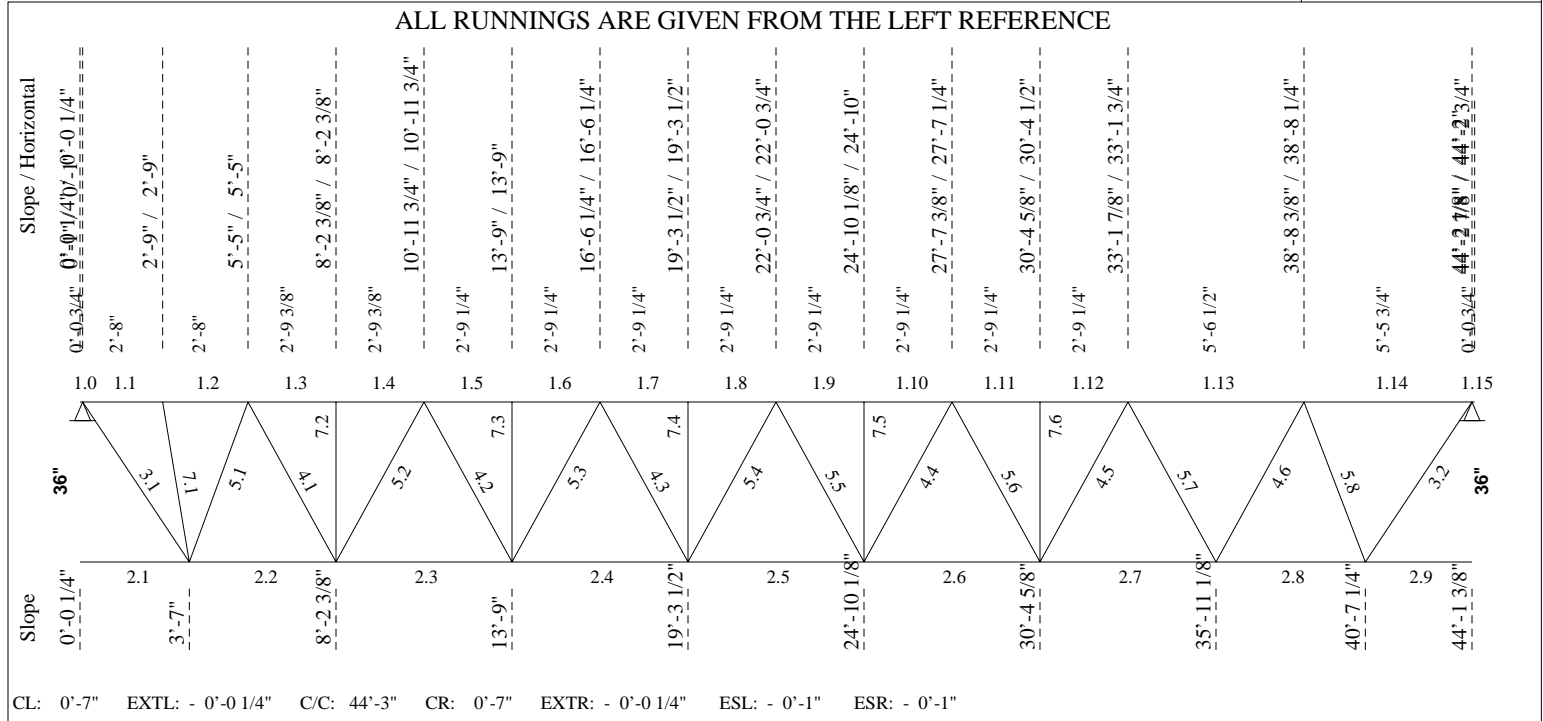
381(395)-381(395)-25-10/8-566(578) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G17 (G (3), Asymmetrical,, Free ends)

$\Delta = 11$ 0 1/4"
12



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G8N4 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.268)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/ 180 =	0.00	TL = L/ 90 =	0.01
I =	2.26 in^4				Cal.D. LL = L/ 9999 =	0.00	TL = L/ -163 =	0.00

Tcx-R	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.217)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/ 180 =	0.00	TL = L/ 90 =	0.01
I =	2.26 in^4				Cal.D. LL = L/ 9999 =	0.00	TL = L/ -170 =	0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-5"	5'-5"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	5'-9"*	0'-4"	6	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	10'-11 3/4"	5'-2 3/4"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	16'-6 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	22'-0 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	27'-7 1/4"	5'-6 1/2"	5	1	90	0
7	1	Both	Yes	4.00	1.80	0.80	33'-1 3/4"	5'-6 1/2"	5	1	90	0
8	1	Both	Yes	4.00	1.80	0.80	38'-8 1/4"	5'-6 1/2"	5	1	90	0



Mark : G17

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:40

----- DEFLECTION -----

Allowed deflection under live load..... = 1.46 in (L/ 360)
 Calculated deflection under service live load..... = 0.80 in (L/ 655)
 Joist inertia..... = 1413.33 in⁴
 Required camber..... = 0.78 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.46 in)

Left Reaction = 17.57/ -3.51 kips Right Reaction = 14.48/ -2.89 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00	LL 3 X .224		z 1 0.27	0'-2 3/4"			
1.1	4.15	-20.78	do		z 51 0.36	2'-8"			
1.2	4.15	-20.77	do		z 54 0.74	2'-8"			
1.3	8.30	-41.54	do		z 56 0.82	2'-9 3/8"			
1.4	8.29	-41.53	do		z 56 0.75	2'-9 3/8"			
1.5	11.19	-56.07	do		z 56 0.97	2'-9 1/4"			
1.6	11.19	-56.07	do		z 56 0.97	do			
1.7	12.54	-62.83	x	do	xx 36 0.99	do			
1.8	12.54	-62.83	x	do	xx 36 0.99	do			
1.9	12.35	-61.85	x	do	xx 36 0.97	do			
1.10	12.35	-61.85	x	do	xx 36 0.97	do			
1.11	10.61	-53.13		do	z 56 0.92	do			
1.12	10.61	-53.13		do	z 56 0.92	2'-9 1/4"			
1.13	7.32	-36.68	x	do	xx 71 0.72	5'-6 1/2"			
1.14	3.37	-16.86		do	z 107 0.51	5'-5 3/4"			
1.15	0.00	0.00	LL 3 X .224		z 1 0.22	0'-2 3/4"			
Bottom Chord									
2.1	0.00	0.00	LL 2.5 X .230		yy137 0.44	3'-6 3/4"			
2.2	31.60	-6.31	do		yy137 0.71	4'-7 3/8"			
2.3	50.58	-10.10	do		yy137 0.86	5'-6 5/8"			
2.4	61.30	-12.24	do		z 135 0.93	5'-6 1/2"			
2.5	64.28	-12.83	do		z 135 0.98	do			
2.6	59.52	-11.88	do		yy137 0.90	do			
2.7	47.02	-9.39	do		yy137 0.83	5'-6 1/2"			
2.8	26.79	-5.35	do		yy137 0.66	4'-8 1/8"			
2.9	0.00	0.00	LL 2.5 X .230		yy137 0.38	3'-6 1/8"			
End Diagonal									
3.1	26.91	-6.73	LL 2 X .186		z 134 0.63	4'-5 7/8"	.186 -	4 7/8"	
3.2	22.47	-5.62	x	LL 1.5 X .155	xx116 0.85	4'-6 1/2"	.155 -	4 7/8"	
Diagonal Towards End									
4.1	13.97	-3.49	d	U 1 3/8 x 0.157	z 109 0.80	4'-1 1/8"	.158 -	3"	
4.2	7.72	-1.93		U 1 x 1 1/8 x 0.118	z 138 0.78	4'-1"	.118 -	2 1/4"	
4.3	6.71	-1.68		U 1 x 0.091	z 144 0.96	do	.090 -	2 1/2"	
4.4	6.71	-1.68		U 1 x 0.091	z 144 0.96	do	.090 -	2 1/2"	
4.5	9.01	-2.25		U 1 x 1 1/8 x 0.118	z 138 0.90	do	.118 -	2 5/8"	
4.6	14.56	-3.64	d	U 1 3/8 x 0.157	z 108 0.84	4'-1"	.158 -	3 1/8"	
Diagonal Towards Center									
5.1	4.16	-20.83	x	LL 2 X .156	xx 66 0.83	3'-6 1/4"	.156 -	4 1/2"	
5.2	2.66	-13.31	x	LL 2 X .156	xx 77 0.60	4'-1 1/8"	.156 -	2 7/8"	
5.3	1.54	-7.71	x	LL 1.5 X .155	xx104 0.64	4'-1"	.155 -	1 3/4"	
5.4	0.43	-6.71	d	U 1 3/8 x 0.157	z 108 0.95	do	.155 -	1 1/2"	
5.5	0.68	-6.71	d	U 1 3/8 x 0.157	z 108 0.95	do	.158 -	1 1/2"	



Mark : G17

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:40

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	x = tied at mid-length	REQUIRED MATERIAL			REQUIRED WELD		Remarks
				Slend.	Util.	Length	Weld-Ea.Side		
5.6	1.80	-8.99	x	LL 1.5 X .155	xx104	0.75	do	.155 - 2"	
5.7	2.91	-14.56	x	LL 2 X .156	xx 77	0.65	4'-1"	.156 - 3 1/8"	
5.8	3.47	-17.38	x	LL 2 X .156	xx 67	0.70	3'-6 5/8"	.156 - 3 3/4"	
Secondary Web Member									
7.1	0.00	-0.44	d	U 1 3/8 x 1 1/4 x 0.118	z 89	0.07	3'-1 3/8"	.118 - 1 1/2"	
7.2	0.10	-0.87	d	do	z 86	0.13	3'-0"	do	
7.3	0.00	-1.18	d	do	z 86	0.18	do	do	
7.4	0.00	-1.32	d	do	z 86	0.20	do	do	
7.5	0.00	-1.30	d	do	z 86	0.20	do	do	
7.6	0.00	-1.12	d	U 1 3/8 x 1 1/4 x 0.118	z 86	0.17	3'-0"	.118 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging @ Top Chord: 23'-0 5/8" ==> 0 Row(s) Minimum
 @ Bottom Chord: 28'-9 1/2" ==> 2 Row(s) Minimum
 Lateral Supports Concentrated loads Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 16'-6 1/4" (16'-6 1/4")
 KB 27'-7 3/8" (27'-7 1/4")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support
 6 = within a panel with no reinforcement and lateral support

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 913 / 937 Area to Paint : 235.48 ft2 Material Sort : Cost

607(628)-607(628)-25-14/9-913(937) NNN,NNN

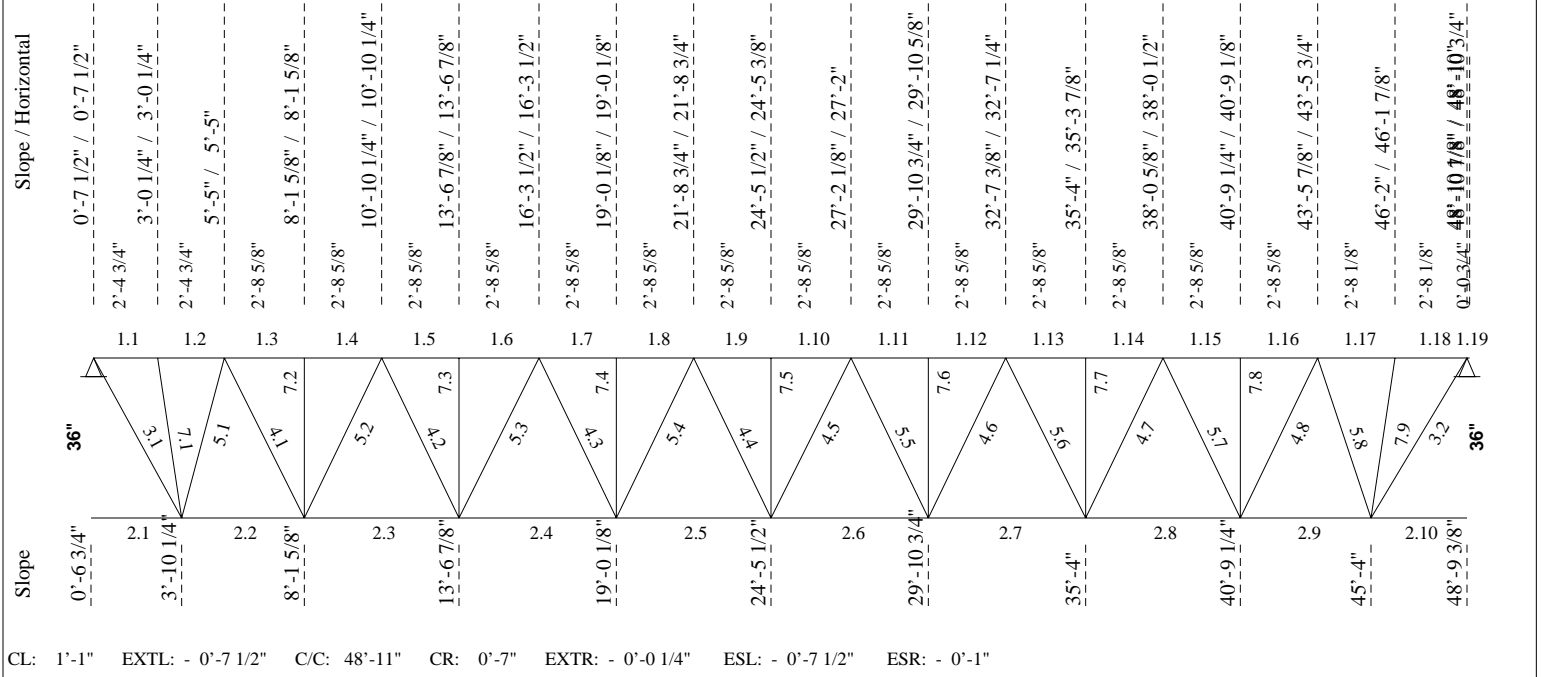
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G18 (G (3), Asymmetrical,, Free ends)

$\Delta = 12$ 0 1/4"
12

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G9N8 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-R 0'-0 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.198)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.00 TL = L/ 90 = 0.01
 I = 9.96 in⁴ Cal.D. LL = L/ 9999 = 0.00 TL = L/ -167 = 0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
9	1	Near	Yes	4.00	1.80	0.90	5'-5"	- 38'-3"	5	1	90	0
1	1	Far	Yes	4.00	1.80	0.90	5'-5 1/2"*	5'-5 1/2"	6	1	90	0
11	1	Near	Yes	4.00	1.80	0.90	10'-10 1/4" -	32'-9 3/4"	5	1	90	0
10	1	Near	Yes	3.80	3.80	3.80	10'-10 1/4" -	32'-9 3/4"	5	1	90	0
2	1	Far	Yes	4.00	1.80	0.90	10'-11"*	5'-5 1/2"	6	1	90	0
12	1	Near	Yes	4.00	1.80	0.90	16'-3 1/2" -	27'-4 1/2"	5	1	90	0
13	1	Near	Yes	3.80	3.80	3.80	16'-3 1/2" -	27'-4 1/2"	5	1	90	0
3	1	Far	Yes	4.00	1.80	0.90	16'-4 1/2"*	5'-5 1/2"	6	1	90	0
14	1	Near	Yes	4.00	1.80	0.90	21'-8 3/4" -	21'-11 1/4"	5	1	90	0
4	1	Far	Yes	4.00	1.80	0.90	21'-10"*	5'-5 1/2"	6	1	90	0
15	1	Near	Yes	4.00	1.80	0.90	27'-2" -	16'-6"	5	1	90	0
5	1	Far	Yes	4.00	1.80	0.90	27'-3 1/2"*	5'-5 1/2"	6	1	90	0
16	1	Near	Yes	4.00	1.80	0.90	32'-7 1/4" -	11'-0 3/4"	5	1	90	0
6	1	Far	Yes	4.00	1.80	0.90	32'-9"*	5'-5 1/2"	6	1	90	0



Mark : G18

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:40

-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
17	1	Near	Yes	4.00	1.80	0.90	38'-0 1/2" -	5'-7 1/2"	5	1	90	0
7	1	Far	Yes	4.00	1.80	0.90	38'-2 1/2"*	5'-5 1/2"	6	1	90	0
18	1	Near	Yes	4.00	1.80	0.90	43'-5 3/4" -	0'-2 1/4"	5	1	90	0
8	1	Far	Yes	4.00	1.80	0.90	43'-8"*	5'-5 1/2"	6	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.60 in (L/ 360)
 Calculated deflection under service live load..... = 1.12 in (L/ 511)
 Joist inertia..... = 3504.41 in^4
 Required camber..... = 0.93 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 33.70 in)

Left Reaction = 37.99/ -12.85 kips Right Reaction = 33.70/ -9.15 kips

REQUIRED MATERIAL
x = tied at mid-length

REQUIRED WELD
Weld-Ea.Side

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.1	14.30	-42.25	LL 4 X .438	z 34 0.23	2'-4 3/4"		
1.2	14.30	-42.25	do	z 37 0.47	2'-4 3/4"		
1.3	32.11	-92.21	do	z 42 0.53	2'-8 5/8"		
1.4	32.11	-92.21	do	z 42 0.71	do		
1.5	47.96	-138.52	do	z 42 0.80	do		
1.6	47.96	-138.52	do	z 42 0.83	do		
1.7	52.97	-161.97	do	z 42 0.93	do		
1.8	52.97	-161.97	do	z 42 0.94	do		
1.9	50.90	-166.32	do	z 42 0.96	do		
1.10	50.90	-166.32	do	z 42 0.96	do		
1.11	45.35	-155.15	do	z 42 0.90	do		
1.12	45.35	-155.15	do	z 42 0.90	do		
1.13	36.31	-128.48	do	z 42 0.81	do		
1.14	36.31	-128.48	do	z 42 0.75	do		
1.15	23.79	-86.30	do	z 42 0.68	do		
1.16	23.79	-86.30	do	z 42 0.51	2'-8 5/8"		
1.17	10.67	-39.30	do	z 41 0.47	2'-8 1/8"		
1.18	10.69	-39.38	do	z 38 0.23	2'-8 1/8"		
1.19	0.00	0.00	LL 4 X .438	z 1 0.20	0'-2 3/4"		
Bottom Chord							
2.1	0.00	0.00	LL 4 X .375	yy123 0.37	3'-3 1/2"		
2.2	62.53	-21.17	do	yy123 0.75	4'-3 3/8"		
2.3	120.54	-42.56	do	yy123 0.94	5'-5 1/4"		
2.4	155.69	-53.12	do	yy123 0.94	do		
2.5	167.96	-52.83	do	yy123 0.98	do		
2.6	164.73	-49.06	do	yy125 0.96	do		
2.7	145.99	-41.81	do	yy125 0.90	do		
2.8	111.75	-31.06	do	yy125 0.79	5'-5 1/4"		
2.9	61.99	-16.84	do	yy125 0.60	4'-6 3/4"		
2.10	0.00	0.00	LL 4 X .375	yy125 0.33	3'-5 3/8"		
End Diagonal							
3.1	56.18	-19.01	LL 2.5 X .25	z 101 0.79	4'-3 1/2"	.250 - 7 5/8"	T45
3.2	52.40	-14.22	LL 2 X .247	z 134 0.94	4'-5 7/8"	.247 - 7 1/8"	

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
Diagonal Towards End								
4.1	41.70	-15.38	x	LL 2 X .186	xx 76 0.98	4'-0 5/8"	.186 - 7 1/2"	T45
4.2	25.27	-7.59	x	LL 1.5 X .155	xx102 0.96	do	.155 - 5 1/2"	
4.3	13.88	-3.47	d	U 1 3/8 x 0.136	z 109 0.93	do	.136 - 3 1/2"	
4.4	13.88	-3.47	x	LL 2 X .156	xx 75 0.39	do	.156 - 3"	
4.5	2.33	-13.88	x	LL 2 X .156	xx 75 0.61	do	.156 - 3"	
4.6	13.88	-5.22	d	U 1 3/8 x 0.136	z 109 0.93	do	.136 - 3 1/2"	
4.7	24.62	-7.72	x	LL 1.5 X .155	xx102 0.93	do	.155 - 5 3/8"	
4.8	35.77	-10.23	x	LL 2 X .186	xx 76 0.84	4'-0 5/8"	.186 - 6 1/2"	
Diagonal Towards Center								
5.1	14.71	-43.44	x	LL 2.5 X .25	xx 50 0.73	3'-4 5/8"	.250 - 5 7/8"	
5.2	15.38	-41.69	x	LL 2.5 X .25	xx 61 0.77	4'-0 5/8"	.250 - 5 5/8"	
5.3	7.59	-25.25	x	LL 2 X .186	xx 76 0.91	do	.186 - 4 5/8"	
5.4	0.00	-13.88	x	LL 2 X .156	xx 75 0.61	do	.156 - 3"	
5.5	5.22	-13.88	x	LL 2 X .156	xx 75 0.61	do	.156 - 3"	
5.6	7.72	-24.61	x	LL 2 X .186	xx 76 0.88	do	.186 - 4 1/2"	
5.7	10.23	-35.76	x	LL 2.5 X .25	xx 61 0.66	4'-0 5/8"	.250 - 4 7/8"	
5.8	10.87	-39.98	x	LL 2 X .247	xx 66 0.99	3'-6 1/4"	.247 - 5 1/2"	
Secondary Web Member								
7.1	0.00	-0.87	d	U 1 3/8 x 1 1/4 x 0.118	z 87 0.14	3'-1 3/8"	.118 - 1 1/2"	
7.2	0.00	-1.90	d	do	z 84 0.28	3'-0"	do	
7.3	0.00	-2.85	d	do	z 84 0.43	do	do	
7.4	0.00	-3.34	d	do	z 84 0.50	do	do	
7.5	0.00	-3.43	d	do	z 84 0.51	do	do	
7.6	0.00	-3.20	d	do	z 84 0.48	do	do	
7.7	0.00	-2.65	d	do	z 84 0.39	do	do	
7.8	0.00	-1.78	d	do	z 84 0.27	3'-0"	do	
7.9	0.07	-0.82	d	U 1 3/8 x 1 1/4 x 0.118	z 87 0.13	3'-1 3/8"	.118 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 29'-8 3/4" ==> 0 Row(s) Minimum
 @ Bottom Chord: 41'-7 7/8" ==> 2 Row(s) Minimum
 Lateral Supports Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 21'-10" (21'-10")
 KB 27'-2 1/8" (27'-2")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support
 6 = within a panel with no reinforcement and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite



Mark : G18

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:40

Project no.: 501994
2409 / 2474

Designer: Qingfang Wu
Area to Paint

Shop: Buckeye Arizona [Production]
: 371.51 ft2

Material Sort : Cost

1601(1648)-1601(1648)-25-18/10-2409(2474) NNN,NNN

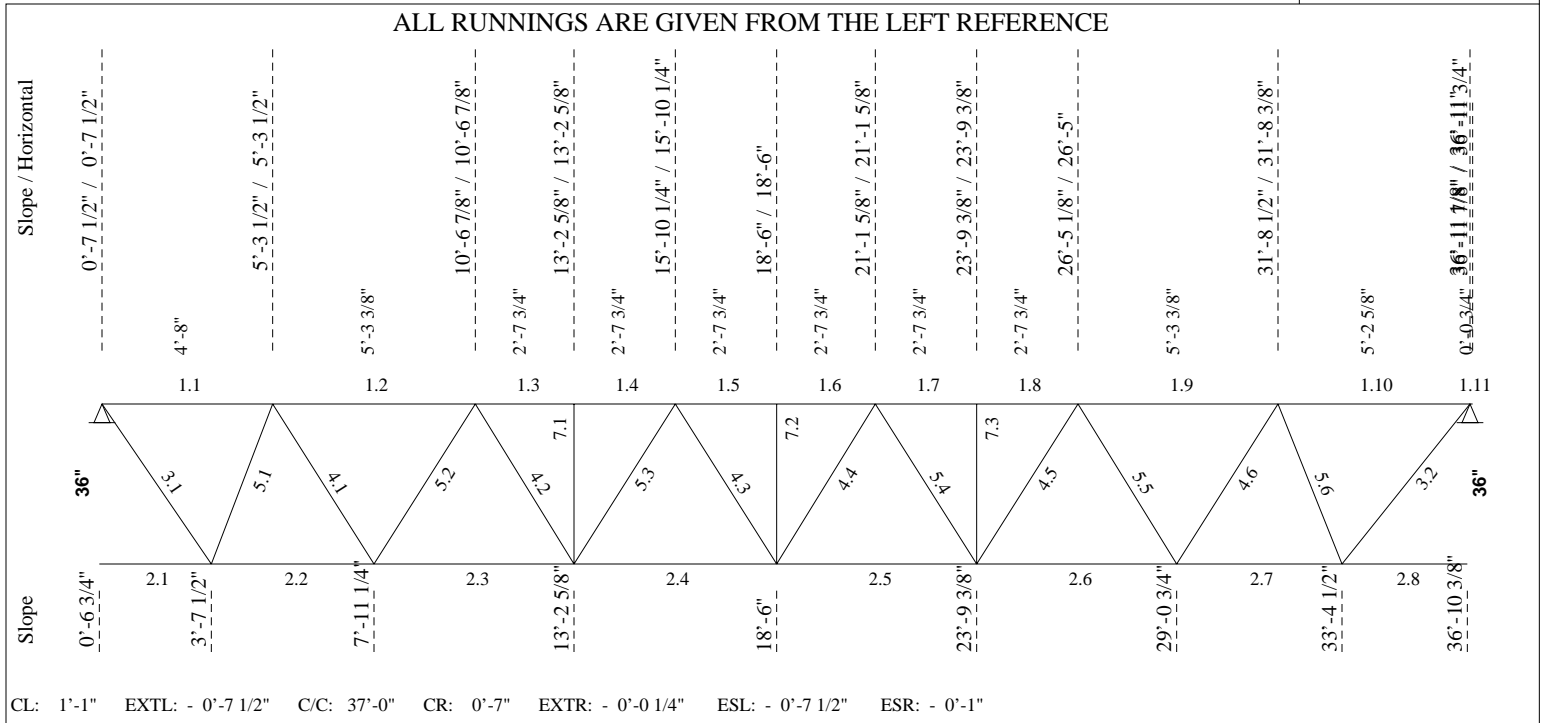
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G19 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{1}{8}}{12} = 0 \frac{1}{4}"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N4 LIVE LOAD...: 0.00 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-0 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.251)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.00 TL = L/ 90 = 0.01
 I = 1.09 in^4 Cal.D. LL = L/ 9999 = 0.00 TL = L/ -211 = 0.00

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	31'-8 3/8"	5'-3 3/8"	5	1	90	0

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.20 in (L/ 360)
 Calculated deflection under service live load..... = 0.53 in (L/ 822)
 Joist inertia..... = 959.90 in^4
 Required camber..... = 0.53 in



Mark : G19

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:40

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 34.74 in)

Left Reaction = 12.21/ -2.44 kips Right Reaction = 11.83/ -2.36 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	2.44	-12.20	LL 2.5 X .188	z 109	0.55	4'-8"		
1.2	5.32	-26.62	do	xx 81	0.84	5'-3 3/8"		
1.3	7.56	-37.85	do	xx 41	0.85	2'-7 3/4"		
1.4	7.56	-37.84	do	xx 41	0.85	do		
1.5	8.34	-41.75	do	xx 41	0.94	do		
1.6	8.34	-41.75	do	xx 41	0.94	do		
1.7	7.66	-38.35	do	xx 41	0.86	do		
1.8	7.66	-38.34	do	xx 41	0.86	2'-7 3/4"		
1.9	5.52	-27.62	do	xx 81	0.87	5'-3 3/8"		
1.10	2.71	-13.58	do	xx 78	0.51	5'-2 5/8"		
1.11	0.00	0.00	LL 2.5 X .188	z 2	0.25	0'-2 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .186	yy130	0.41	3'-0 3/4"		
2.2	18.96	-3.79	do	z 131	0.74	4'-3 3/4"		
2.3	33.92	-6.77	do	z 161	0.90	5'-3 3/8"		
2.4	41.58	-8.30	do	yy130	0.98	do		
2.5	41.91	-8.37	do	xx103	0.98	do		
2.6	34.93	-6.98	do	z 161	0.91	5'-3 3/8"		
2.7	20.65	-4.12	do	yy133	0.76	4'-3 3/4"		
2.8	0.00	0.00	LL 2 X .186	yy133	0.45	3'-5 7/8"		
End Diagonal								
3.1	17.07	-4.27	LL 1.5 X .155	z 165	0.88	4'-1 1/2"	.155 - 3 3/4"	
3.2	18.20	-4.55	LL 1.5 X .155	xx116	0.69	4'-6 1/4"	.155 - 4"	
Diagonal Towards End								
4.1	11.10	-2.77	U 1 3/8 x 0.157	z 106	0.64	4'-0"	.158 - 2 3/8"	
4.2	5.68	-1.42	U 1 3/8 x 1 1/4 x 0.118	z 117	0.46	do	.118 - 1 5/8"	
4.3	4.82	-1.21	U 1 3/8 x 0.136	z 109	0.32	do	.136 - 1 1/2"	
4.4	0.05	-4.82	U 1 3/8 x 0.136	z 109	0.81	do	.136 - 1 1/2"	
4.5	5.18	-1.30	U 1 3/8 x 1 1/4 x 0.118	z 117	0.42	do	.118 - 1 1/2"	
4.6	10.60	-2.65	U 1 3/8 x 0.157	z 106	0.61	4'-0"	.158 - 2 1/4"	
Diagonal Towards Center								
5.1	2.81	-14.07	U 1 3/4 x 0.197	z 72	0.82	3'-5 1/8"	.197 - 2 3/8"	
5.2	2.22	-11.10	U 1 3/4 x 0.197	z 84	0.72	4'-0"	.197 - 1 7/8"	
5.3	1.13	-5.67	U 1 3/8 x 0.136	z 109	0.95	do	.136 - 1 1/2"	
5.4	1.03	-5.17	U 1 3/8 x 0.136	z 109	0.87	do	.136 - 1 1/2"	
5.5	2.12	-10.60	U 1 3/4 x 0.197	z 84	0.69	4'-0"	.197 - 1 3/4"	
5.6	2.73	-13.65	U 1 3/4 x 0.197	z 72	0.79	3'-5 1/8"	.197 - 2 3/8"	
Secondary Web Member								
7.1	0.00	-0.80	U 1 3/8 x 1 1/4 x 0.118	z 86	0.12	3'-0"	.118 - 1 1/2"	
7.2	0.00	-0.89	do	z 86	0.14	do	do	
7.3	0.00	-0.81	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	



Mark : G19

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:40

----- BRIDGING -----

Maximum spacing between rows of bridging					Lateral Supports
@ Top Chord:	23'-1 3/8" ==>	0 Row(s) Minimum			Concentrated loads
@ Bottom Chord:	28'-7 3/4" ==>	2 Row(s) Minimum			Acc. to the force

POSITION	@ Top Chord	@ Bottom Chord	
		KB 15'-10 1/4" (15'-10 1/4")	
		KB 21'-1 5/8" (21'-1 5/8")	

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	547 / 556		Area to Paint	:	160.36 ft2
					Material Sort : Cost

369(380)-369(380)-25-10/8-547(556) NNN,NNN

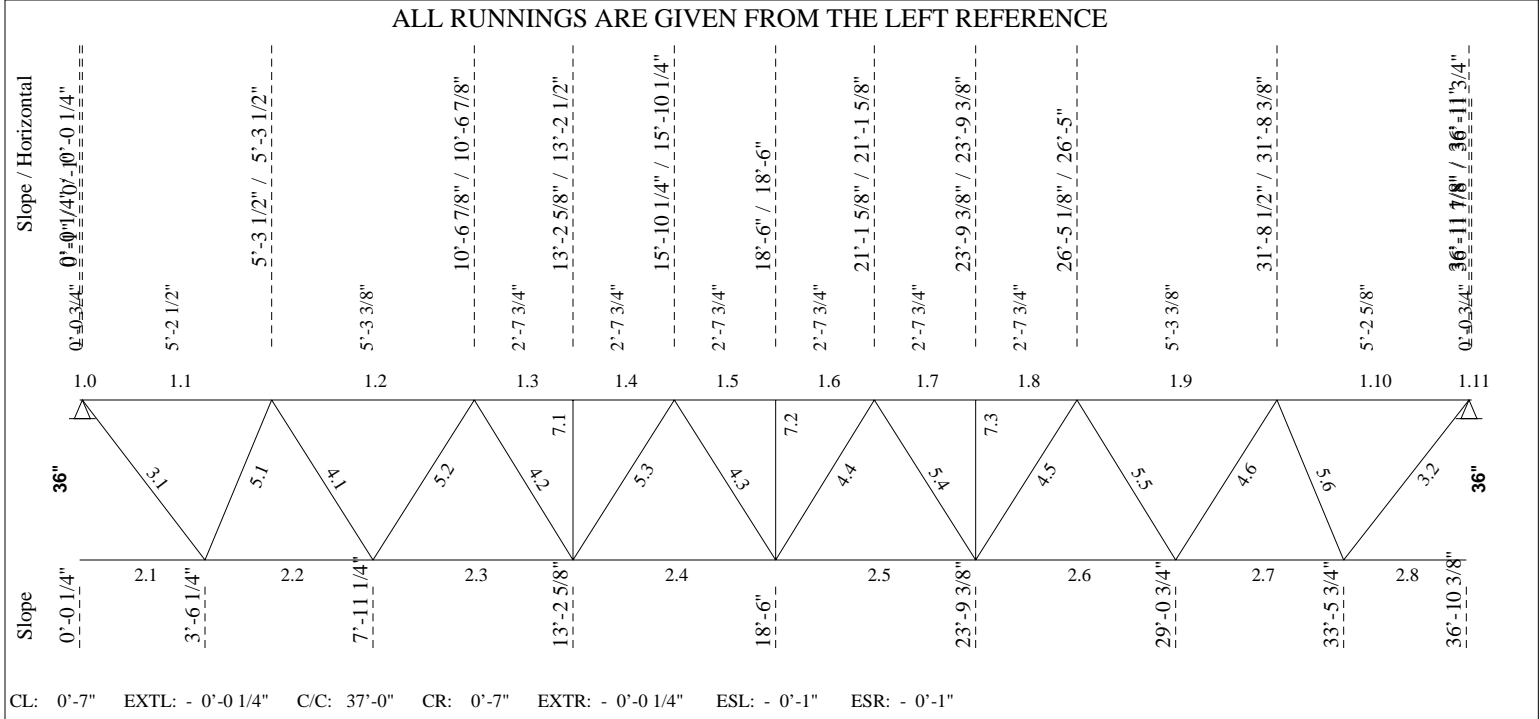
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G20 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{1}{4}}{12} = 0 \frac{1}{4}''$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N4 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.256)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 = 0.01
I =	1.09 in^4				Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 = 0.00

Tcx-R	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.246)
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 = 0.01
I =	1.09 in^4				Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 = 0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	31'-8 3/8"	5'-3 3/8"	5	1	90	0



----- DEFLECTION -----

Allowed deflection under live load..... = 1.22 in (L/ 360)
 Calculated deflection under service live load..... = 0.53 in (L/ 825)
 Joist inertia..... = 1004.30 in⁴
 Required camber..... = 0.55 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 34.73 in)

Left Reaction = 12.02/ -2.40 kips Right Reaction = 12.01/ -2.40 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00		LL 2.5 X .188	z 2 0.26	0'-2 3/4"			
1.1	2.76	-13.84 x		do	xx 78 0.53	5'-2 1/2"			
1.2	5.68	-28.42 x		do	xx 81 0.89	5'-3 3/8"			
1.3	7.85	-39.32 x		do	xx 41 0.88	2'-7 3/4"			
1.4	7.85	-39.32 x		do	xx 41 0.88	do			
1.5	8.56	-42.90 x		do	xx 41 0.96	do			
1.6	8.56	-42.90 x		do	xx 41 0.96	do			
1.7	7.82	-39.16 x		do	xx 41 0.88	do			
1.8	7.82	-39.16 x		do	xx 41 0.88	2'-7 3/4"			
1.9	5.61	-28.10 x		do	xx 81 0.88	5'-3 3/8"			
1.10	2.66	-13.34 x		do	xx 78 0.52	5'-2 5/8"			
1.11	0.00	0.00		LL 2.5 X .188	z 2 0.25	0'-2 3/4"			
Bottom Chord									
2.1	0.00	0.00		LL 2 X .203	yy134 0.42	3'-6"			
2.2	20.93	-4.18		do	z 135 0.71	4'-5"			
2.3	35.57	-7.10		do	z 161 0.86	5'-3 3/8"			
2.4	42.89	-8.56		do	z 161 0.96	do			
2.5	42.90	-8.56		do	z 161 0.96	do			
2.6	35.59	-7.11		do	z 161 0.86	5'-3 3/8"			
2.7	20.97	-4.19		do	z 135 0.71	4'-5"			
2.8	0.00	0.00		LL 2 X .203	yy133 0.42	3'-4 1/2"			
End Diagonal									
3.1	18.13	-4.53 x		LL 1.5 X .155	xx114 0.69	4'-5 1/4"	.155 -	3 7/8"	
3.2	18.14	-4.53 x		LL 1.5 X .155	xx114 0.69	4'-5 1/4"	.155 -	3 7/8"	
Diagonal Towards End									
4.1	10.85	-2.71		U 1 3/8 x 0.157	z 106 0.62	4'-0"	.158 -	2 3/8"	
4.2	5.44	-1.36		U 1 3/8 x 1 1/4 x 0.118	z 117 0.44	do	.118 -	1 5/8"	
4.3	4.75	-1.19		do	z 117 0.38	do	.118 -	1 1/2"	
4.4	4.75	-1.19		do	z 117 0.38	do	.118 -	1 1/2"	
4.5	5.43	-1.36		U 1 3/8 x 1 1/4 x 0.118	z 117 0.44	do	.118 -	1 5/8"	
4.6	10.84	-2.71		U 1 3/8 x 0.157	z 106 0.62	4'-0"	.158 -	2 3/8"	
Diagonal Towards Center									
5.1	2.81	-14.09 d		U 1 3/4 x 0.197	z 73 0.83	3'-5 3/4"	.197 -	2 3/8"	
5.2	2.17	-10.85 d		U 1 3/4 x 0.197	z 84 0.70	4'-0"	.197 -	1 7/8"	
5.3	1.08	-5.43		U 1 3/8 x 0.136	z 109 0.91	do	.136 -	1 1/2"	
5.4	1.08	-5.42		U 1 3/8 x 0.136	z 109 0.91	do	.136 -	1 1/2"	
5.5	2.16	-10.84 d		U 1 3/4 x 0.197	z 84 0.70	4'-0"	.197 -	1 7/8"	
5.6	2.81	-14.09 d		U 1 3/4 x 0.197	z 73 0.83	3'-5 7/8"	.197 -	2 3/8"	



Mark : G20

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:40

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
Secondary Web Member								
7.1	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	
7.2	0.00	-0.91	do	z 86	0.14	do	do	
7.3	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 22'-6 7/8" ==> 0 Row(s) Minimum Lateral Supports Concentrated loads
 @ Bottom Chord: 28'-2 3/8" ==> 2 Row(s) Minimum Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 1/4" (15'-10 1/4")
 KB 21'-1 5/8" (21'-1 5/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 566 / 578 Area to Paint : 162.55 ft2 Material Sort : Cost

381(395)-381(395)-25-10/8-566(578) NNN,NNN

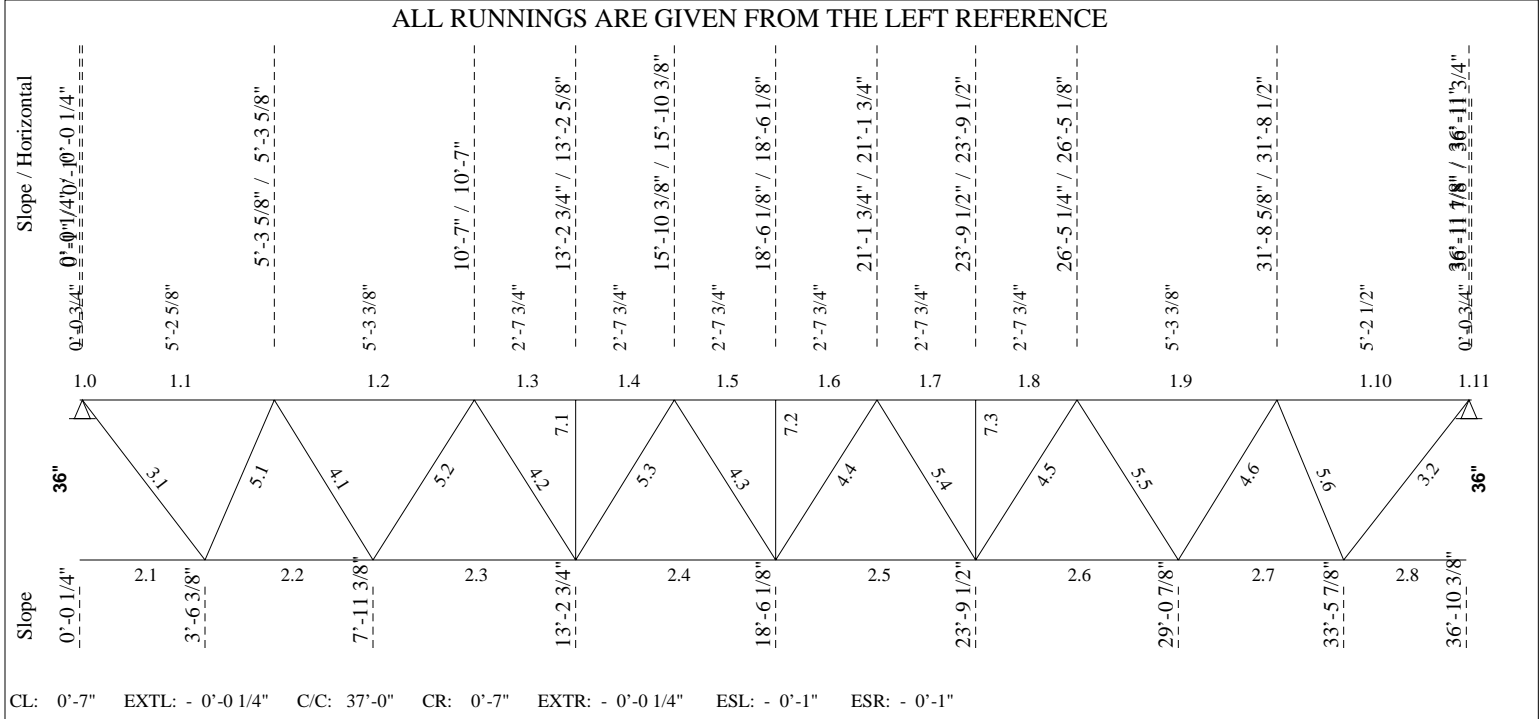
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G21 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{1}{4}}{12} = 0 \frac{1}{4}"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N4 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.256)	
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 =	0.01
I =	1.09 in^4				Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 =	0.00

Tcx-R	0'-0 3/4"	Type	F[S]	Shoe =	7.50	Mf =	0.000 ft-kip	(0.246)	
TL =	0	LL =	0 ntQL =	0	Req.D. LL = L/	180 =	0.00 TL = L/	90 =	0.01
I =	1.09 in^4				Cal.D. LL = L/	9999 =	0.00 TL = L/	-212 =	0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	31'-8 1/2"	5'-3 3/8"	5	1	90	0



----- DEFLECTION -----

Allowed deflection under live load..... = 1.22 in (L/ 360)
 Calculated deflection under service live load..... = 0.53 in (L/ 825)
 Joist inertia..... = 1004.30 in⁴
 Required camber..... = 0.55 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 34.73 in)

Left Reaction = 12.01/ -2.40 kips Right Reaction = 12.02/ -2.40 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00		LL 2.5 X .188	z 2 0.26	0'-2 3/4"			
1.1	2.77	-13.85 x		do	xx 78 0.53	5'-2 5/8"			
1.2	5.68	-28.45 x		do	xx 81 0.89	5'-3 3/8"			
1.3	7.85	-39.33 x		do	xx 41 0.88	2'-7 3/4"			
1.4	7.85	-39.33 x		do	xx 41 0.88	do			
1.5	8.56	-42.90 x		do	xx 41 0.96	do			
1.6	8.56	-42.90 x		do	xx 41 0.96	do			
1.7	7.82	-39.15 x		do	xx 41 0.88	do			
1.8	7.82	-39.15 x		do	xx 41 0.88	2'-7 3/4"			
1.9	5.61	-28.08 x		do	xx 81 0.88	5'-3 3/8"			
1.10	2.66	-13.32 x		do	xx 78 0.52	5'-2 1/2"			
1.11	0.00	0.00		LL 2.5 X .188	z 2 0.25	0'-2 3/4"			
Bottom Chord									
2.1	0.00	0.00		LL 2 X .203	yy134 0.42	3'-6"			
2.2	20.97	-4.19		do	z 135 0.71	4'-5"			
2.3	35.59	-7.11		do	z 161 0.86	5'-3 3/8"			
2.4	42.90	-8.56		do	z 161 0.96	do			
2.5	42.89	-8.56		do	z 161 0.96	do			
2.6	35.57	-7.10		do	z 161 0.86	5'-3 3/8"			
2.7	20.93	-4.18		do	z 135 0.71	4'-5"			
2.8	0.00	0.00		LL 2 X .203	yy133 0.42	3'-4 1/2"			
End Diagonal									
3.1	18.14	-4.53 x		LL 1.5 X .155	xx114 0.69	4'-5 1/4"	.155 -	3 7/8"	
3.2	18.13	-4.53 x		LL 1.5 X .155	xx114 0.69	4'-5 1/4"	.155 -	3 7/8"	
Diagonal Towards End									
4.1	10.84	-2.71		U 1 3/8 x 0.157	z 106 0.62	4'-0"	.158 -	2 3/8"	
4.2	5.43	-1.36		U 1 3/8 x 1 1/4 x 0.118	z 117 0.44	do	.118 -	1 1/2"	
4.3	4.75	-1.19		do	z 117 0.38	do		do	
4.4	4.75	-1.19		do	z 117 0.38	do	.118 -	1 1/2"	
4.5	5.44	-1.36		U 1 3/8 x 1 1/4 x 0.118	z 117 0.44	do	.118 -	1 5/8"	
4.6	10.85	-2.71		U 1 3/8 x 0.157	z 106 0.62	4'-0"	.158 -	2 3/8"	
Diagonal Towards Center									
5.1	2.81	-14.09 d		U 1 3/4 x 0.197	z 73 0.83	3'-5 7/8"	.197 -	2 3/8"	
5.2	2.16	-10.84 d		U 1 3/4 x 0.197	z 84 0.70	4'-0"	.197 -	1 7/8"	
5.3	1.08	-5.42		U 1 3/8 x 0.136	z 109 0.91	do	.136 -	1 1/2"	
5.4	1.08	-5.43		U 1 3/8 x 0.136	z 109 0.91	do	.136 -	1 1/2"	
5.5	2.17	-10.85 d		U 1 3/4 x 0.197	z 84 0.70	4'-0"	.197 -	1 7/8"	
5.6	2.81	-14.09 d		U 1 3/4 x 0.197	z 73 0.83	3'-5 3/4"	.197 -	2 3/8"	



Mark : G21

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:41

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
Secondary Web Member								
7.1	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	
7.2	0.00	-0.91	do	z 86	0.14	do	do	
7.3	0.00	-0.83	U 1 3/8 x 1 1/4 x 0.118	z 86	0.13	3'-0"	.118 - 1 1/2"	

----- **BRIDGING** -----

Maximum spacing between rows of bridging
 @ Top Chord: 22'-6 7/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 28'-2 3/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 3/8" (15'-10 3/8")
 KB 21'-1 3/4" (21'-1 3/4")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 566 / 578 Area to Paint : 162.55 ft2 Material Sort : Cost

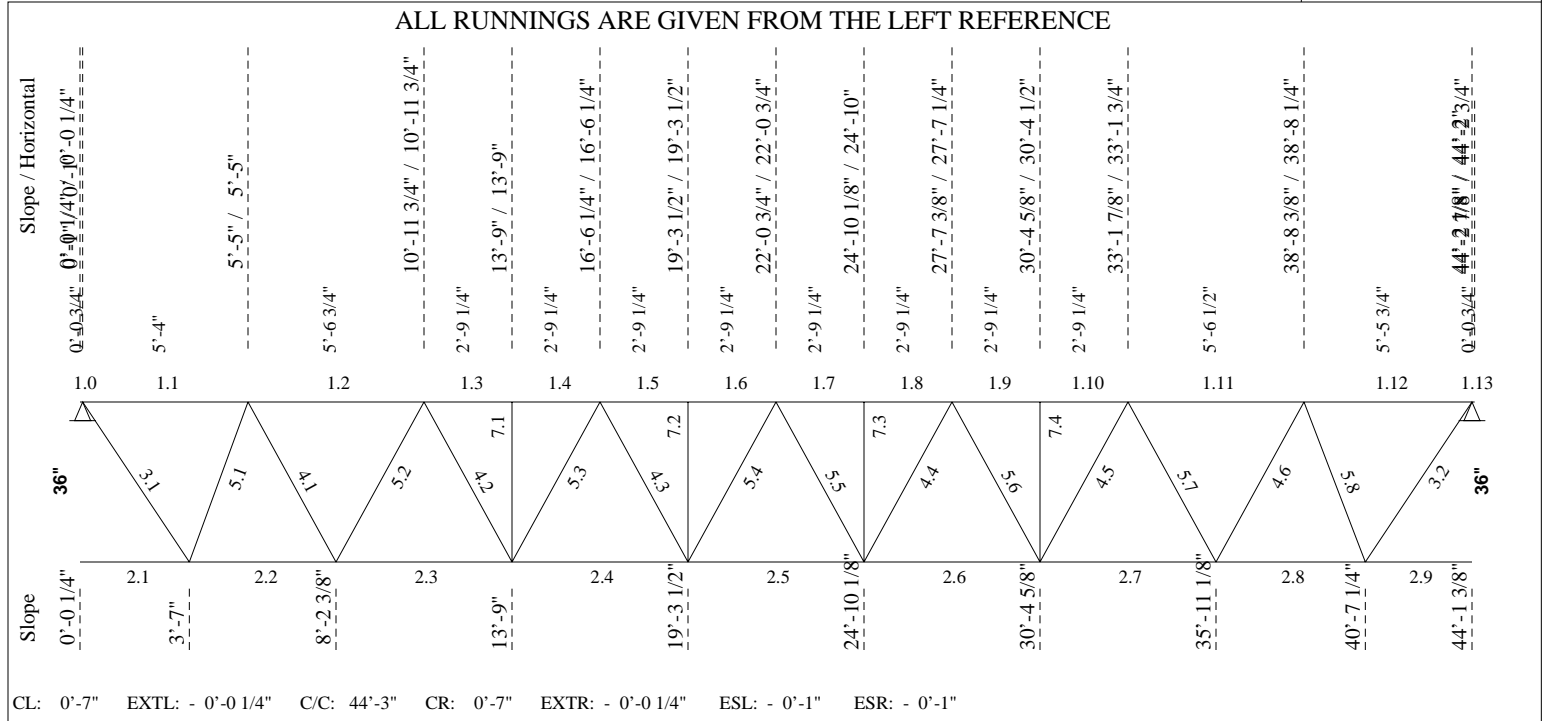
381(395)-381(395)-25-10/8-566(578) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G22 (G (3), Asymmetrical,, Free ends)

$\Delta = 11$ 0 1/4"
12



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G8N4 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-0 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.233)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.00 TL = L/ 90 = 0.01
 I = 1.41 in^4 Cal.D. LL = L/ 9999 = 0.00 TL = L/ -167 = 0.00

Tcx-R 0'-0 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.228)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.00 TL = L/ 90 = 0.01
 I = 1.41 in^4 Cal.D. LL = L/ 9999 = 0.00 TL = L/ -167 = 0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-5"	5'-5"	5	1	90	0
2	1	Both	Yes	4.00	1.80	0.80	10'-11 3/4"	5'-6 3/4"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	16'-6 1/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	22'-0 3/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	4.00	1.80	0.80	27'-7 1/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	33'-1 3/4"	5'-6 1/2"	5	1	90	0
7	1	Both	Yes	4.00	1.80	0.80	38'-8 1/4"	5'-6 1/2"	5	1	90	0



----- DEFLECTION -----

Allowed deflection under live load..... = 1.46 in (L/ 360)
 Calculated deflection under service live load..... = 0.81 in (L/ 651)
 Joist inertia..... = 1305.06 in⁴
 Required camber..... = 0.78 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 34.58 in)

Left Reaction = 14.06/ -2.81 kips Right Reaction = 13.98/ -2.79 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00		LL 2.5 X .25	z 2 0.23	0'-2 3/4"			
1.1	3.31	-16.57 x		do	xx 81 0.49	5'-4"			
1.2	7.02	-35.14 x		do	xx 87 0.86	5'-6 3/4"			
1.3	10.10	-50.59		do	z 68 0.99	2'-9 1/4"			
1.4	10.10	-50.59		do	z 68 0.99	do			
1.5	11.64	-58.30 x		do	xx 43 0.94	do			
1.6	11.64	-58.30 x		do	xx 43 0.94	do			
1.7	11.64	-58.29 x		do	xx 43 0.94	do			
1.8	11.64	-58.29 x		do	xx 43 0.94	do			
1.9	10.10	-50.58		do	z 68 0.99	do			
1.10	10.10	-50.58		do	z 68 0.99	2'-9 1/4"			
1.11	7.02	-35.15 x		do	xx 86 0.85	5'-6 1/2"			
1.12	3.24	-16.22 x		do	xx 83 0.49	5'-5 3/4"			
1.13	0.00	0.00		LL 2.5 X .25	z 2 0.23	0'-2 3/4"			
Bottom Chord									
2.1	0.00	0.00		LL 2.5 X .210	yy123 0.39	3'-6 3/4"			
2.2	25.21	-5.04		do	yy123 0.68	4'-7 3/8"			
2.3	44.63	-8.91		do	z 135 0.86	5'-6 5/8"			
2.4	56.28	-11.24		do	z 135 0.93	5'-6 1/2"			
2.5	60.22	-12.02		do	z 135 1.00	do			
2.6	56.44	-11.27		do	z 135 0.94	do			
2.7	44.96	-8.98		do	z 135 0.86	5'-6 1/2"			
2.8	25.77	-5.15		do	yy123 0.69	4'-8 1/8"			
2.9	0.00	0.00		LL 2.5 X .210	yy123 0.39	3'-6 1/8"			
End Diagonal									
3.1	21.50	-5.37 x		LL 1.5 X .155	xx115 0.81	4'-5 7/8"	.155 -	4 5/8"	
3.2	21.64	-5.41 x		LL 1.5 X .155	xx116 0.82	4'-6 1/2"	.155 -	4 3/4"	
Diagonal Towards End									
4.1	13.98	-3.50		U 1 3/8 x 0.157	z 109 0.80	4'-1 1/8"	.158 -	3"	
4.2	8.41	-2.10		U 1 3/8 x 1 1/4 x 0.118	z 119 0.67	4'-1"	.118 -	2 3/8"	
4.3	5.66	-1.41		do	z 119 0.45	do	.118 -	1 5/8"	
4.4	5.66	-1.41		do	z 119 0.45	do	.118 -	1 5/8"	
4.5	8.29	-2.07		U 1 3/8 x 1 1/4 x 0.118	z 119 0.67	do	.118 -	2 3/8"	
4.6	13.84	-3.46		U 1 3/8 x 0.157	z 109 0.80	4'-1"	.158 -	3"	
Diagonal Towards Center									
5.1	3.33	-16.66 d		U 1 3/4 x 0.197	z 74 0.98	3'-6 1/4"	.197 -	2 7/8"	
5.2	2.79	-13.98 d		U 1 3/4 x 0.197	z 86 0.92	4'-1 1/8"	.197 -	2 3/8"	
5.3	1.68	-8.39 d		U 1 3/4 x 1 1/2 x 0.157	z 99 0.89	4'-1"	.158 -	1 3/4"	
5.4	0.57	-5.66		U 1 3/8 x 0.136	z 111 0.98	do	.136 -	1 1/2"	
5.5	0.54	-5.66		U 1 3/8 x 0.136	z 111 0.98	do	.136 -	1 1/2"	
5.6	1.65	-8.28 d		U 1 3/4 x 1 1/2 x 0.157	z 99 0.88	do	.158 -	1 3/4"	
5.7	2.76	-13.84 d		U 1 3/4 x 0.197	z 86 0.91	4'-1"	.197 -	2 3/8"	



Mark : G22

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:41

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
5.8	3.35	-16.76	d U 1 3/4 x 0.197	z 74	0.99	3'-6 5/8"	.197 - 2 7/8"	
Secondary Web Member								
7.1	0.00	-1.07	U 1 3/8 x 1 1/4 x 0.118	z 86	0.16	3'-0"	.118 - 1 1/2"	
7.2	0.00	-1.23	do	z 86	0.19	do	do	
7.3	0.00	-1.23	do	z 86	0.19	do	do	
7.4	0.00	-1.07	U 1 3/8 x 1 1/4 x 0.118	z 86	0.16	3'-0"	.118 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	22'-9 1/2" ==>	0 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	31'-11 1/4" ==>	2 Row(s) Minimum	Concentrated loads
			Acc. to the force

POSITION @ Top Chord @ Bottom Chord

KB	16'-6 1/4"	(16'-6 1/4")
KB	27'-7 3/8"	(27'-7 1/4")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads
 Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
830 / 850	Area to Paint : 207.63 ft2	Material Sort : Cost

553(572)-553(572)-25-12/9-830(850) NNN,NNN

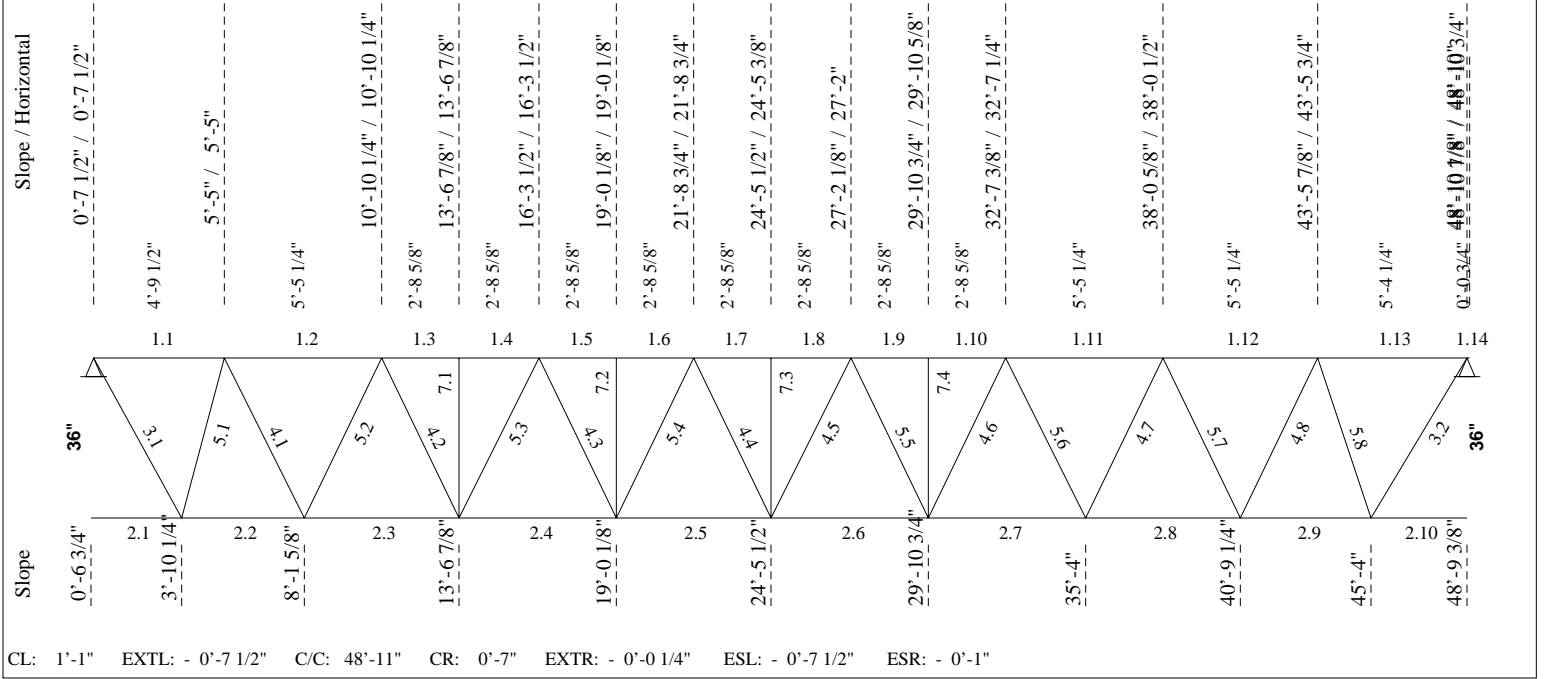
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G23 (G (3), Asymmetrical,, Free ends) aligned on G18

$\Delta = 12$ 0 1/4"
12

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G9N4 LIVE LOAD...: 0.00 lb/ft

----- EXTENSION -----

Tcx-R 0'-0 3/4" Type F[S] Shoe = 7.50 Mf = 0.000 ft-kip (0.192)
 TL = 0 LL = 0 ntQL = 0 Req.D. LL = L/ 180 = 0.00 TL = L/ 90 = 0.01
 I = 3.02 in⁴ Cal.D. LL = L/ 9999 = 0.00 TL = L/ -190 = 0.00

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.00	1.80	0.80	5'-5"	5'-5"	5	1	90	0
2	1	Both	Yes	3.80	3.80	3.80	10'-10 1/4"	5'-5 1/4"	5	1	90	0
3	1	Both	Yes	4.00	1.80	0.80	10'-10 1/4"	0'-0"	5	1	90	0
5	1	Both	Yes	3.80	3.80	3.80	16'-3 1/2"	0'-0"	5	1	90	0
4	1	Both	Yes	4.00	1.80	0.80	16'-3 1/2"	5'-5 1/4"	5	1	90	0
6	1	Both	Yes	4.00	1.80	0.80	21'-8 3/4"	5'-5 1/4"	5	1	90	0
7	1	Both	Yes	4.00	1.80	0.80	27'-2"	5'-5 1/4"	5	1	90	0
8	1	Both	Yes	4.00	1.80	0.80	32'-7 1/4"	5'-5 1/4"	5	1	90	0
9	1	Both	Yes	4.00	1.80	0.80	38'-0 1/2"	5'-5 1/4"	5	1	90	0
10	1	Both	Yes	4.00	1.80	0.80	43'-5 3/4"	5'-5 1/4"	5	1	90	0



Mark : G23

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:41

----- DEFLECTION -----

Allowed deflection under live load..... = 1.60 in (L/ 360)
 Calculated deflection under service live load..... = 1.21 in (L/ 476)
 Joist inertia..... = 1990.82 in⁴
 Required camber..... = 0.93 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.28 in)

Left Reaction = 21.79/ -8.80 kips Right Reaction = 17.86/ -5.20 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.1	9.64	-23.83		LL 3 X .313	z 94 0.49	4'-9 1/2"			
1.2	22.06	-52.57	x	do	xx 71 0.74	5'-5 1/4"			
1.3	32.82	-78.83		do	z 55 0.92	2'-8 5/8"			
1.4	32.82	-78.83		do	z 55 0.92	do			
1.5	34.83	-90.21	x	do	xx 35 0.95	do			
1.6	34.83	-90.21	x	do	xx 35 0.95	do			
1.7	31.79	-90.43	x	do	xx 35 0.95	do			
1.8	31.79	-90.43	x	do	xx 35 0.95	do			
1.9	27.22	-83.02		do	z 55 0.97	do			
1.10	27.22	-83.02		do	z 55 0.97	2'-8 5/8"			
1.11	21.12	-67.97	x	do	xx 71 0.92	5'-5 1/4"			
1.12	13.51	-45.31	x	do	xx 71 0.64	5'-5 1/4"			
1.13	5.96	-20.51		do	z 106 0.43	5'-4 1/4"			
1.14	0.00	0.00		LL 3 X .313	z 1 0.19	0'-2 3/4"			
Bottom Chord									
2.1	0.00	0.00		LL 3 X .281	yy114 0.38	3'-3 1/2"			
2.2	35.26	-14.26		do	yy114 0.79	4'-3 3/8"			
2.3	69.11	-29.50		do	yy114 0.96	5'-5 1/4"			
2.4	88.10	-35.99		do	z 110 0.96	do			
2.5	92.22	-33.72		do	z 110 0.96	do			
2.6	88.71	-29.93		do	z 110 0.92	do			
2.7	77.57	-24.62		do	yy117 0.85	do			
2.8	58.81	-17.79		do	yy117 0.74	5'-5 1/4"			
2.9	32.43	-9.43		do	yy117 0.56	4'-6 3/4"			
2.10	0.00	0.00		LL 3 X .281	yy117 0.31	3'-5 3/8"			
End Diagonal									
3.1	31.93	-12.91		LL 2 X .186	z 128 0.98	4'-3 1/2"	.186 - 5 3/4"		T45
3.2	27.49	-7.99		LL 2 X .156	z 133 0.79	4'-5 7/8"	.156 - 6"		T45
Diagonal Towards End									
4.1	24.54	-11.05	x	LL 1.5 X .155	xx103 0.93	4'-0 5/8"	.155 - 5 3/8"		
4.2	13.78	-4.70	d	U 1 3/8 x 0.136	z 110 0.92	do	.136 - 3 3/8"		
4.3	8.15	-2.04	d	U 1 3/8 x 1 1/4 x 0.118	z 118 0.65	do	.118 - 2 3/8"		
4.4	8.15	-2.54	x	LL 1.5 X .155	xx103 0.31	do	.155 - 1 3/4"		
4.5	2.55	-8.15	x	LL 1.5 X .155	xx103 0.67	do	.155 - 1 3/4"		
4.6	8.15	-3.85	d	U 1 3/8 x 1 1/4 x 0.118	z 118 0.89	do	.118 - 2 3/8"		
4.7	13.61	-4.96	d	U 1 3/8 x 0.136	z 110 0.91	do	.136 - 3 3/8"		
4.8	19.13	-6.06	x	LL 1.5 X .155	xx103 0.72	4'-0 5/8"	.155 - 4 1/8"		
Diagonal Towards Center									
5.1	10.04	-24.82	x	LL 2 X .156	xx 63 0.97	3'-4 5/8"	.156 - 5 3/8"		T45
5.2	11.05	-24.54	x	LL 2 X .186	xx 77 0.89	4'-0 5/8"	.186 - 4 1/2"		
5.3	4.70	-13.76	x	LL 2 X .156	xx 76 0.61	do	.156 - 3"		
5.4	0.00	-8.15	x	LL 1.5 X .155	xx103 0.67	do	.155 - 1 3/4"		



Mark : G23

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:41

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	x = tied at mid-length	REQUIRED MATERIAL			REQUIRED WELD		Remarks
				Slend.	Util.	Length	Weld-Ea.Side		
5.5	3.85	-8.15	x	LL 1.5 X .155	xx103 0.67	do	.155 - 1 3/4"		
5.6	4.96	-13.61	x	LL 2 X .156	xx 76 0.60	do	.156 - 3"		
5.7	6.06	-19.13	x	LL 2 X .186	xx 77 0.69	4'-0 5/8"	.186 - 3 1/2"		
5.8	6.18	-21.25	x	LL 2 X .156	xx 66 0.85	3'-6 1/4"	.156 - 4 5/8"		
Secondary Web Member									
7.1	0.00	-1.65	d	U 1 3/8 x 1 1/4 x 0.118	z 85 0.25	3'-0"	.118 - 1 1/2"		
7.2	0.00	-1.89	d	do	z 85 0.29	do	do		
7.3	0.00	-1.89	d	do	z 85 0.29	do	do		
7.4	0.00	-1.74	d	U 1 3/8 x 1 1/4 x 0.118	z 85 0.26	3'-0"	.118 - 1 1/2"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 23'-10 1/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 33'-5 1/8" ==> 3 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 16'-3 1/2" (16'-3 1/2")
 KB 21'-8 3/4" (21'-8 3/4")
 KB 32'-7 3/8" (32'-7 1/4")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 1361 / 1397 Area to Paint : 281.84 ft2 Material Sort : Cost

894(923)-894(923)-25-13/10-1361(1397) NNN,NNN

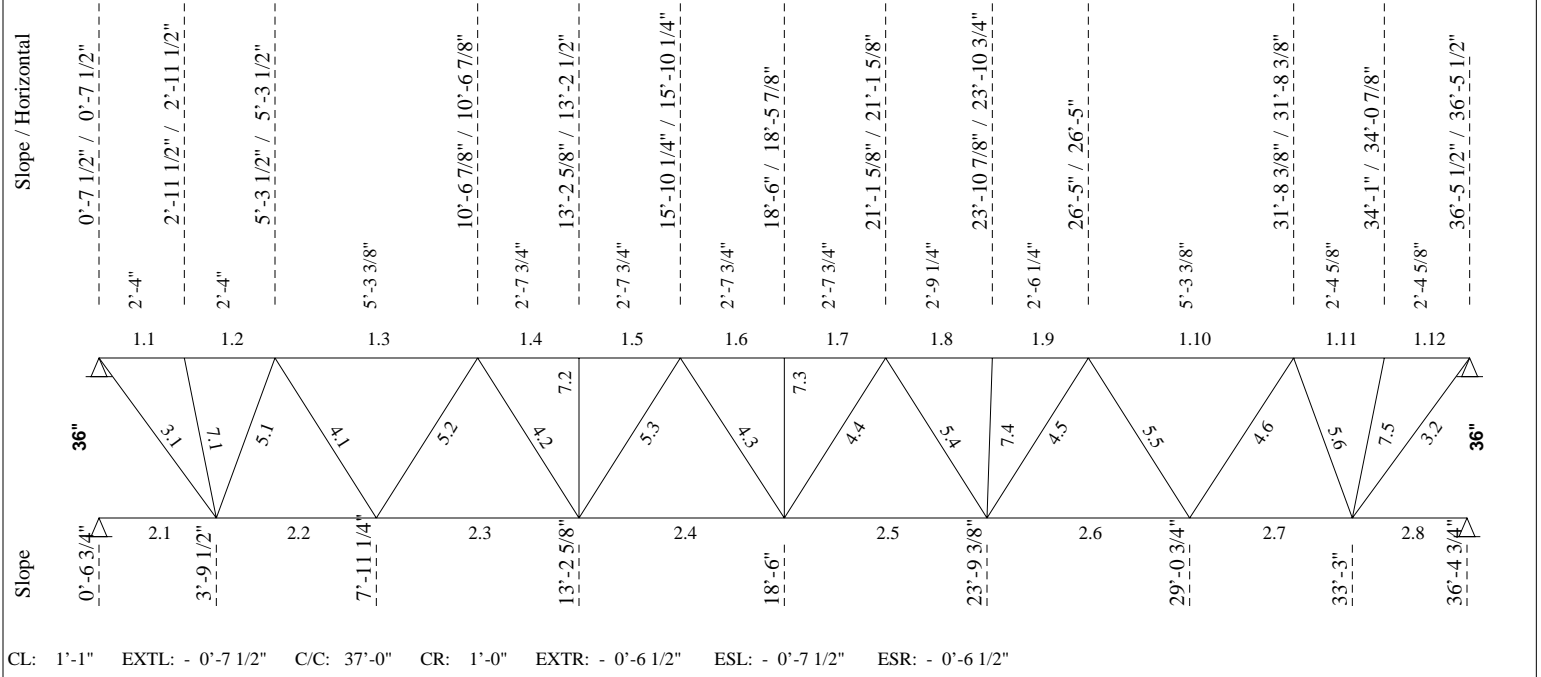
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G24 (G (3), Asymmetrical,, Free ends) aligned on G6

$\Delta = \frac{9}{12}$ 0 1/4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N5 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	5.00	2.25	0.80	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	5.00	2.25	0.80	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	5.00	2.25	0.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	5.00	2.25	0.80	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	5.00	2.25	0.80	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	5.00	2.25	0.80	31'-8 3/8"	5'-3 3/8"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.43 in (L/ 999)
 Joist inertia..... = 1407.42 in⁴
 Required camber..... = 0.52 in



Mark : G24

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:41

===== LOAD NO 2 (G24#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. Cmp [deg]
1	1	Both	Yes	3.20	0.00	0.00	5'-3 1/2"	5'-3 1/2"	5	1	90 0
2	1	Both	Yes	3.20	0.00	0.00	10'-6 7/8"	5'-3 3/8"	5	1	90 0
3	1	Both	Yes	3.20	0.00	0.00	15'-10 1/4"	5'-3 3/8"	5	1	90 0
4	1	Both	Yes	3.20	0.00	0.00	21'-1 5/8"	5'-3 3/8"	5	1	90 0
5	1	Both	Yes	3.20	0.00	0.00	26'-5"	5'-3 3/8"	5	1	90 0
6	1	Both	Yes	3.20	0.00	0.00	31'-8 3/8"	5'-3 3/8"	5	1	90 0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	17.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-17.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type...: at left: C [0] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

===== End of multiple loads =====

----- FORCES IN MEMBERS [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.56 in)

Left Reaction = 15.07/ -2.41 kips Right Reaction = 15.00/ -2.39 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	2.56	-16.02	LL 3 X .281	z 44 0.69	2'-4"		
1.2	2.56	-16.02	do	z 47 0.34	2'-4"		
1.3	5.27	-32.97	x do	xx 68 0.48	5'-3 3/8"		
1.4	7.46	-46.71	do	z 54 0.60	2'-7 3/4"		
1.5	7.46	-46.71	do	z 54 0.60	do		
1.6	8.19	-51.27	x do	xx 34 0.59	do		
1.7	8.19	-51.27	x do	xx 34 0.59	2'-7 3/4"		
1.8	7.45	-46.64	do	z 56 0.61	2'-9 1/4"		
1.9	7.45	-46.64	do	z 51 0.59	2'-6 1/4"		
1.10	5.24	-32.82	x do	xx 68 0.48	5'-3 3/8"		
1.11	2.48	-15.51	do	z 48 0.91	2'-4 5/8"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.12	2.64	-16.52	LL 3 X .281	z 39	0.79	2'-4 5/8"		
1.12r			[2]Flat Bar 4 x 1 (50 ksi)			3'-2 3/4"		D = 5.00
Bottom Chord								
2.1	0.00	0.00	LL 2 X .247	yy145	0.39	3'-2 3/4"		
2.2	23.53	-3.76	do	yy145	0.70	4'-1 3/4"		
2.3	41.97	-6.71	do	z 162	0.85	5'-3 3/8"		
2.4	51.23	-8.18	do	z 162	0.92	do		
2.5	51.30	-8.20	do	z 162	0.92	do		
2.6	42.19	-6.74	do	z 162	0.85	5'-3 3/8"		
2.7	23.90	-3.82	do	yy145	0.70	4'-2 1/4"		
2.8	0.00	0.00	LL 2 X .247	yy145	0.42	3'-1 3/4"		
End Diagonal								
3.1	21.75	-5.44	LL 2 X .186	z 127	0.51	4'-2 7/8"	.186 - 3 7/8"	
3.2	21.80	-9.96	LL 2 X .186	z 128	0.76	4'-3 1/4"	.186 - 4"	
Diagonal Towards End								
4.1	13.64	-3.41	1" SQUARE BAR	z 162	0.60	4'-0"	.250 - 1 7/8"	
4.2	6.86	-1.71	U 1 x 1 1/8 x 0.118	z 135	0.69	do	.118 - 2"	
4.3	5.97	-1.49	d U 1 3/8 x 0.136	z 109	0.40	do	.136 - 1 1/2"	
4.4	0.01	-5.96	d U 1 3/8 x 0.136	z 109	1.00	do	.136 - 1 1/2"	
4.5	6.75	-1.69	U 1 x 1 1/8 x 0.118	z 135	0.68	4'-0"	.118 - 1 7/8"	
4.6	13.53	-3.38	1" SQUARE BAR	z 162	0.59	3'-11 7/8"	.250 - 1 3/4"	
Diagonal Towards Center								
5.1	2.71	-16.97	x LL 2 X .156	xx 63	0.66	3'-4 1/4"	.156 - 3 5/8"	
5.2	2.18	-13.64	x LL 2 X .156	xx 75	0.60	4'-0"	.156 - 3"	
5.3	1.09	-6.84	d U 1 3/8 x 0.157	z 106	0.94	do	.158 - 1 1/2"	
5.4	1.08	-6.74	d U 1 3/8 x 0.157	z 106	0.92	do	.158 - 1 1/2"	
5.5	2.16	-13.54	x LL 2 X .156	xx 75	0.59	4'-0"	.156 - 2 7/8"	
5.6	2.72	-17.01	x LL 2 X .156	xx 63	0.66	3'-4 1/2"	.156 - 3 3/4"	
Secondary Web Member								
7.1	0.83	-1.12	d U 1 3/8 x 1 1/4 x 0.118	z 89	0.18	3'-1 3/8"	.118 - 1 1/2"	
7.2	0.00	-0.99	d do	z 86	0.15	3'-0"	do	
7.3	0.00	-1.08	d do	z 86	0.17	do	do	
7.4	0.00	-0.98	d do	z 86	0.15	3'-0"	do	
7.5	4.63	-4.90	d U 1 3/8 x 1 1/4 x 0.118	z 89	0.78	3'-1 3/8"	.118 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 23'-9 1/4" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 25'-7 3/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 1/4" (15'-10 1/4")
 KB 21'-1 5/8" (21'-1 5/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope
 Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)



Mark : G24

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:41

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

828 / 853

Area to Paint

: 182.62 ft2

Material Sort : Cost

This mark has been edited

552(570)-552(570)-25-12/8-828(853) NNN,NNN

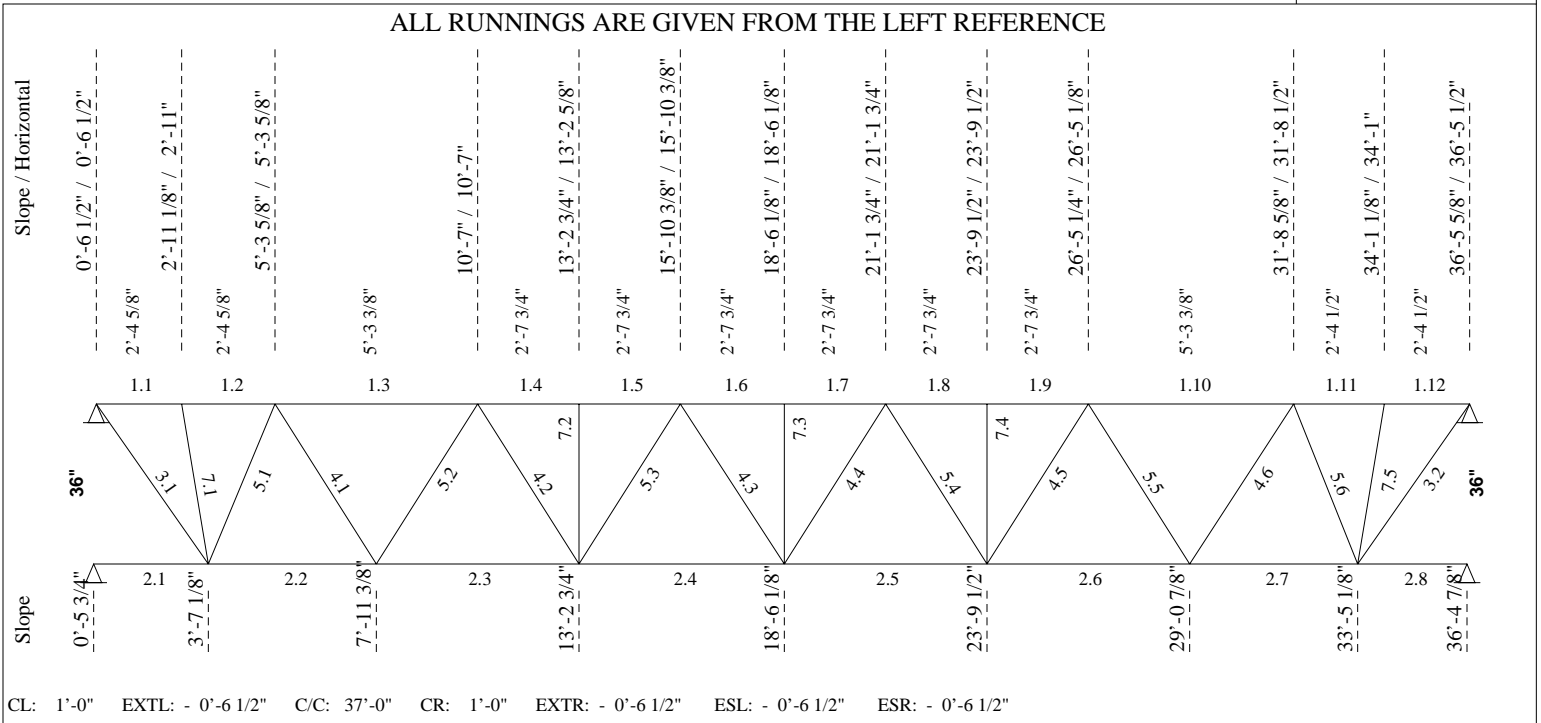
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G25 (G (3), Asymmetrical,, Free ends)

$\Delta = \frac{9}{12} = 0.75$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N5 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	5.00	2.25	0.80	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	5.00	2.25	0.80	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	5.00	2.25	0.80	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	5.00	2.25	0.80	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	5.00	2.25	0.80	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	5.00	2.25	0.80	31'-8 1/2"	5'-3 3/8"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.27 in (L/ 1595)
 Joist inertia..... = 2263.29 in⁴
 Required camber..... = 0.52 in



Mark : G25

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:42

===== LOAD NO 2 (G25#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	3.20	0.00	0.00	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	3.20	0.00	0.00	10'-7"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	3.20	0.00	0.00	15'-10 3/8"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	3.20	0.00	0.00	21'-1 3/4"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	3.20	0.00	0.00	26'-5 1/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	3.20	0.00	0.00	31'-8 1/2"	5'-3 3/8"	5	1	90	0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-40.00	57.00	0.00	0.00
(case 2).....:	0.00	0.00	40.00	-57.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [2] at right: C [1]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

===== End of multiple loads =====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 33.60 in)

Left Reaction = 15.03/ -2.40 kips Right Reaction = 15.04/ -2.40 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	40.20	-57.87	LL 6 X .5	z 17 0.62	2'-4 5/8"		
1.1 r			[2]Flat Bar 6 x 1 (50 ksi)		2'-2 5/8"		D = 7.00
1.2	36.80	-52.98	LL 6 X .5	z 24 0.40	2'-4 5/8"		
1.3	29.69	-64.84	x do	xx 34 0.21	5'-3 3/8"		
1.4	24.28	-73.84	do	z 27 0.23	2'-7 3/4"		
1.5	24.28	-73.84	do	z 27 0.23	do		
1.6	22.51	-76.79	do	z 27 0.24	do		
1.7	22.51	-76.79	do	z 27 0.24	do		
1.8	24.38	-73.69	do	z 27 0.23	do		
1.9	24.38	-73.69	do	z 27 0.23	2'-7 3/4"		
1.10	29.87	-64.53	x do	xx 34 0.21	5'-3 3/8"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	37.07	-52.54	do	z 24	0.50	2'-4 1/2"		
1.12	40.48	-57.38	LL 6 X .5	z 17	0.84	2'-4 1/2"		
1.12r			[1]Flat Bar 6 x 1 (50 ksi)			3'-1 3/8"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 2.5 X .25	yy127	0.35	3'-1 3/8"		
2.2	24.64	-3.94	do	yy127	0.56	4'-4 1/4"		
2.3	43.52	-6.95	do	z 129	0.69	5'-3 3/8"		
2.4	52.96	-8.46	do	yy170	0.74	do		
2.5	52.95	-8.46	do	yy170	0.74	do		
2.6	43.49	-6.95	do	yy170	0.69	5'-3 3/8"		
2.7	24.59	-3.93	do	yy170	0.56	4'-4 1/4"		
2.8	0.00	0.00	LL 2.5 X .25	yy170	0.35	2'-11 3/4"		
End Diagonal								
3.1	28.21	-17.85	x LL 2 X .247	xx 79	0.51	4'-1 7/8"	.247 - 3 7/8"	
3.2	34.35	-24.01	x LL 2 X .247	xx 79	0.68	4'-1 7/8"	.247 - 4 5/8"	
Diagonal Towards End								
4.1	13.76	-3.44	1" SQUARE BAR	z 160	0.59	4'-0"	.250 - 1 7/8"	
4.2	6.89	-1.72	U 1 x 1 1/8 x 0.118	z 133	0.69	do	.118 - 2"	
4.3	6.03	-1.51	U 1 x 0.091	z 139	0.80	do	.090 - 2 1/4"	
4.4	6.03	-1.51	U 1 x 0.091	z 139	0.80	do	.090 - 2 1/4"	
4.5	6.90	-1.72	U 1 x 1 1/8 x 0.118	z 133	0.69	do	.118 - 2"	
4.6	13.77	-3.44	1" SQUARE BAR	z 160	0.59	4'-0"	.250 - 1 7/8"	
Diagonal Towards Center								
5.1	2.81	-17.60	x LL 2 X .156	xx 63	0.69	3'-5 1/2"	.156 - 3 7/8"	
5.2	2.20	-13.76	x do	xx 74	0.60	4'-0"	.156 - 3"	
5.3	1.10	-6.87	do	z 117	0.52	do	.156 - 1 1/2"	
5.4	1.10	-6.89	do	z 117	0.52	do	.156 - 1 1/2"	
5.5	2.20	-13.77	x do	xx 74	0.60	4'-0"	.156 - 3"	
5.6	2.81	-17.59	x LL 2 X .156	xx 63	0.69	3'-5 3/8"	.156 - 3 7/8"	
Secondary Web Member								
7.1	10.32	-11.41	1"RB + U1-3/8X.157 (50%)	z 121	0.81	3'-0 7/8"	.230 - 1 3/4"	
7.2	0.00	-1.52	d U 1 3/8 x 1 1/4 x 0.118	z 84	0.23	3'-0"	.118 - 1 1/2"	
7.3	0.00	-1.58	d do	z 84	0.23	do	do	
7.4	0.00	-1.51	d U 1 3/8 x 1 1/4 x 0.118	z 84	0.23	3'-0"	.118 - 1 1/2"	
7.5	14.74	-15.83	1"SB + U1-3/8X.157 (50%)	z 109	0.80	3'-0 7/8"	.230 - 2 3/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 41'-1 3/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 29'-4 1/8" ==> 1 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 3/8" (15'-10 3/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)



Mark : G25

Project: PROJECT EVELER FREEZER PUYALL

(501994)

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Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

2010 / 2047

Area to Paint

: 281.64 ft2

Material Sort : Cost

This mark has been edited

1355(1379)-1355(1379)-25-12/8-2010(2047) NNN,NNN

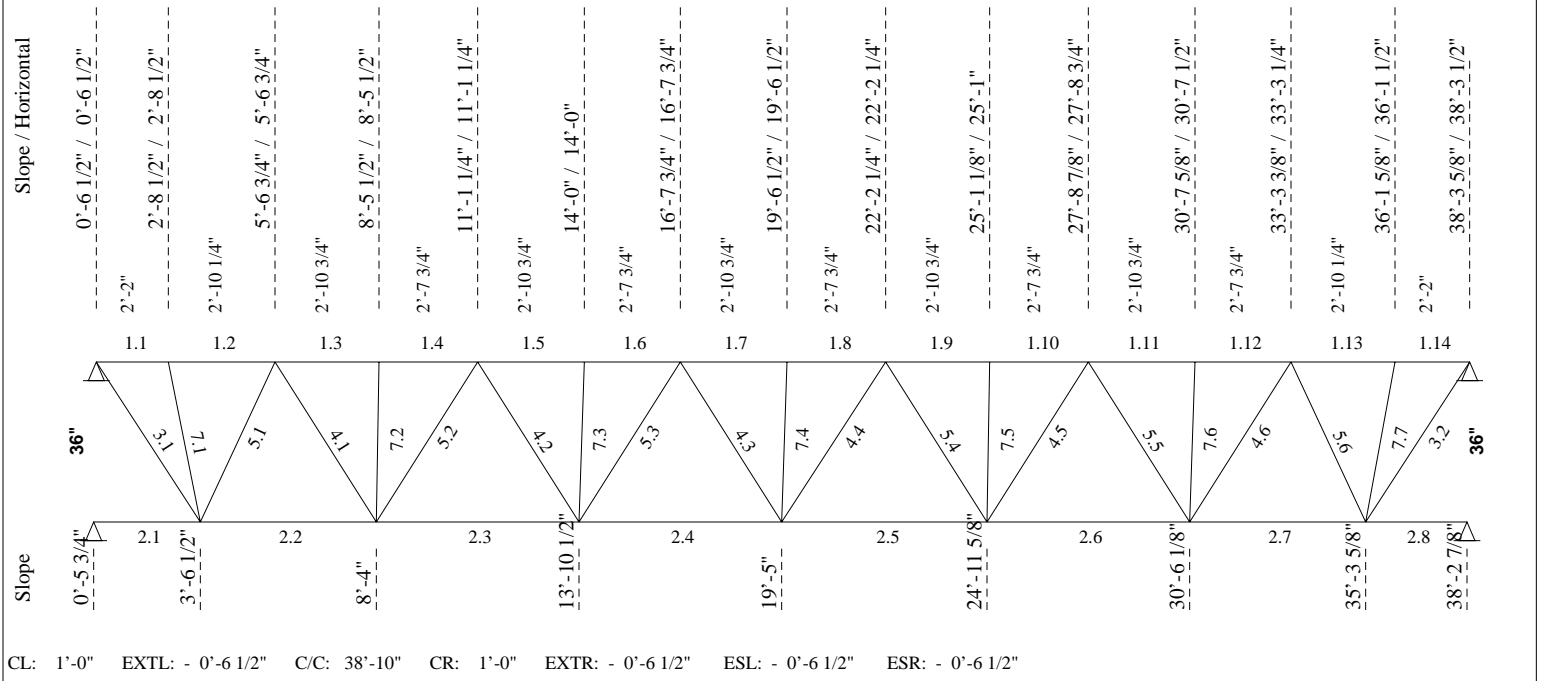
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G26 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{3}{8}}{12} = 0 \frac{1}{4}''$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N5 LIVE LOAD...: 0.00 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	5.00	2.25	0.80	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	5.00	2.25	0.80	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	5.00	2.25	0.89	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	5.00	2.25	0.80	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	5.00	2.25	0.80	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	5.00	2.25	0.80	33'-3 1/4"	5'-6 1/2"	5	1	90	0

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.38 in (L/ 1183)
 Joist inertia..... = 1859.58 in⁴
 Required camber..... = 0.57 in



Mark : G26

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:42

=====**LOAD NO 2 (G26#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	3.20	0.00	0.00	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	3.20	0.00	0.00	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	3.20	0.00	0.00	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	3.20	0.00	0.00	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	3.20	0.00	0.00	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	3.20	0.00	0.00	33'-3 1/4"	5'-6 1/2"	5	1	90	0

-----**END MOMENTS [ft-kip] & AXIAL LOADS[kips]**-----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-23.00	40.00	0.00	0.00
(case 2).....:	0.00	0.00	23.00	-40.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [2] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

=====**End of multiple loads**=====

-----**F O R C E S I N M E M B E R S [kips]**-----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.15 in)

Left Reaction = 15.04/ -2.45 kips Right Reaction = 15.05/ -2.44 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	20.30	-37.64	LL 4 X .375	yy 40 0.57	2'-2"		
1.1 r			[2]Flat Bar 6 x 1 (50 ksi)		2'-0"		D = 7.00
1.2	18.37	-34.05	LL 4 X .375	z 43 0.64	2'-10 1/4"		
1.3	10.56	-47.07	do	z 44 0.32	2'-10 3/4"		
1.4	10.56	-47.07	do	z 40 0.33	2'-7 3/4"		
1.5	8.25	-56.37	x do	xx 28 0.36	2'-10 3/4"		
1.6	8.25	-56.38	x do	xx 26 0.35	2'-7 3/4"		
1.7	9.02	-59.43	x do	xx 28 0.37	2'-10 3/4"		
1.8	9.02	-59.43	x do	xx 26 0.37	2'-7 3/4"		
1.9	8.15	-56.23	x do	xx 28 0.35	2'-10 3/4"		
1.10	8.15	-56.23	x do	xx 26 0.35	2'-7 3/4"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	10.73	-46.79	do	z 44	0.33	2'-10 3/4"		
1.12	10.73	-46.79	do	z 40	0.31	2'-7 3/4"		
1.13	18.62	-33.63	do	z 43	0.95	2'-10 1/4"		
1.14	20.59	-37.18	LL 4 X .375	yy 40	0.91	2'-2"		
1.14r			[2]Flat Bar 6 x 1 (50 ksi)			3'-0 3/4"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 2.5 X .230	yy180	0.45	3'-0 3/4"		
2.2	25.63	-4.18	do	yy180	0.73	4'-9 1/2"		
2.3	45.14	-7.40	do	yy180	0.89	5'-6 1/2"		
2.4	54.90	-9.06	do	yy180	0.89	do		
2.5	54.90	-8.98	do	yy180	0.89	do		
2.6	45.14	-7.35	do	z 135	0.77	5'-6 1/2"		
2.7	25.63	-4.16	do	yy133	0.63	4'-9 1/2"		
2.8	0.00	0.00	LL 2.5 X .230	yy133	0.40	2'-11 1/4"		
End Diagonal								
3.1	22.79	-12.59	x LL 2 X .186	xx 78	0.54	4'-1 1/2"	.186 - 4 1/8"	
3.2	29.58	-19.38	x LL 2 X .186	xx 78	0.71	4'-1 1/2"	.186 - 5 3/8"	
Diagonal Towards End								
4.1	13.99	-3.50	1" SQUARE BAR	z 165	0.63	4'-1"	.250 - 1 7/8"	
4.2	7.00	-1.75	U 1 x 1 1/8 x 0.118	z 138	0.70	do	.118 - 2"	
4.3	6.13	-1.53	d U 1 3/8 x 0.157	z 108	0.35	do	.158 - 1 1/2"	
4.4	4.12	-6.13	d U 1 3/8 x 0.157	z 108	0.86	do	.158 - 1 1/2"	
4.5	7.00	-1.75	U 1 x 1 1/8 x 0.118	z 138	0.70	do	.118 - 2"	
4.6	13.99	-3.50	1" SQUARE BAR	z 165	0.63	4'-1"	.250 - 1 7/8"	
Diagonal Towards Center								
5.1	3.01	-18.42	x LL 2 X .156	xx 67	0.75	3'-7 3/8"	.156 - 4"	
5.2	2.30	-13.98	x LL 2 X .156	xx 77	0.62	4'-1"	.156 - 3"	
5.3	1.19	-6.98	d U 1 3/8 x 0.157	z 108	0.98	do	.158 - 1 1/2"	
5.4	1.17	-6.98	d U 1 3/8 x 0.157	z 108	0.98	do	.158 - 1 1/2"	
5.5	2.29	-13.98	x LL 2 X .156	xx 77	0.62	4'-1"	.156 - 3"	
5.6	2.99	-18.43	x LL 2 X .156	xx 67	0.75	3'-7 3/8"	.156 - 4"	
Secondary Web Member								
7.1	6.79	-7.50	d U 1 3/8 x 0.136	z 82	0.92	3'-1 3/8"	.136 - 1 7/8"	
7.2	0.00	-0.98	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.15	3'-0"	.118 - 1 1/2"	
7.3	0.00	-1.18	d do	z 85	0.18	do	do	
7.4	0.00	-1.24	d do	z 85	0.19	do	do	
7.5	0.00	-1.17	d do	z 85	0.18	do	do	
7.6	0.00	-0.98	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.15	3'-0"	.118 - 1 1/2"	
7.7	11.80	-12.51	1"RB + U1-3/8X.157 (50%)	z 125	0.94	3'-1 3/8"	.230 - 1 7/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 29'-6 1/8" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 29'-3" ==> 1 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 22'-2 1/4" (22'-2 1/4")

Equally Spaced Bridging between Uplift Rows : No



Mark : G26

Project: PROJECT EVELER FREEZER PUYALL

(501994)

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10:14:42

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1301 / 1333 Area to Paint : 234.97 ft2 Material Sort : Cost

This mark has been edited

868(890)-868(890)-25-14/8-1301(1333) NNN,NNN

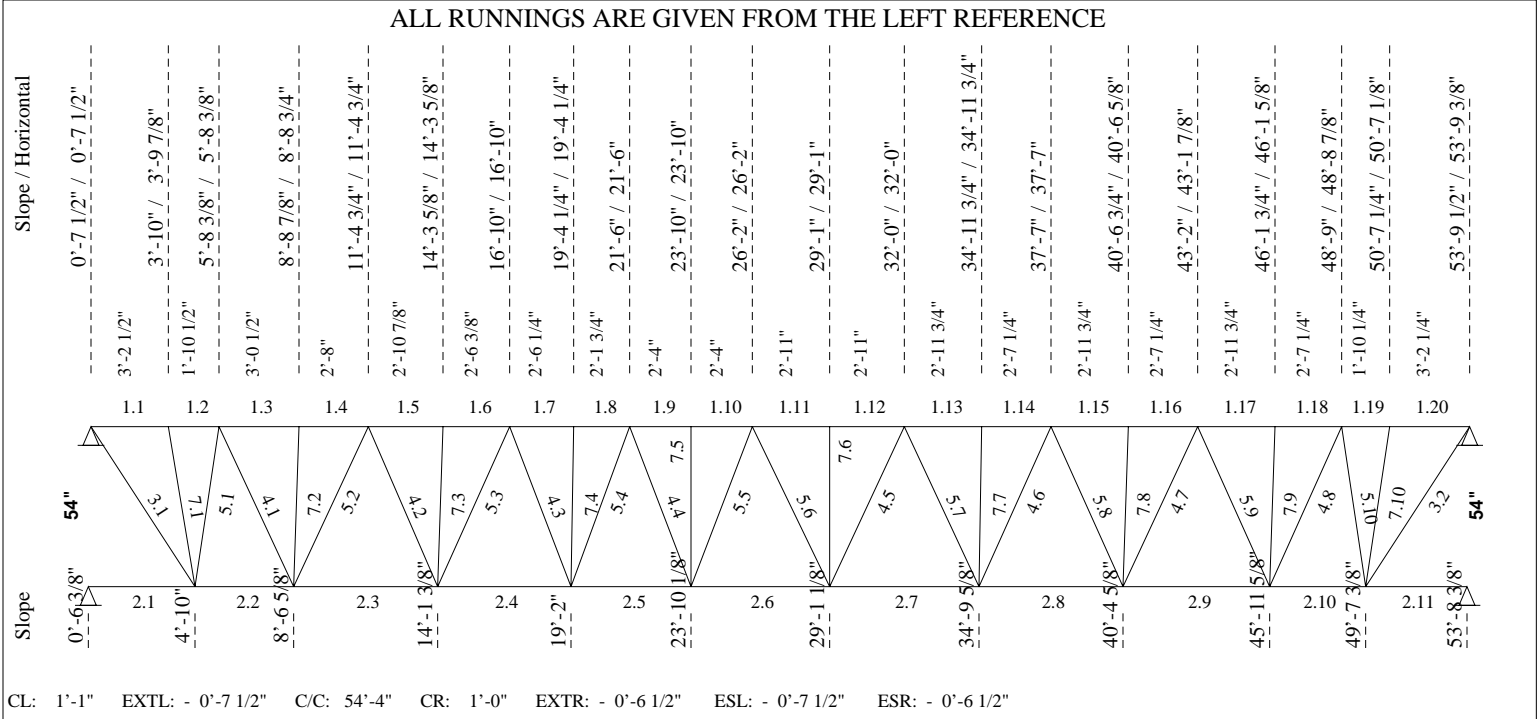
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G27 (G (3), Asymmetrical,, Free ends) aligned on G9

$\Delta = \frac{13 \frac{1}{4}}{12}$ 0 1/4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N5 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	5.00	2.25	0.80	5'-5"*	5'-5"	5	1	90	0
2	1	Both	Yes	5.00	2.25	0.80	10'-10 1/4"*	5'-5 1/4"	5	1	90	0
3	1	Both	Yes	3.80	3.80	3.80	10'-10 1/4"*	0'-0"	5	1	90	0
4	1	Both	Yes	3.80	3.80	3.80	16'-3 1/2"*	5'-5 1/4"	5	1	90	0
5	1	Both	Yes	5.00	2.25	0.80	16'-3 1/2"*	0'-0"	5	1	90	0
6	1	Both	Yes	5.00	2.25	0.80	21'-8 3/4"*	5'-5 1/4"	5	1	90	0
7	1	Both	Yes	5.00	2.25	0.80	27'-2"*	5'-5 1/4"	5	1	90	0
8	1	Both	Yes	5.00	2.25	0.80	32'-7 1/4"*	5'-5 1/4"	5	1	90	0
9	1	Both	Yes	5.00	2.25	0.80	38'-0 1/2"*	5'-5 1/4"	5	1	90	0
10	1	Both	Yes	5.00	2.25	0.80	43'-5 3/4"*	5'-5 1/4"	5	1	90	0
11	1	Both	Yes	5.00	2.25	0.80	48'-11"*	5'-5 1/4"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.88 in (L/ 723)
 Joist inertia..... = 4489.47 in^4
 Required camber..... = 1.16 in



Mark : G27

Project: PROJECT EVELER FREEZER PUYALL

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=====**LOAD NO 2 (G27#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N6 LIVE LOAD...: 0.00 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	3.20	0.00	0.00	5'-5"*	5'-5"	5	1	90	0
2	1	Both	Yes	3.20	0.00	0.00	10'-10 1/4"*	5'-5 1/4"	5	1	90	0
3	1	Both	Yes	3.20	0.00	0.00	16'-3 1/2"*	5'-5 1/4"	5	1	90	0
4	1	Both	Yes	3.20	0.00	0.00	21'-8 3/4"*	5'-5 1/4"	5	1	90	0
5	1	Both	Yes	3.20	0.00	0.00	27'-2"*	5'-5 1/4"	5	1	90	0
6	1	Both	Yes	3.20	0.00	0.00	32'-7 1/4"*	5'-5 1/4"	5	1	90	0
7	1	Both	Yes	3.20	0.00	0.00	38'-0 1/2"*	5'-5 1/4"	5	1	90	0
8	1	Both	Yes	3.20	0.00	0.00	43'-5 3/4"*	5'-5 1/4"	5	1	90	0
9	1	Both	Yes	3.20	0.00	0.00	48'-11"*	5'-5 1/4"	5	1	90	0

-----**END MOMENTS [ft-kip] & AXIAL LOADS[kips]**-----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	23.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-23.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [0] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.06 in (L/ 9999)

=====**End of multiple loads**=====

-----**FORCES IN MEMBERS [kips]**-----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 52.18 in)

Left Reaction = 28.40/ -9.36 kips Right Reaction = 24.41/ -5.44 kips

REQUIRED MATERIAL x = tied at mid-length Slend. Util. Length REQUIRED WELD Weld-Ea.Side Remarks

No	Tension	Compres.	REQUIRED MATERIAL	Slend.	Util.	Length	REQUIRED WELD	Remarks
Top Chord								
1.1	8.90	-26.96	LL 3.5 X .287	z	53	0.54	3'-2 3/8"	
1.2	8.91	-27.05	do	z	32	0.45	1'-10 1/2"	
1.3	16.31	-47.52	do	z	53	0.52	3'-0 1/2"	
1.4	16.79	-48.42	do	z	46	0.67	2'-8"	
1.5	23.74	-70.64	do	z	50	0.76	2'-10 7/8"	
1.6	24.20	-71.53	do	z	44	0.77	2'-6 3/8"	
1.7	25.20	-81.52 x	do	xx	28	0.81	2'-6 1/4"	
1.8	25.20	-81.52	do	z	37	0.81	2'-1 3/4"	

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL				Length	REQUIRED WELD	Remarks
			x = tied at mid-length	Slend.	Util.				
1.9	24.16	-85.38	x	do	xx 26	0.84	2'-4"		
1.10	24.12	-85.12	x	do	xx 26	0.84	2'-4"		
1.11	22.15	-84.45	x	do	xx 32	0.84	2'-11"		
1.12	22.02	-83.65	x	do	xx 32	0.83	2'-11"		
1.13	18.75	-75.89	x	do	xx 33	0.79	2'-11 3/4"		
1.14	18.67	-75.35		do	z 45	0.79	2'-7 1/4"		
1.15	14.39	-60.99		do	z 52	0.71	2'-11 3/4"		
1.16	14.32	-60.55		do	z 45	0.63	2'-7 1/4"		
1.17	8.98	-39.47		do	z 52	0.57	2'-11 3/4"		
1.18	8.93	-39.15		do	z 45	0.41	2'-7 1/4"		
1.19	4.91	-22.08		do	z 32	0.89	1'-10 1/4"		
1.20	5.09	-22.88		LL 3.5 X .287	z 44	0.97	3'-2 1/4"		
1.20r				[2]Flat Bar 4 x 1 (50 ksi)			4'-3 5/8"		D = 5.00
Bottom Chord									
2.1	0.00	0.00		LL 3 X .25	yy115	0.34	4'-3 5/8"		
2.2	31.71	-10.52		do	yy115	0.66	3'-8 5/8"		
2.3	61.22	-21.17		do	yy115	0.84	5'-6 7/8"		
2.4	78.32	-25.56		do	z 102	0.91	5'-0 5/8"		
2.5	84.46	-24.88		do	z 95	0.98	4'-8"		
2.6	85.48	-23.38		do	z 106	0.99	5'-3"		
2.7	80.85	-20.57		do	z 116	0.94	5'-8 1/2"		
2.8	69.56	-16.79		do	z 113	0.87	5'-7"		
2.9	51.66	-11.95		do	yy114	0.74	5'-7"		
2.10	27.15	-6.06		do	yy114	0.55	3'-7 3/4"		
2.11	0.00	0.00		LL 3 X .25	yy114	0.30	4'-1"		
End Diagonal									
3.1	38.73	-12.78	x	LL 2 X .247	xx117	0.70	6'-0 1/2"	.247 - 5 3/8"	
3.2	33.20	-10.90	x	LL 2 X .247	xx117	0.60	6'-0 3/8"	.247 - 4 1/2"	
Diagonal Towards End									
4.1	27.93	-10.24	x	LL 2 X .156	xx100	0.78	5'-3 7/8"	.156 - 6 1/8"	
4.2	17.16	-4.68	x	LL 1.5 X .155	xx134	0.65	5'-3 1/8"	.155 - 3 3/4"	
4.3	8.64	-2.16	d	U 1 3/8 x 1 1/4 x 0.118	z 147	0.78	5'-0 7/8"	.118 - 2 1/2"	
4.4	8.64	-2.16	d	U 1 3/8 x 1 1/4 x 0.118	z 147	0.78	5'-0 7/8"	.118 - 2 1/2"	
4.5	9.16	-2.69	d	U 1 3/8 x 0.136	z 145	0.79	5'-4 3/8"	.136 - 2 1/4"	
4.6	11.09	-3.60	d	U 1 3/8 x 0.157	z 140	0.85	5'-3 1/2"	.158 - 2 3/8"	
4.7	17.05	-4.55	x	LL 1.5 X .155	xx134	0.65	do	.155 - 3 3/4"	
4.8	23.01	-5.75	x	LL 1.5 X .155	xx134	0.87	5'-3 1/2"	.155 - 5"	
Diagonal Towards Center									
5.1	8.74	-23.85	x	LL 2 X .186	xx 86	0.97	4'-7"	.186 - 4 3/8"	
5.2	4.79	-17.49	x	LL 2 X .186	xx101	0.87	5'-3 7/8"	.186 - 3 1/4"	
5.3	0.00	-8.97	x	LL 2 X .156	xx 99	0.52	5'-3 1/8"	.156 - 1 7/8"	
5.4	0.00	-8.63	x	do	xx 95	0.48	5'-0 3/4"	do	
5.5	0.00	-8.63	x	LL 2 X .156	xx 95	0.48	5'-0 3/4"	.156 - 1 7/8"	
5.6	9.16	-2.29	d	U 1 3/8 x 1 1/4 x 0.118	z 156	0.93	5'-4 3/8"	.118 - 2 5/8"	
5.7	2.65	-9.04	x	LL 2 X .156	xx100	0.53	5'-3 5/8"	.156 - 2"	
5.8	3.60	-11.06	x	LL 2 X .156	xx100	0.65	do	.156 - 2 3/8"	
5.9	4.55	-17.02	x	LL 2 X .186	xx100	0.84	5'-3 5/8"	.186 - 3 1/8"	
5.10	4.72	-19.75	x	LL 2 X .186	xx 86	0.80	4'-7"	.186 - 3 5/8"	
Secondary Web Member									
7.1	0.58	-0.95	d	U 1 3/8 x 0.157	z 121	0.17	4'-7 3/8"	.158 - 1 1/2"	
7.2	0.01	-1.03	d	U 1 3/8 x 1 1/4 x 0.118	z 130	0.29	4'-6"	.118 - 1 1/2"	
7.3	0.01	-1.52	d	do	z 130	0.43	do	do	
7.4	0.00	-1.73	d	do	z 130	0.49	do	do	
7.5	0.00	-1.81	d	do	z 130	0.51	do	do	
7.6	0.01	-1.80	d	do	z 130	0.50	do	do	



Mark : G27

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:42

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	d	REQUIRED MATERIAL			Length	REQUIRED WELD		Remarks
				x = tied at mid-length	Slend.	Util.		Weld-Ea.Side		
7.7	0.00	-1.61	d	do	z 130	0.45	do	do		
7.8	0.00	-1.30	d	do	z 130	0.36	do	do		
7.9	0.00	-0.84	d	U 1 3/8 x 1 1/4 x 0.118	z 130	0.24	4'-6"	.118 - 1 1/2"		
7.10	4.51	-4.85	d	U 1 3/8 x 0.157	z 121	0.85	4'-7 1/4"	.158 - 1 1/2"		

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 26'-7 3/4" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 33'-3 1/2" ==> 3 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 16'-3 1/2" (16'-3 1/2")
 KB 27'-2" (27'-1 7/8")
 KB 38'-0 5/8" (38'-0 1/2")

Equally Spaced Bridging between Uplift Rows : No

----- v1.51 -----

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 1687 / 1743 Area to Paint : 382.94 ft2 Material Sort : Cost

This mark has been edited

1121(1159)-1121(1159)-25-20/11-1687(1743) NNN,NNN

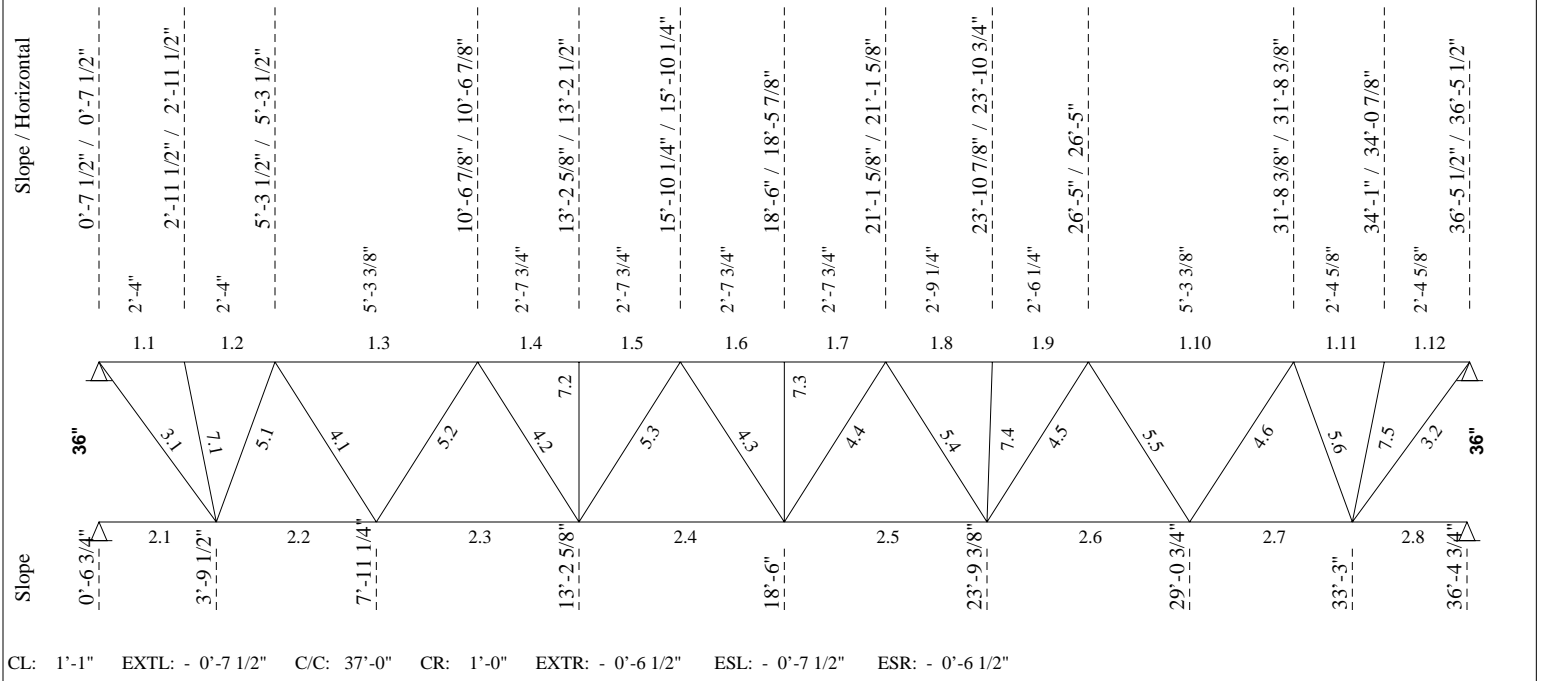
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G28 (G (3), Asymmetrical,, Free ends) aligned on G6

$\Delta = \frac{9}{12}$ 0 1/4"

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N7.6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	7.60	3.45	2.40	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	7.60	3.45	2.40	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	3.80	3.80	3.80	10'-6 7/8"	0'-0"	5	1	90	0
5	1	Both	Yes	7.60	3.45	2.40	15'-10 1/4"	0'-0"	5	1	90	0
4	1	Both	Yes	3.80	3.80	3.80	15'-10 1/4"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	7.60	3.45	2.40	21'-1 5/8"	5'-3 3/8"	5	1	90	0
7	1	Both	Yes	7.60	3.45	1.80	26'-5"	5'-3 3/8"	5	1	90	0
8	1	Both	Yes	7.60	3.45	1.80	31'-8 3/8"	5'-3 3/8"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.64 in (L/ 667)
 Joist inertia..... = 2096.52 in^4
 Required camber..... = 0.52 in



Mark : G28

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:43

===== LOAD NO 2 (G28#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.80	0.00	0.00	5'-3 1/2"	5'-3 1/2"	5	1	90	0
2	1	Both	Yes	4.80	0.00	0.00	10'-6 7/8"	5'-3 3/8"	5	1	90	0
3	1	Both	Yes	4.80	0.00	0.00	15'-10 1/4"	5'-3 3/8"	5	1	90	0
4	1	Both	Yes	4.80	0.00	0.00	21'-1 5/8"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	4.80	0.00	0.00	26'-5"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	4.80	0.00	0.00	31'-8 3/8"	5'-3 3/8"	5	1	90	0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	11.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-11.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type...: at left: C [0] at right: C [0]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.18 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

===== End of multiple loads =====

----- FORCES IN MEMBERS [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.27 in)

Left Reaction = 27.84/ -11.91 kips Right Reaction = 25.43/ -8.89 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	12.78	-29.84	LL 3 X .313	z 44 0.67	2'-4"		
1.2	12.78	-29.83	do	z 48 0.59	2'-4"		
1.3	27.78	-62.97	x	xx 69 0.84	5'-3 3/8"		
1.4	39.51	-89.56	x	xx 34 0.93	2'-7 3/4"		
1.5	39.51	-89.56	x	do	do		
1.6	39.77	-95.05	x	do	do		
1.7	39.77	-95.05	x	do	do		
1.8	39.77	-95.05	x	xx 34 0.99	2'-7 3/4"		
1.9	32.16	-83.04		z 56 0.98	2'-9 1/4"		
1.10	32.16	-83.04		z 51 0.94	2'-6 1/4"		
1.10	20.68	-56.95	x	xx 69 0.78	5'-3 3/8"		
1.11	9.27	-26.53		z 48 0.63	2'-4 5/8"		



Mark : G28

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:43

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
1.12	9.70	-27.77	LL 3 X .313	z 36 0.73	2'-4 5/8"			
1.12r			[0]Flat Bar 3 x 1 (50 ksi)		3'-2 3/4"		D = 4.00	
Bottom Chord								
2.1	0.00	0.00	LL 3 X .313	yy110 0.43	3'-2 3/4"			
2.2	43.84	-18.77	do	yy110 0.83	4'-1 3/4"			
2.3	81.21	-36.37	do	yy110 0.97	5'-3 3/8"			
2.4	97.51	-42.50	do	yy110 0.97	do			
2.5	92.70	-37.16	do	yy110 0.87	do			
2.6	73.82	-27.39	do	yy110 0.84	5'-3 3/8"			
2.7	40.89	-14.29	do	yy110 0.64	4'-2 1/4"			
2.8	0.00	0.00	LL 3 X .313	yy110 0.37	3'-1 3/4"			
End Diagonal								
3.1	40.35	-17.28	LL 2 X .247	z 127 1.00	4'-2 7/8"	.247 - 5 1/2"		T45
3.2	37.15	-12.98	LL 2 X .247	z 128 0.76	4'-3 1/4"	.247 - 5 1/8"		
Diagonal Towards End								
4.1	27.53	-12.96	x LL 2 X .156	xx 75 0.77	4'-0"	.156 - 6"		T45
4.2	12.01	-4.52	d U 1 3/8 x 0.157	z 106 0.69	do	.158 - 2 1/2"		
4.3	10.43	-3.53	x LL 1.5 X .155	xx101 0.40	do	.155 - 2 1/4"		
4.4	3.55	-10.42	x LL 1.5 X .155	xx101 0.83	do	.155 - 2 1/4"		
4.5	13.90	-7.19	d U 1 3/8 x 0.157	z 106 0.98	4'-0"	.158 - 3"		
4.6	24.25	-9.64	x LL 2 X .156	xx 75 0.67	3'-11 7/8"	.156 - 5 1/4"		
Diagonal Towards Center								
5.1	13.46	-31.41	x LL 2 X .186	xx 63 0.98	3'-4 1/4"	.186 - 5 3/4"		T45
5.2	12.96	-27.52	x LL 2 X .186	xx 76 0.98	4'-0"	.186 - 5"		
5.3	4.51	-11.99	x LL 2 X .156	xx 75 0.52	do	.156 - 2 5/8"		
5.4	7.20	-13.90	x LL 2 X .156	xx 75 0.61	do	.156 - 3"		
5.5	9.65	-24.27	x LL 2 X .186	xx 76 0.87	4'-0"	.186 - 4 3/8"		
5.6	10.11	-28.91	x LL 2 X .186	xx 63 0.91	3'-4 1/2"	.186 - 5 1/4"		
Secondary Web Member								
7.1	0.82	-1.21	d U 1 3/8 x 1 1/4 x 0.118	z 89 0.19	3'-1 3/8"	.118 - 1 1/2"		
7.2	0.00	-1.88	d do	z 85 0.28	3'-0"	do		
7.3	0.00	-1.99	d do	z 85 0.30	do	do		
7.4	0.00	-1.74	d do	z 85 0.26	3'-0"	do		
7.5	2.94	-3.32	d U 1 3/8 x 1 1/4 x 0.118	z 89 0.52	3'-1 3/8"	.118 - 1 1/2"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 23'-11 1/2" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 33'-6 7/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 1/4" (15'-10 1/4")
 KB 21'-1 5/8" (21'-1 5/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)



Mark : G28

Project: PROJECT EVELER FREEZER PUYALL

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Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

1121 / 1167

Area to Paint

: 223.95 ft2

Material Sort : Cost

This mark has been edited

733(766)-733(766)-25-12/8-1121(1167) NNN,NNN

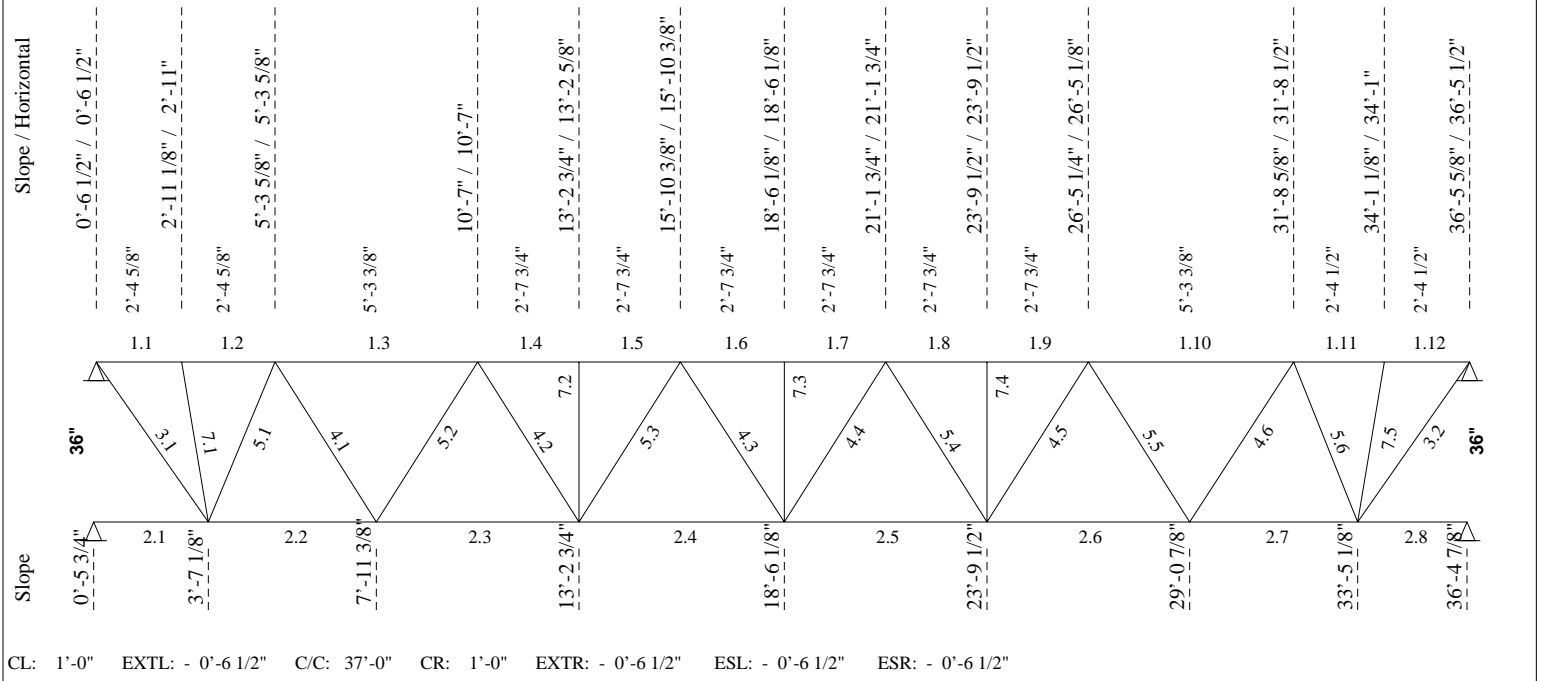
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G29 (G (3), Asymmetrical,, Free ends)

$\Delta = \frac{9}{12} = 0.75$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N7.6 LIVE LOAD...: 0.00 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	7.60	3.45	1.80	5'-3 5/8"	5'-3 5/8"	5	1	90	0
2	1	Both	Yes	3.80	3.80	3.80	5'-3 5/8"	0'-0"	5	1	90	0
4	1	Both	Yes	7.60	3.45	1.80	10'-7"	0'-0"	5	1	90	0
3	1	Both	Yes	3.80	3.80	3.80	10'-7"	5'-3 3/8"	5	1	90	0
5	1	Both	Yes	7.60	3.45	1.80	15'-10 3/8"	5'-3 3/8"	5	1	90	0
6	1	Both	Yes	7.60	3.45	1.80	21'-1 3/4"	5'-3 3/8"	5	1	90	0
7	1	Both	Yes	7.60	3.45	1.80	26'-5 1/8"	5'-3 3/8"	5	1	90	0
8	1	Both	Yes	7.60	3.45	1.80	31'-8 1/2"	5'-3 3/8"	5	1	90	0

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.51 in (L/ 844)
 Joist inertia..... = 2391.22 in⁴
 Required camber..... = 0.52 in



Mark : G29

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:43

===== LOAD NO 2 (G29#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 1/2	Incl. Cmp [deg]
1	1	Both	Yes	4.80	0.00	0.00	5'-3 5/8"	5'-3 5/8"	5	1	90 0
2	1	Both	Yes	4.80	0.00	0.00	10'-7"	5'-3 3/8"	5	1	90 0
3	1	Both	Yes	4.80	0.00	0.00	15'-10 3/8"	5'-3 3/8"	5	1	90 0
4	1	Both	Yes	4.80	0.00	0.00	21'-1 3/4"	5'-3 3/8"	5	1	90 0
5	1	Both	Yes	4.80	0.00	0.00	26'-5 1/8"	5'-3 3/8"	5	1	90 0
6	1	Both	Yes	4.80	0.00	0.00	31'-8 1/2"	5'-3 3/8"	5	1	90 0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-27.00	38.00	0.00	0.00
(case 2).....:	0.00	0.00	27.00	-38.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type...: at left: C [2] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.19 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

===== End of multiple loads =====

----- FORCES IN MEMBERS [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.01 in)

Left Reaction = 28.88/ -11.45 kips Right Reaction = 24.39/ -6.95 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	21.68	-48.18	LL 4 X .375	z 29 0.67	2'-4 5/8"		
1.1 r			[2]Flat Bar 6 x 1 (50 ksi)		2'-2 5/8"		D = 7.00
1.2	19.61	-43.56	LL 4 X .375	z 36 0.76	2'-4 5/8"		
1.3	24.15	-63.45 x	do	xx 51 0.50	5'-3 3/8"		
1.4	29.71	-85.12	do	z 40 0.56	2'-7 3/4"		
1.5	29.71	-85.12	do	z 40 0.56	do		
1.6	28.47	-89.15 x	do	xx 26 0.56	do		
1.7	28.47	-89.15 x	do	xx 26 0.56	do		
1.8	23.87	-79.00	do	z 40 0.52	do		
1.9	23.87	-79.00	do	z 40 0.52	2'-7 3/4"		
1.10	15.92	-60.66 x	do	xx 51 0.46	5'-3 3/8"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	20.00	-42.90	do	z 36	0.96	2'-4 1/2"		
1.12	22.12	-47.45	LL 4 X .375	z 29	0.88	2'-4 1/2"		
1.12r			[2]Flat Bar 6 x 1 (50 ksi)			3'-1 3/8"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 3 X .281	yy111	0.53	3'-1 3/8"		
2.2	46.79	-18.56	do	yy111	0.76	4'-4 1/4"		
2.3	79.34	-29.47	do	yy111	0.87	5'-3 3/8"		
2.4	90.62	-29.94	do	yy111	0.94	do		
2.5	87.73	-27.06	do	yy110	0.91	do		
2.6	70.66	-20.83	do	yy110	0.84	5'-3 3/8"		
2.7	39.41	-11.23	do	yy110	0.68	4'-4 1/4"		
2.8	0.00	0.00	LL 3 X .281	yy110	0.42	2'-11 3/4"		
End Diagonal								
3.1	41.16	-16.33	x LL 2 X .247	xx 80	0.74	4'-1 7/8"	.247 - 5 5/8"	
3.2	34.72	-18.76	x LL 2 X .247	xx 80	0.63	4'-1 7/8"	.247 - 4 3/4"	
Diagonal Towards End								
4.1	23.87	-8.00	x LL 1.5 X .155	xx101	0.90	4'-0"	.155 - 5 1/4"	
4.2	10.86	-2.71	d U 1 3/8 x 0.136	z 108	0.73	do	.136 - 2 3/4"	
4.3	2.11	-10.86	x LL 1.5 X .155	xx101	0.86	do	.155 - 2 3/8"	
4.4	10.86	-2.71	x LL 1.5 X .155	xx101	0.41	do	.155 - 2 3/8"	
4.5	12.53	-4.57	d U 1 3/8 x 0.136	z 108	0.84	do	.136 - 3 1/8"	
4.6	22.91	-7.03	x LL 1.5 X .155	xx101	0.87	4'-0"	.155 - 5"	
Diagonal Towards Center								
5.1	13.38	-33.72	x LL 2 X .247	xx 65	0.83	3'-5 1/2"	.247 - 4 5/8"	
5.2	8.00	-23.87	x LL 2 X .186	xx 75	0.85	4'-0"	.186 - 4 3/8"	
5.3	0.35	-10.86	x LL 1.5 X .155	xx101	0.86	do	.155 - 2 3/8"	
5.4	4.57	-12.51	x LL 1.5 X .155	xx101	1.00	do	.155 - 2 3/4"	
5.5	7.03	-22.91	x LL 2 X .186	xx 75	0.82	4'-0"	.186 - 4 1/8"	
5.6	8.11	-28.45	x LL 2 X .247	xx 65	0.70	3'-5 3/8"	.247 - 3 7/8"	
Secondary Web Member								
7.1	6.96	-7.87	d U 1 3/8 X 0.176	z 79	0.70	3'-0 7/8"	.176 - 1 1/2"	
7.2	0.00	-1.77	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.27	3'-0"	.118 - 1 1/2"	
7.3	0.00	-1.85	d do	z 85	0.28	do	do	
7.4	0.00	-1.64	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.25	3'-0"	.118 - 1 1/2"	
7.5	9.82	-10.72	d U 1 3/8 X 0.176	z 79	0.95	3'-0 7/8"	.176 - 2"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 29'-7 1/4" ==> 0 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 33'-4 1/8" ==> 2 Row(s) Minimum Concentrated loads
 Acc. to the force

POSITION @ Top Chord @ Bottom Chord
 KB 15'-10 3/8" (15'-10 3/8")
 KB 21'-1 3/4" (21'-1 3/4")

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle



Mark : G29

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:43

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1409 / 1455 Area to Paint : 247.29 ft2 Material Sort : Cost

This mark has been edited

938(968)-938(968)-25-12/8-1409(1455) NNN,NNN

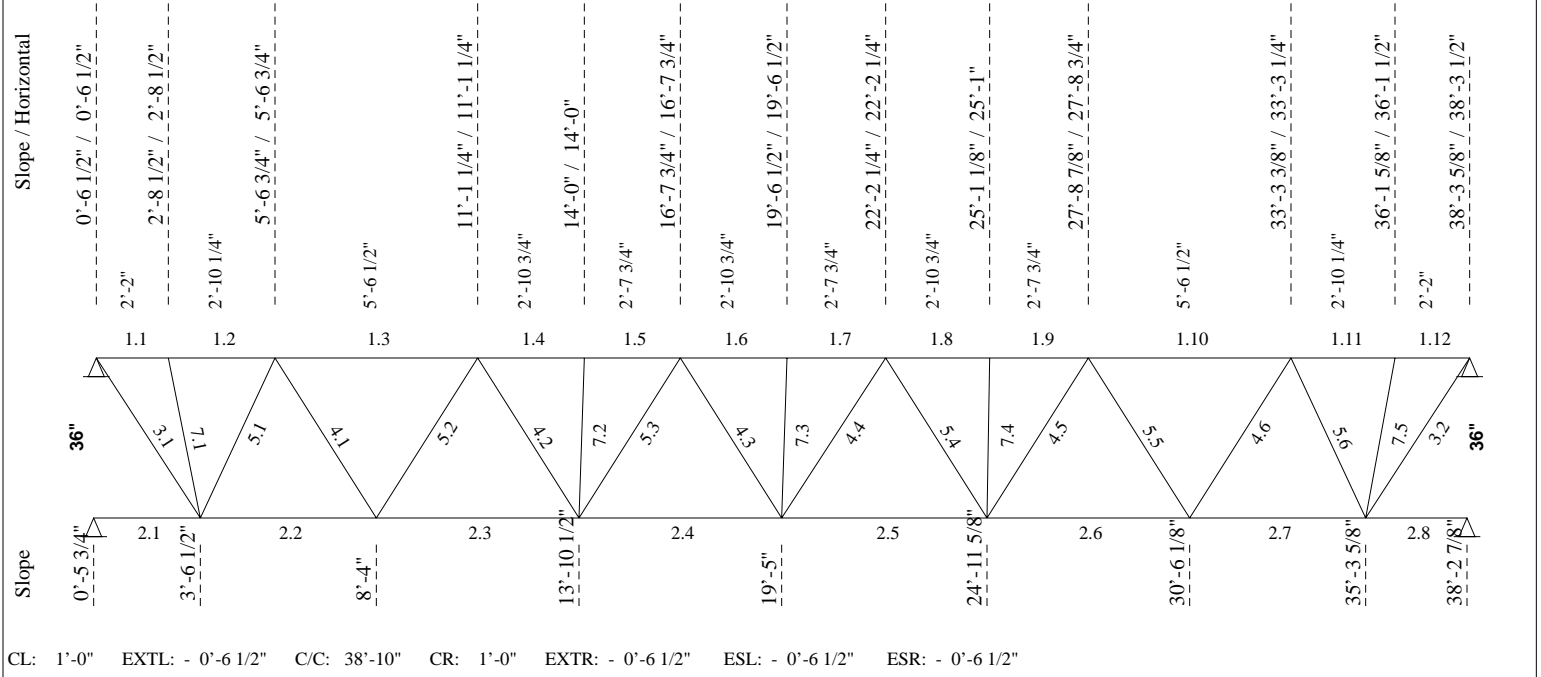
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G30 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{9 \frac{3}{8}}{12} = 0 \frac{1}{4}"$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N7.6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	7.60	3.45	1.80	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	7.60	3.45	1.80	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	7.60	3.45	1.80	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	7.60	3.45	1.80	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	7.60	3.45	1.80	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	7.60	3.45	1.80	33'-3 1/4"	5'-6 1/2"	5	1	90	0

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.51 in (L/ 885)
 Joist inertia..... = 2131.49 in⁴
 Required camber..... = 0.57 in



Mark : G30

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:43

=====**LOAD NO 2 (G30#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 36G7N6 LIVE LOAD...: 0.00 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.80	0.00	0.00	5'-6 3/4"	5'-6 3/4"	5	1	90	0
2	1	Both	Yes	4.80	0.00	0.00	11'-1 1/4"	5'-6 1/2"	5	1	90	0
3	1	Both	Yes	4.80	0.00	0.00	16'-7 3/4"	5'-6 1/2"	5	1	90	0
4	1	Both	Yes	4.80	0.00	0.00	22'-2 1/4"	5'-6 1/2"	5	1	90	0
5	1	Both	Yes	4.80	0.00	0.00	27'-8 3/4"	5'-6 1/2"	5	1	90	0
6	1	Both	Yes	4.80	0.00	0.00	33'-3 1/4"	5'-6 1/2"	5	1	90	0

-----**END MOMENTS [ft-kip] & AXIAL LOADS[kips]**-----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-17.00	27.00	0.00	0.00
(case 2).....:	0.00	0.00	17.00	-27.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type...: at left: C [2] at right: C [2]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.04 in (L/ 9999)

=====**End of multiple loads**=====

-----**F O R C E S I N M E M B E R S [kips]**-----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 34.14 in)

Left Reaction = 22.83/ -5.40 kips Right Reaction = 22.84/ -5.40 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	9.71	-34.73	LL 3.5 X .375	yy 42 0.75	2'-2"		
1.1 r			[2]Flat Bar 4 x 1 (50 ksi)		2'-0"		D = 5.00
1.2	9.12	-32.61	LL 3.5 X .375	z 50 0.65	2'-10 1/4"		
1.3	12.80	-54.08	x do	xx 62 0.51	5'-6 1/2"		
1.4	18.02	-76.14	x do	xx 32 0.56	2'-10 3/4"		
1.5	18.02	-76.14	do	z 46 0.60	2'-7 3/4"		
1.6	19.73	-83.39	x do	xx 32 0.61	2'-10 3/4"		
1.7	19.73	-83.39	x do	xx 30 0.61	2'-7 3/4"		
1.8	17.94	-75.81	x do	xx 32 0.56	2'-10 3/4"		
1.9	17.94	-75.81	do	z 46 0.59	2'-7 3/4"		
1.10	12.64	-53.41	x do	xx 62 0.51	5'-6 1/2"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.11	9.50	-31.97	do	z 50	0.89	2'-10 1/4"		
1.12	10.53	-35.44	LL 3.5 X .375	yy 46	0.68	2'-2"		
1.12r			[2]Flat Bar 6 x 1 (50 ksi)			3'-0 3/4"		D = 7.00
Bottom Chord								
2.1	0.00	0.00	LL 3 X .25	yy118	0.44	3'-0 3/4"		
2.2	38.93	-9.21	do	yy118	0.73	4'-9 1/2"		
2.3	68.56	-16.22	do	yy118	0.89	5'-6 1/2"		
2.4	83.38	-19.73	do	yy118	0.97	do		
2.5	83.38	-19.73	do	z 112	0.97	do		
2.6	68.56	-16.22	do	yy117	0.89	5'-6 1/2"		
2.7	38.93	-9.21	do	yy117	0.73	4'-9 1/2"		
2.8	0.00	0.00	LL 3 X .25	yy117	0.46	2'-11 1/4"		
End Diagonal								
3.1	32.21	-11.87	x LL 2 X .186	xx 78	0.76	4'-1 1/2"	.186 -	5 7/8"
3.2	32.21	-15.86	x LL 2 X .186	xx 78	0.76	4'-1 1/2"	.186 -	5 7/8"
Diagonal Towards End								
4.1	21.23	-5.31	1" SQUARE BAR	z 165	0.96	4'-1"	.250 -	2 7/8"
4.2	10.63	-2.66	U 1 x 1 1/4 x 0.136	z 127	0.88	do	.136 -	2 5/8"
4.3	9.30	-2.32	U 1 x 1 1/8 x 0.118	z 138	0.93	do	.118 -	2 5/8"
4.4	9.30	-2.32	U 1 x 1 1/8 x 0.118	z 138	0.93	do	.118 -	2 5/8"
4.5	10.63	-2.66	U 1 x 1 1/4 x 0.136	z 127	0.88	do	.136 -	2 5/8"
4.6	21.24	-5.31	1" SQUARE BAR	z 165	0.96	4'-1"	.250 -	2 7/8"
Diagonal Towards Center								
5.1	6.62	-27.98	x LL 2 X .186	xx 68	0.92	3'-7 3/8"	.186 -	5 1/8"
5.2	5.02	-21.23	x LL 2 X .156	xx 77	0.94	4'-1"	.156 -	4 5/8"
5.3	2.51	-10.61	x LL 1.5 X .155	xx103	0.88	do	.155 -	2 3/8"
5.4	2.51	-10.61	x LL 1.5 X .155	xx103	0.88	do	.155 -	2 3/8"
5.5	5.02	-21.23	x LL 2 X .156	xx 77	0.94	4'-1"	.156 -	4 5/8"
5.6	6.62	-27.98	x LL 2 X .186	xx 68	0.92	3'-7 3/8"	.186 -	5 1/8"
Secondary Web Member								
7.1	5.01	-5.69	d U 1 3/8 x 0.157	z 81	0.57	3'-1 3/8"	.158 -	1 1/2"
7.2	0.00	-1.59	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.24	3'-0"	.118 -	1 1/2"
7.3	0.00	-1.74	d do	z 85	0.26	do	do	
7.4	0.00	-1.58	d U 1 3/8 x 1 1/4 x 0.118	z 85	0.24	3'-0"	.118 -	1 1/2"
7.5	7.95	-8.62	d U 1 3/8 x 0.157	z 81	0.87	3'-1 3/8"	.158 -	1 7/8"

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	26'-8 3/4" ==>	0 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	33'-2 1/2" ==>	2 Row(s) Minimum	Concentrated loads
			Acc. to the force

POSITION @ Top Chord @ Bottom Chord

		KB 16'-7 3/4" (16'-7 3/4")
		KB 22'-2 1/4" (22'-2 1/4")

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back,
- U = 1 U profile,
- BL = 2 angles welded in box,
- UU = 2 U profiles one inside the other,
- BR = Round bar
- CL = Crimped angle



Mark : G30

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:43

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1265 / 1304 Area to Paint : 231.63 ft2 Material Sort : Cost

This mark has been edited

839(865)-839(865)-25-12/8-1265(1304) NNN,NNN

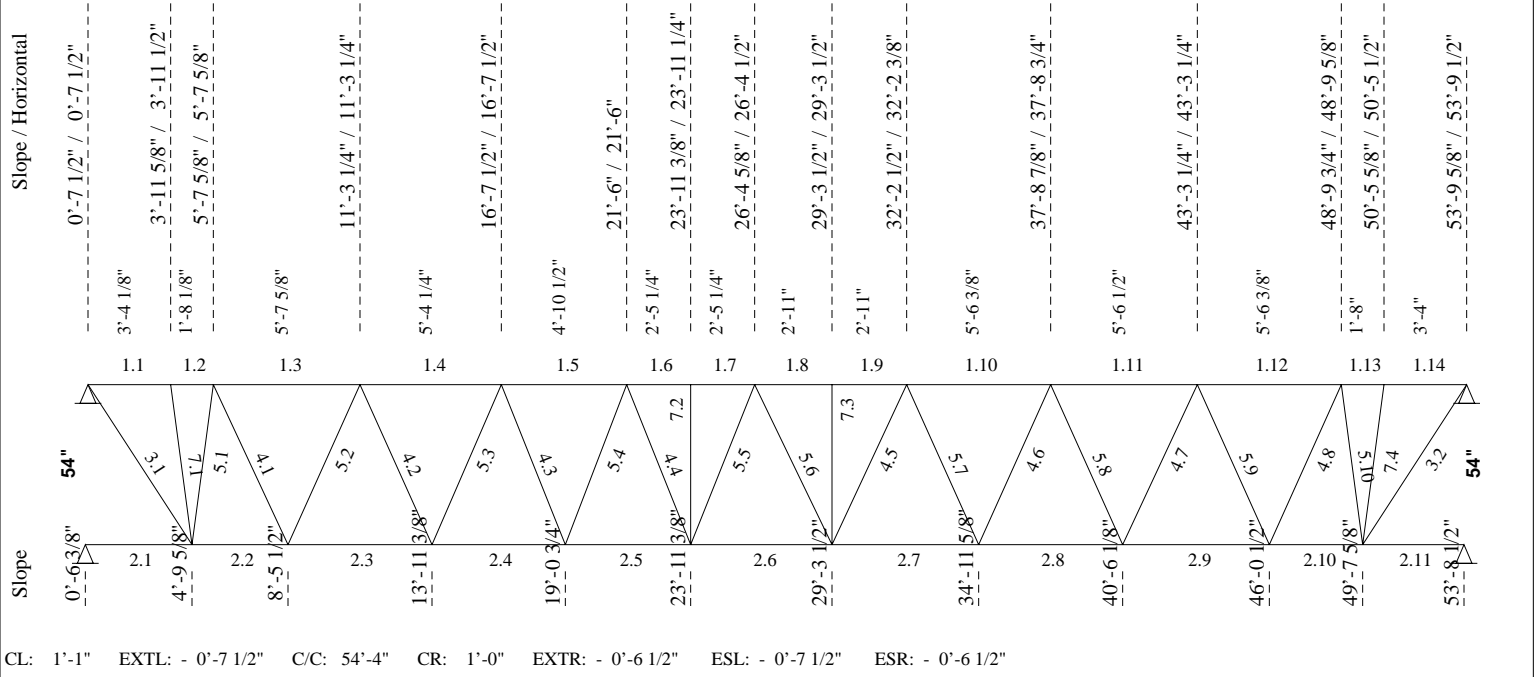
Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : G31 (G (3), Asymmetrical,, Free ends)

$$\Delta = \frac{13 \frac{1}{4}}{12} = 0 \frac{1}{4}''$$

ALL RUNNINGS ARE GIVEN FROM THE LEFT REFERENCE



----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N7.6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	7.60	3.42	2.40	5'-7 5/8"	5'-7 5/8"	5	1	90	0
2	1	Both	Yes	7.60	3.42	2.40	11'-3 1/4"	5'-7 5/8"	5	1	90	0
3	1	Both	Yes	3.80	3.80	3.80	11'-3 1/4"	0'-0"	5	1	90	0
4	1	Both	Yes	7.60	3.42	2.40	16'-7 1/2"	5'-4 1/4"	5	1	90	0
5	1	Both	Yes	6.00	0.00	0.00	16'-7 1/2"	0'-0"	5	1	90	0
6	1	Both	Yes	3.80	3.80	3.80	16'-7 1/2"	0'-0"	5	1	90	0
8	1	Both	Yes	7.60	3.42	2.40	21'-6"	0'-0"	5	1	90	0
7	1	Both	Yes	6.00	0.00	0.00	21'-6"	4'-10 1/2"	5	1	90	0
10	1	Both	Yes	7.60	3.42	1.80	26'-4 1/2"	0'-0"	5	1	90	0
9	1	Both	Yes	6.00	0.00	0.00	26'-4 1/2"	4'-10 1/2"	5	1	90	0
11	1	Both	Yes	7.60	3.42	1.80	32'-2 3/8"	5'-9 7/8"	5	1	90	0
12	1	Both	Yes	7.60	3.42	1.80	37'-8 3/4"	5'-6 3/8"	5	1	90	0
13	1	Both	Yes	7.60	3.42	1.80	43'-3 1/8"	5'-6 3/8"	5	1	90	0
14	1	Both	Yes	7.60	3.42	1.80	48'-9 5/8"	5'-6 3/8"	5	1	90	0
15	1	Both	Yes	3.80	3.80	3.80	48'-9 5/8"	0'-0"	5	1	90	0



----- DEFLECTION -----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.65 in (L/ 982)
 Joist inertia..... = 8865.36 in⁴
 Required camber..... = 1.16 in

===== LOAD NO 2 (G31#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 0.00 lb/ft 54G10N7.6 LIVE LOAD...: 0.00 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	Yes	4.80	0.00	0.00	5'-7 5/8"	5'-7 5/8"	5	1	90	0
2	1	Both	Yes	4.80	0.00	0.00	11'-3 1/4"	5'-7 5/8"	5	1	90	0
3	1	Both	Yes	4.80	0.00	0.00	16'-7 1/2"	5'-4 1/4"	5	1	90	0
4	1	Both	Yes	6.72	0.00	0.00	16'-7 1/2"	0'-0"	5	1	90	0
5	1	Both	Yes	6.72	0.00	0.00	21'-6"	4'-10 1/2"	5	1	90	0
6	1	Both	Yes	4.89	0.00	0.00	21'-6"	0'-0"	5	1	90	0
7	1	Both	Yes	6.72	0.00	0.00	26'-4 1/2"	4'-10 1/2"	5	1	90	0
8	1	Both	Yes	4.80	0.00	0.00	26'-4 1/2"	0'-0"	5	1	90	0
9	1	Both	Yes	4.80	0.00	0.00	32'-2 3/8"	5'-9 7/8"	5	1	90	0
10	1	Both	Yes	4.80	0.00	0.00	37'-8 3/4"	5'-6 3/8"	5	1	90	0
11	1	Both	Yes	4.80	0.00	0.00	43'-3 1/4"	5'-6 1/2"	5	1	90	0
12	1	Both	Yes	4.80	0.00	0.00	48'-9 5/8"	5'-6 3/8"	5	1	90	0

----- END MOMENTS [ft-kip] & AXIAL LOADS[kips] -----

	MOMENTS		AXIAL LOADS			
	---L---	---R---	<<< Top ---L---	Chord >>> ---R---	<< Bottom ---L---	Chord >>> ---R---
(W) Wind (case 1).....:	0.00	0.00	0.00	0.00	0.00	0.00
(case 2).....:	0.00	0.00	0.00	0.00	0.00	0.00
(L) Live Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(D) Dead Load.....:	0.00	0.00	0.00	0.00	0.00	0.00
(E) Seism (case 1).....:	0.00	0.00	-3.00	17.00	0.00	0.00
(case 2).....:	0.00	0.00	3.00	-17.00	0.00	0.00

Axial Force Transf.By.: at left: Seat at right: Seat
 Reinforcement Type....: at left: C [0] at right: C [0]
 Bearing Depth [in]: at left: 7 1/2" at right: 7 1/2"
 Splice [Yes/No].....: Yes Imposed Rows of Bridging Y/N...: No

----- DEFLECTION -----

Allowed deflection under live load..... = 1.76 in (L/ 360)
 Calculated deflection under service live load..... = 0.06 in (L/ 9999)

===== End of multiple loads =====



Mark : G31

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:43

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 51.68 in)

Left Reaction = 51.44/ -16.01 kips Right Reaction = 46.42/ -13.99 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord								
1.1	15.24	-48.95	LL 4 X .438	z 49	0.37	3'-4 1/8"		
1.2	15.24	-48.95	do	z 26	0.44	1'-8 1/8"		
1.3	27.22	-87.47	do	z 86	0.76	5'-7 5/8"		
1.4	40.60	-136.05	x do	xx 52	0.84	5'-4 1/4"		
1.5	45.77	-164.33	x do	xx 48	0.98	4'-10 1/2"		
1.6	45.73	-173.34	do	z 37	0.97	2'-5 1/4"		
1.7	45.73	-173.34	do	z 37	0.97	2'-5 1/4"		
1.8	43.00	-165.60	do	z 45	0.96	2'-11"		
1.9	43.00	-165.60	do	z 45	0.96	2'-11"		
1.10	37.88	-144.48	x do	xx 54	0.90	5'-6 3/8"		
1.11	30.53	-113.98	do	z 85	0.97	5'-6 1/2"		
1.12	20.87	-73.72	do	z 85	0.63	5'-6 3/8"		
1.13	12.67	-42.05	do	z 25	0.42	1'-8"		
1.14	13.18	-43.73	LL 4 X .438	z 38	0.60	3'-4"		
1.14r			[0]Flat Bar 4 x 1 (50 ksi)			4'-3 1/8"		D = 5.00
Bottom Chord								
2.1	0.00	0.00	LL 4 X .438	yy139	0.35	4'-3 1/4"		
2.2	57.84	-18.01	do	yy139	0.69	3'-7 7/8"		
2.3	115.19	-35.83	do	yy139	0.87	5'-6"		
2.4	155.50	-45.05	do	yy139	0.90	5'-1 3/8"		
2.5	172.50	-46.43	do	yy139	0.90	4'-10 1/2"		
2.6	174.11	-45.09	do	z 82	0.90	5'-4 1/4"		
2.7	157.62	-41.05	do	z 87	0.81	5'-8 1/8"		
2.8	132.19	-34.91	do	yy115	0.73	5'-6 3/8"		
2.9	96.97	-26.44	do	yy115	0.61	5'-6 3/8"		
2.10	52.00	-15.67	do	yy115	0.45	3'-7 1/8"		
2.11	0.00	0.00	LL 4 X .438	yy115	0.25	4'-0 7/8"		
End Diagonal								
3.1	70.23	-21.87	LL 3 X .313	z 120	0.66	6'-0 1/4"	.313 - 7 5/8"	T45
3.2	63.30	-19.07	LL 3 X .313	z 120	0.59	6'-0 1/4"	.313 - 6 7/8"	T45
Diagonal Towards End								
4.1	52.36	-16.27	x LL 2 X .247	xx101	0.94	5'-3 3/4"	.247 - 7 1/8"	T45
4.2	38.17	-9.54	x LL 2 X .186	xx 99	0.90	5'-2 7/8"	.186 - 6 7/8"	T45
4.3	17.26	-4.31	U 1 3/8 x 0.157	z 134	0.99	5'-1 3/8"	.158 - 3 3/4"	
4.4	15.52	-3.88	do	z 134	0.89	5'-1 3/8"	.158 - 3 3/8"	
4.5	16.30	-4.08	U 1 3/8 x 0.157	z 141	0.97	5'-4 3/8"	.158 - 3 1/2"	
4.6	23.53	-5.88	d U 1 3/4 x 0.197	z 110	0.85	5'-3 3/8"	.197 - 4"	
4.7	32.57	-8.14	x LL 2 X .156	xx 99	0.91	do	.156 - 7"	
4.8	41.59	-10.40	x LL 2 X .186	xx 99	0.98	5'-3 3/8"	.186 - 7 1/2"	
Diagonal Towards Center								
5.1	16.31	-52.38	x LL 3 X .25	xx 57	0.79	4'-6 7/8"	.250 - 7 1/8"	
5.2	16.27	-52.36	x LL 3 X .25	xx 66	0.86	5'-3 3/4"	.250 - 7 1/8"	T45
5.3	8.73	-38.17	x LL 2.5 X .25	xx 79	0.85	5'-2 7/8"	.250 - 5 1/8"	
5.4	1.40	-17.26	x LL 2 X .156	xx 96	0.96	5'-1 3/8"	.156 - 3 3/4"	
5.5	0.00	-15.52	x do	xx 96	0.86	5'-1 3/8"	.156 - 3 3/8"	
5.6	3.60	-16.30	x LL 2 X .156	xx100	0.97	5'-4 3/8"	.156 - 3 1/2"	
5.7	5.68	-23.53	x LL 2 X .247	xx101	0.89	5'-3 3/8"	.247 - 3 1/4"	
5.8	7.83	-32.57	x LL 2.5 X .188	xx 79	1.00	do	.187 - 5 7/8"	
5.9	9.96	-41.59	x LL 2.5 X .25	xx 80	0.93	5'-3 3/8"	.250 - 5 5/8"	



Mark : G31

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:43

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
5.10	14.24	-47.24	x LL 3 X .25	xx 57	0.71	4'-6 7/8"	.250 - 6 3/8"	
Secondary Web Member								
7.1	0.52	-1.27	U 1 3/8 x 0.136	z 122	0.26	4'-6 7/8"	.136 - 1 1/2"	
7.2	0.00	-3.65	do	z 120	0.73	4'-6"	do	
7.3	0.00	-3.49	do	z 120	0.69	4'-6"	do	
7.4	2.97	-3.60	U 1 3/8 x 0.136	z 122	0.74	4'-6 7/8"	.136 - 1 1/2"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	32'-0 3/4" ==>	0 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	45'-0 1/8" ==>	2 Row(s) Minimum	Concentrated loads
			Acc. to the force

POSITION	@ Top Chord	@ Bottom Chord
		KB 26'-4 5/8" (26'-4 1/2")
		KB 32'-2 1/2" (32'-2 3/8")

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads
 Definition of the categories (Cat.):

5 = transferred by an additional member and lateral support

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
3052 / 3174	Area to Paint	: 454.26 ft2
		Material Sort : Cost

This mark has been edited

2042(2127)-2042(2127)-25-14/11-3052(3174) NNN,NNN



Mark : J1

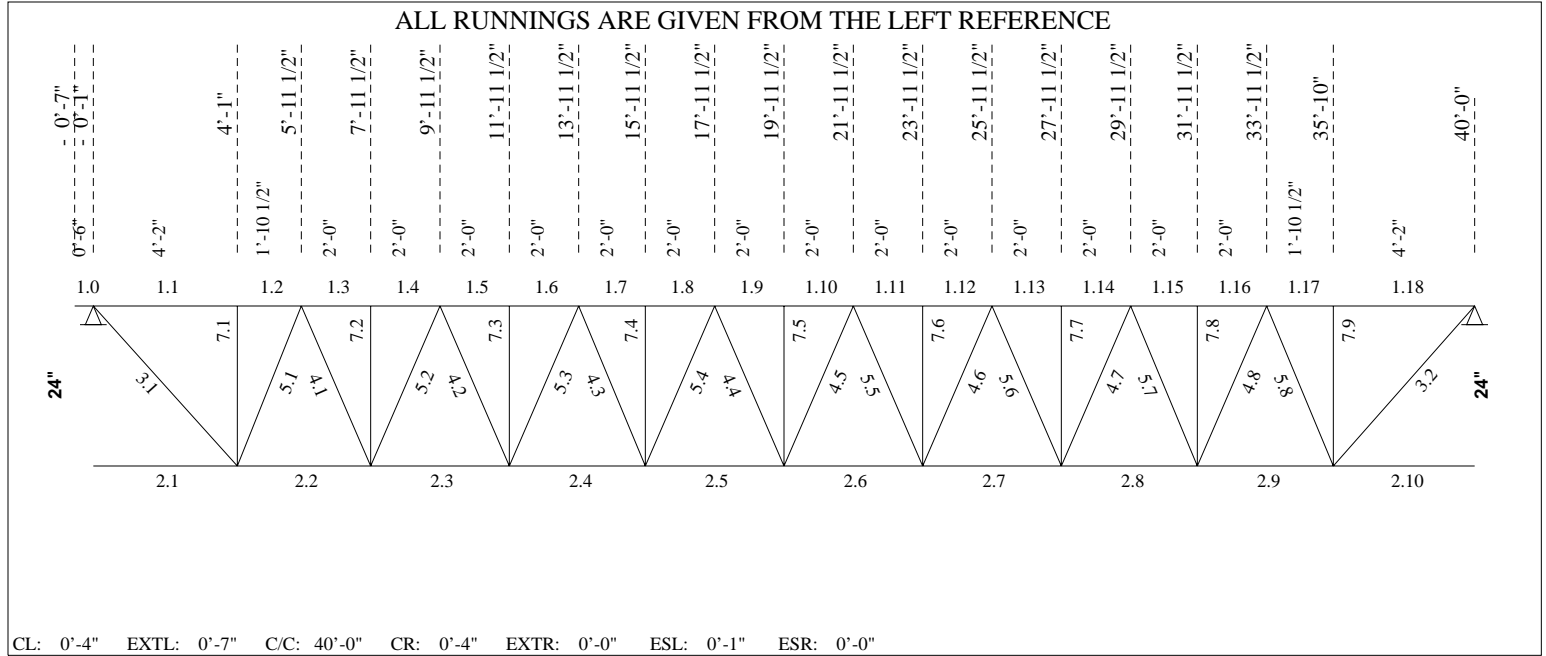
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:44

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J1 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 298.75 lb/ft 24KCS3 LIVE LOAD...: 149.38 lb/ft

----- **EXTENSION** -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.037 ft-kip (0.232)
 TL = 299 LL = 149 ntQL = 64 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07
 I = 0.69 in⁴ Cal.D. LL = L/ 9999 = 0.00 TL = L/ -172 = -0.03

----- **UPLIFT** -----

Net uplift uniform load : 64.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.33 in (L/ 360)
 Calculated deflection under service live load..... = 0.87 in (L/ 547)
 Joist inertia..... = 381.44 in⁴
 Required camber..... = 0.63 in



Mark : J1

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:44

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 22.85 in)

Left Reaction = 7.20/ -1.30 kips Right Reaction = 7.20/ -1.27 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .247	z 15	0.23	0'-6"		
1.1	2.40	-11.22	x do	xx 79	0.98	4'-2"		
1.2	2.40	-11.22	do	z 58	0.88	1'-10 1/2"		
1.3	4.22	-31.51	do	z 46	0.76	2'-0"		
1.4	4.22	-31.51	do	z 46	0.76	do		
1.5	5.56	-31.51	do	z 46	0.72	do		
1.6	5.56	-31.51	do	z 46	0.72	do		
1.7	6.37	-31.51	do	z 46	0.72	do		
1.8	6.37	-31.51	do	z 46	0.72	do		
1.9	6.64	-31.51	do	z 46	0.72	do		
1.10	6.64	-31.51	do	z 46	0.72	do		
1.11	6.37	-31.51	do	z 46	0.72	do		
1.12	6.37	-31.51	do	z 46	0.72	do		
1.13	5.56	-31.51	do	z 46	0.72	do		
1.14	5.56	-31.51	do	z 46	0.72	do		
1.15	4.22	-31.51	do	z 46	0.76	do		
1.16	4.22	-31.51	do	z 46	0.76	2'-0"		
1.17	2.40	-11.22	do	z 58	0.88	1'-10 1/2"		
1.18	2.40	-11.22	x LL 2 X .247	xx 79	0.98	4'-2"		
Bottom Chord								
2.1	31.51	0.00	LL 2 X .156	z 121	0.88	4'-2"		
2.2	31.51	-3.34	do	z 118	0.88	3'-10 1/2"		
2.3	31.51	-4.96	do	z 121	0.88	4'-0"		
2.4	31.51	-6.03	do	z 121	0.88	do		
2.5	31.51	-6.57	do	z 121	0.88	do		
2.6	31.51	-6.57	do	z 121	0.88	do		
2.7	31.51	-6.03	do	z 121	0.88	do		
2.8	31.51	-4.96	do	z 121	0.88	4'-0"		
2.9	31.51	-3.34	do	z 118	0.88	3'-10 1/2"		
2.10	31.51	0.00	LL 2 X .156	z 121	0.88	4'-2"		
End Diagonal								
3.1	16.75	-2.66	BR 1"	yy170	0.79	4'-5 5/8"	.230 - 1 3/4"	
3.2	16.75	-2.66	BR 1"	yy170	0.79	4'-5 5/8"	.230 - 1 3/4"	
Diagonal Towards End								
4.1	10.44	-10.44	U 1 3/8 x 0.157	z 56	0.96	2'-10"	.158 - 2 1/4"	
4.2	10.44	-10.44	do	z 56	0.96	do	do	
4.3	10.44	-10.44	do	z 56	0.96	do	do	
4.4	10.44	-10.44	do	z 56	0.96	do	do	
4.5	10.44	-10.44	do	z 56	0.96	do	do	
4.6	10.44	-10.44	do	z 56	0.96	do	do	
4.7	10.44	-10.44	do	z 56	0.96	do	do	
4.8	10.44	-10.44	U 1 3/8 x 0.157	z 56	0.96	2'-10"	.158 - 2 1/4"	
Diagonal Towards Center								
5.1	1.34	-10.10	i U 1 3/8 x 0.157	z 54	0.91	2'-8 7/8"	.158 - 2 1/8"	
5.2	1.02	-10.44	do	z 56	0.96	2'-10"	.158 - 2 1/4"	
5.3	0.65	-10.44	do	z 56	0.96	do	do	
5.4	0.28	-10.44	do	z 56	0.96	do	do	
5.5	0.28	-10.44	do	z 56	0.96	do	do	
5.6	0.65	-10.44	do	z 56	0.96	do	do	



Mark : J1

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:44

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
5.7	1.02	-10.44		do		z 56 0.96	2'-10"	.158 -	2 1/4"	
5.8	1.34	-10.10	i	U 1 3/8 x 0.157		z 54 0.91	2'-8 7/8"	.158 -	2 1/8"	
Secondary Web Member										
7.1	0.19	-7.20	i	U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"	.118 -	2"	
7.2	0.13	-7.20		do		z 43 0.85	do		do	
7.3	0.13	-7.20		do		z 43 0.85	do		do	
7.4	0.13	-7.20		do		z 43 0.85	do		do	
7.5	0.13	-7.20		do		z 43 0.85	do		do	
7.6	0.13	-7.20		do		z 43 0.85	do		do	
7.7	0.13	-7.20		do		z 43 0.85	do		do	
7.8	0.13	-7.20		do		z 43 0.85	do		do	
7.9	0.19	-7.20	i	U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"	.118 -	2"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	16'-3 1/8" ==>	3 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	24'-5 1/2" ==>	5 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-11 1/4"	4'-1"
	19'-11 1/2"	9'-11 1/4"
	29'-11 3/4"	19'-11 1/2"
		29'-11 3/4"
		35'-10"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

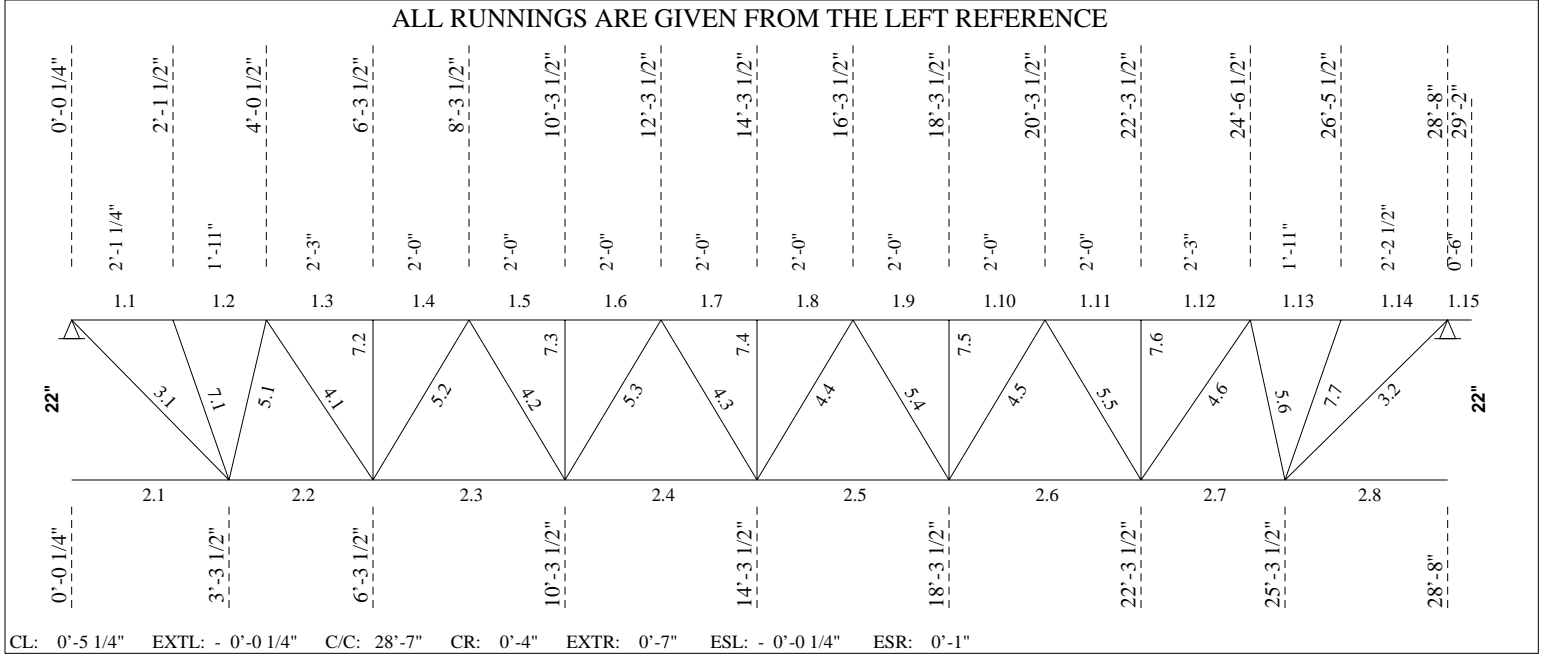
Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
537 / 566	Area to Paint	: 152.39 ft2
		Material Sort : Cost

363(382)-363(382)-25-18/10-537(566) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J2 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 332.50 lb/ft 22K4 LIVE LOAD...: 251.92 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-6" Type F[S] Shoe = 2.50 Mf = -0.042 ft-kip (0.277)
 TL = 332 LL = 252 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07
 I = 0.58 in^4 Cal.D. LL = L/ 562 = 0.01 TL = L/ 3143 = 0.00

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	1.50	1.50	12'-4"*	12'-4"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	17'-4"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.94 in (L/ 360)
 Calculated deflection under service live load..... = 0.80 in (L/ 423)
 Joist inertia..... = 294.78 in^4
 Required camber..... = 0.36 in



Mark : J2

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:44

=====**LOAD NO 2 (J2#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 332.50 lb/ft 22K4 LIVE LOAD...: 251.92 lb/ft

-----**EXTENSION**-----

Tcx-R 0'-6" Type F[S] Shoe = 2.50 Mf = -0.042 ft-kip 0.000
 TL = 332 LL = 252 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.90	1.90	0.00	12'-4"*	12'-4"	1	1	90	0
2	1	Both	No	1.50	0.00	0.00	12'-4"*	0'-0"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	17'-4"*	5'-0"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	17'-4"*	0'-0"	1	1	0	0

-----**UPLIFT**-----

Net uplift uniform load : 84.00 lb/ft

-----**DEFLECTION**-----

Allowed deflection under live load..... = 0.94 in (L/ 360)
 Calculated deflection under service live load..... = 0.69 in (L/ 490)

=====**LOAD NO 3 (J2#03)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 332.50 lb/ft 22K4 LIVE LOAD...: 251.92 lb/ft

-----**EXTENSION**-----

Tcx-R 0'-6" Type F[S] Shoe = 2.50 Mf = -0.042 ft-kip 0.000
 TL = 332 LL = 252 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.90	-1.90	0.00	12'-4"*	12'-4"	1	1	90	0
2	1	Both	No	-1.50	-1.50	0.00	12'-4"*	0'-0"	1	1	0	0
3	1	Both	No	1.90	1.90	0.00	17'-4"*	5'-0"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	17'-4"*	0'-0"	1	1	0	0

-----**UPLIFT**-----

Net uplift uniform load : 84.00 lb/ft

-----**DEFLECTION**-----

Allowed deflection under live load..... = 0.94 in (L/ 360)
 Calculated deflection under service live load..... = 0.68 in (L/ 497)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.87 in)

Left Reaction = 6.16/ -2.64 kips Right Reaction = 6.42/ -2.78 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	4.57	-11.59	LL 2 X .203	z 59	0.41	2'-1 1/4"		
1.2	4.46	-11.16	do	z 59	0.51	1'-11"		
1.3	8.36	-18.05	do	z 52	0.52	2'-3"		
1.4	8.36	-18.05	do	z 46	0.67	2'-0"		
1.5	12.87	-26.01	do	z 46	0.68	do		
1.6	12.87	-26.01	do	z 46	0.78	do		
1.7	14.88	-29.19	do	z 46	0.78	do		
1.8	14.88	-29.19	do	z 46	0.96	do		
1.9	13.56	-26.76	do	z 46	0.96	do		
1.10	13.56	-26.76	do	z 46	0.93	do		
1.11	8.85	-18.65	do	z 46	0.62	2'-0"		
1.12	8.85	-18.65	do	z 52	0.55	2'-3"		
1.13	4.78	-10.47	do	z 59	0.52	1'-11"		
1.14	4.89	-10.92	do	z 62	0.41	2'-2 1/2"		
1.15	0.00	0.00	LL 2 X .203	z 15	0.28	0'-6"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 94	0.31	3'-3 1/4"		
2.2	12.23	-5.49	do	z 82	0.58	3'-0"		
2.3	22.41	-10.71	do	z 109	0.74	4'-0"		
2.4	28.85	-14.83	do	z 109	1.00	do		
2.5	28.77	-14.73	do	z 109	0.99	do		
2.6	23.09	-11.30	do	z 109	0.76	4'-0"		
2.7	12.74	-5.86	do	z 82	0.59	3'-0"		
2.8	0.00	0.00	LL 2 X .156	z 97	0.33	3'-4 1/2"		
End Diagonal								
3.1	11.94	-5.23	BR 1"	yy137	0.92	3'-7 1/4"	.230 - 1 1/4"	
3.2	12.42	-5.57	1" SQUARE BAR	yy121	0.61	3'-8 3/8"	.250 - 1 3/4"	
Diagonal Towards End								
4.1	7.36	-3.63	U 1 x 1 1/8 x 0.118	z 74	0.78	2'-10 7/8"	.118 - 2 1/8"	
4.2	4.77	-2.86	U 1 x 0.091	z 72	0.81	2'-8 1/2"	.090 - 1 3/4"	
4.3	2.91	-2.02	U 1 x 3/4 x 0.091	z 98	0.71	do	.091 - 1 1/2"	
4.4	2.86	-1.99	U 1 x 3/4 x 0.091	z 98	0.70	do	.091 - 1 1/2"	
4.5	4.87	-3.00	U 1 x 0.091	z 72	0.85	2'-8 1/2"	.090 - 1 3/4"	
4.6	7.47	-3.78	U 1 x 1 1/8 x 0.118	z 74	0.81	2'-10 7/8"	.118 - 2 1/8"	
Diagonal Towards Center								
5.1	2.61	-5.66	U 1 x 1 1/8 x 0.118	z 49	0.90	1'-11 3/4"	.118 - 1 5/8"	
5.2	3.11	-5.78	U 1 x 1 1/4 x 0.136	z 63	0.96	2'-8 1/2"	.136 - 1 1/2"	
5.3	2.60	-3.76	U 1 x 1 1/8 x 0.118	z 69	0.76	do	.118 - 1 1/2"	
5.4	1.55	-2.70	U 1 x 1 1/8 x 0.118	z 69	0.54	do	.118 - 1 1/2"	
5.5	3.25	-5.89	U 1 x 1 1/4 x 0.136	z 63	0.97	2'-8 1/2"	.136 - 1 1/2"	
5.6	2.71	-5.74	U 1 x 1 1/8 x 0.118	z 49	0.91	1'-11 3/4"	.118 - 1 5/8"	
Secondary Web Member								
7.1	0.19	-0.83	U 1 x 3/4 x 0.091	z 78	0.23	2'-2 1/8"	.091 - 1"	
7.2	0.18	-0.80	do	z 65	0.19	1'-10"	do	
7.3	0.17	-0.80	do	z 65	0.19	do	do	
7.4	0.17	-0.82	do	z 65	0.20	do	do	
7.5	0.95	-1.76	do	z 65	0.42	do	do	
7.6	0.18	-0.80	do	z 65	0.19	1'-10"	do	



Mark : J2

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:44

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
7.7	0.20	-0.85	x = tied at mid-length U 1 x 3/4 x 0.091	z 78 0.23	2'-2 1/8"	Weld-Ea.Side .091 - 1"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	16'-5 7/8" ==>	2 Row(s) Minimum	Lateral Supports Deck (36")
@ Bottom Chord:	24'-5 1/8" ==>	4 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-6 7/8"	3'-3 1/2"
	19'-1 3/8"	9'-6 7/8"
		19'-1 3/8"
		25'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension,	3 = Right Extension
Side: Both Sides, Near Side, Far Side	Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

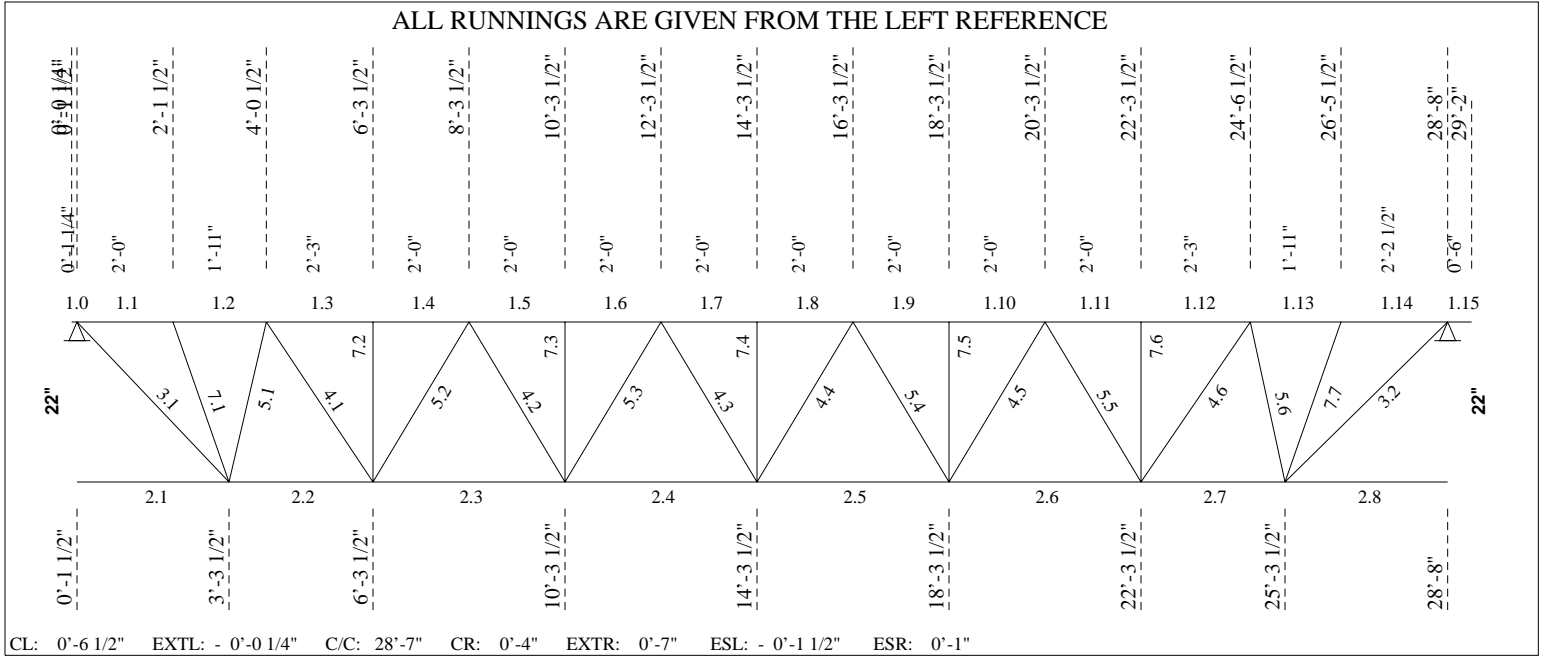
Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
318 / 346	Area to Paint	: 102.39 ft2
		Material Sort : Cost

215(234)-215(234)-25-14/8-318(346) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J3 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 335.00 lb/ft 22K4 LIVE LOAD...: 254.83 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-1 1/4"	Type	F[S]	Shoe =	2.50	Mf =	-0.002 ft-kip	(0.289)
TL =	335	LL =	255 ntQL =	84	Req.D. LL = L/	180 =	0.01	TL = L/ 90 = 0.01
I =	0.19 in^4				Cal.D. LL = L/	9999 =	0.00	TL = L/ -463 = 0.00
Tcx-R	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.042 ft-kip	(0.397)
TL =	335	LL =	255 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	0.19 in^4				Cal.D. LL = L/	7682 =	0.00	TL = L/ -501 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	0.94 in (L/ 360)
Calculated deflection under service live load..... =	0.73 in (L/ 465)
Joist inertia..... =	197.37 in^4
Required camber..... =	0.36 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 21.14 in)

Left Reaction = 4.76/ -1.19 kips Right Reaction = 4.89/ -1.23 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.0	0.00	0.00	LL 1.5 X .155	z 4 0.29	0'-1 1/4"		
1.1	1.89	-7.52	do	z 75 0.61	2'-0"		
1.2	1.78	-7.11	do	z 78 0.76	1'-11"		
1.3	3.18	-12.67	do	z 69 0.78	2'-3"		
1.4	3.18	-12.67	do	z 61 0.90	2'-0"		
1.5	4.34	-17.31	do	z 61 0.91	do		
1.6	4.34	-17.31	do	z 61 0.97	do		
1.7	4.74	-18.91	do	z 61 0.99	do		
1.8	4.74	-18.91	do	z 61 0.99	do		
1.9	4.38	-17.47	do	z 61 0.97	do		
1.10	4.38	-17.47	do	z 61 0.92	do		
1.11	3.26	-12.99	do	z 61 0.90	2'-0"		
1.12	3.26	-12.99	do	z 69 0.80	2'-3"		
1.13	1.89	-7.54	do	z 78 0.76	1'-11"		
1.14	2.00	-7.98	do	z 83 0.68	2'-2 1/2"		
1.15	0.00	0.00	LL 1.5 X .155	z 20 0.40	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 1.5 X .155	z 122 0.30	3'-2"		
2.2	8.72	-2.19	do	z 110 0.54	3'-0"		
2.3	15.37	-3.85	do	z 147 0.65	4'-0"		
2.4	18.49	-4.64	do	z 147 0.75	do		
2.5	18.57	-4.66	do	z 147 0.75	do		
2.6	15.61	-3.91	do	z 147 0.65	4'-0"		
2.7	9.13	-2.29	do	z 110 0.54	3'-0"		
2.8	0.00	0.00	LL 1.5 X .155	z 131 0.32	3'-4 1/2"		
End Diagonal							
3.1	8.72	-2.19	BR 1"	yy134 0.41	3'-6 1/4"	.230 - 0 7/8"	
3.2	9.11	-2.28	BR 1"	yy141 0.43	3'-8 3/8"	.230 - 1"	
Diagonal Towards End							
4.1	5.73	-1.26	U 1 x 1 1/8 x 0.118	z 74 0.58	2'-10 7/8"	.118 - 1 5/8"	
4.2	3.52	-0.65	U 1 x 3/4 x 0.091	z 99 0.58	2'-8 1/2"	.091 - 1 1/2"	
4.3	2.04	-1.31	do	z 99 0.46	do	do	
4.4	1.96	-1.31	do	z 99 0.46	do	do	
4.5	3.44	-0.62	U 1 x 3/4 x 0.091	z 99 0.57	2'-8 1/2"	.091 - 1 1/2"	
4.6	5.63	-1.23	U 1 x 1 1/8 x 0.118	z 74 0.57	2'-10 7/8"	.118 - 1 5/8"	
Diagonal Towards Center							
5.1	1.03	-4.12	U 1 x 0.091	z 52 0.90	1'-11 3/4"	.090 - 1 1/2"	
5.2	0.90	-4.35	U 1 x 1 1/8 x 0.118	z 69 0.88	2'-8 1/2"	.118 - 1 1/2"	
5.3	0.39	-2.75	U 1 x 3/4 x 0.091	z 99 0.97	do	.091 - 1 1/2"	
5.4	0.37	-2.68	U 1 x 3/4 x 0.091	z 99 0.95	do	.091 - 1 1/2"	
5.5	0.88	-4.26	U 1 x 1 1/8 x 0.118	z 69 0.86	2'-8 1/2"	.118 - 1 1/2"	
5.6	1.02	-4.05	U 1 x 0.091	z 52 0.89	1'-11 3/4"	.090 - 1 1/2"	
Secondary Web Member							
7.1	0.19	-0.79	U 1 x 3/4 x 0.091	z 78 0.22	2'-2 1/8"	.091 - 1"	
7.2	0.18	-0.78	do	z 65 0.19	1'-10"	do	
7.3	0.17	-0.76	do	z 65 0.19	do	do	
7.4	0.17	-0.77	do	z 65 0.19	do	do	
7.5	0.17	-0.76	do	z 65 0.19	do	do	



Mark : J3

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:44

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
7.6	0.18	-0.78	do	z 65 0.19	1'-10"	do		
7.7	0.20	-0.84	U 1 x 3/4 x 0.091	z 78 0.23	2'-2 1/8"	.091 - 1"		

----- **BRIDGING** -----

Maximum spacing between rows of bridging

@ Top Chord:	13'-11 3/8" ==>	2 Row(s) Minimum	Lateral Supports Deck (36")
@ Bottom Chord:	20'-9 3/8" ==>	4 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-7 5/8"	3'-3 1/2"
	19'-1 7/8"	9'-7 5/8"
		19'-1 7/8"
		25'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

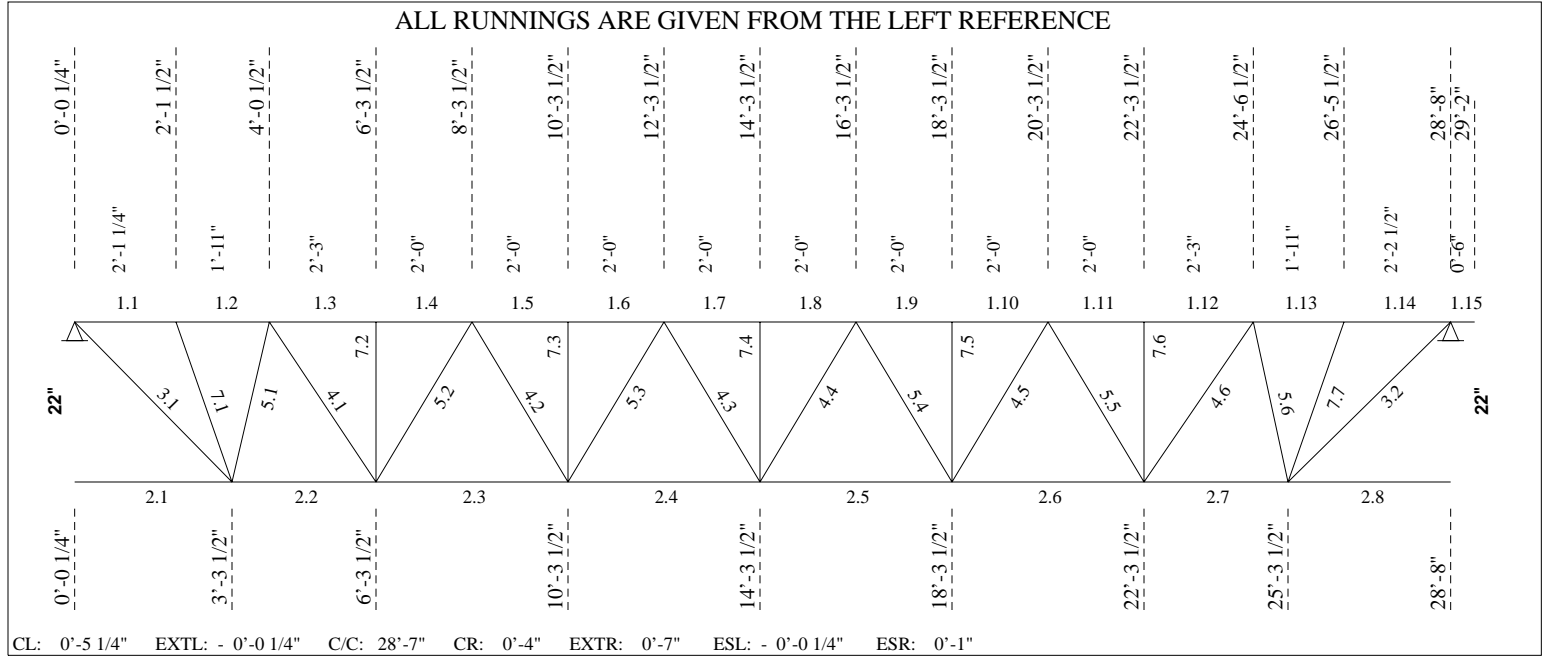
Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	214 / 244		Area to Paint	:	81.71 ft2
					Material Sort : Cost

150(171)-150(171)-25-14/8-214(244) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J3A (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 332.50 lb/ft 22K4 LIVE LOAD...: 251.92 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-6" Type F[S] Shoe = 2.50 Mf = -0.042 ft-kip (0.395)
 TL = 332 LL = 252 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07
 I = 0.19 in^4 Cal.D. LL = L/ 7780 = 0.00 TL = L/ -492 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.94 in (L/ 360)
 Calculated deflection under service live load..... = 0.73 in (L/ 465)
 Joist inertia..... = 197.37 in^4
 Required camber..... = 0.36 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 21.14 in)

Left Reaction = 4.71/ -1.19 kips Right Reaction = 4.87/ -1.23 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	1.95	-7.73	LL 1.5 X .155	z 79	0.64	2'-1 1/4"		
1.2	1.84	-7.30	do	z 78	0.75	1'-11"		
1.3	3.23	-12.79	do	z 69	0.79	2'-3"		
1.4	3.23	-12.79	do	z 61	0.89	2'-0"		
1.5	4.39	-17.36	do	z 61	0.92	do		
1.6	4.39	-17.36	do	z 61	0.97	do		
1.7	4.78	-18.91	do	z 61	0.99	do		
1.8	4.78	-18.91	do	z 61	0.99	do		
1.9	4.41	-17.44	do	z 61	0.97	do		
1.10	4.41	-17.44	do	z 61	0.92	do		
1.11	3.27	-12.95	do	z 61	0.90	2'-0"		
1.12	3.27	-12.95	do	z 69	0.80	2'-3"		
1.13	1.90	-7.52	do	z 78	0.76	1'-11"		
1.14	2.01	-7.95	do	z 83	0.68	2'-2 1/2"		
1.15	0.00	0.00	LL 1.5 X .155	z 20	0.40	0'-6"		
Bottom Chord								
2.1	0.00	0.00	LL 1.5 X .155	z 126	0.31	3'-3 1/4"		
2.2	8.90	-2.25	do	z 110	0.54	3'-0"		
2.3	15.46	-3.90	do	z 147	0.65	4'-0"		
2.4	18.51	-4.68	do	z 147	0.76	do		
2.5	18.55	-4.69	do	z 147	0.76	do		
2.6	15.57	-3.93	do	z 147	0.65	4'-0"		
2.7	9.10	-2.30	do	z 110	0.54	3'-0"		
2.8	0.00	0.00	LL 1.5 X .155	z 131	0.32	3'-4 1/2"		
End Diagonal								
3.1	8.88	-2.24	BR 1"	yy137	0.42	3'-7 1/4"	.230 - 0 7/8"	
3.2	9.07	-2.29	BR 1"	yy141	0.43	3'-8 3/8"	.230 - 1"	
Diagonal Towards End								
4.1	5.66	-1.25	U 1 x 0.091	z 77	0.75	2'-10 7/8"	.090 - 2 1/8"	
4.2	3.48	-0.64	U 1 x 3/4 x 0.091	z 99	0.57	2'-8 1/2"	.091 - 1 1/2"	
4.3	2.01	-1.32	do	z 99	0.47	do	do	
4.4	1.97	-1.32	do	z 99	0.47	do	do	
4.5	3.44	-0.63	U 1 x 3/4 x 0.091	z 99	0.57	2'-8 1/2"	.091 - 1 1/2"	
4.6	5.61	-1.24	U 1 x 0.091	z 77	0.75	2'-10 7/8"	.090 - 2 1/8"	
Diagonal Towards Center								
5.1	1.03	-4.07	U 1 x 0.091	z 52	0.89	1'-11 3/4"	.090 - 1 1/2"	
5.2	0.90	-4.30	U 1 x 1 1/8 x 0.118	z 69	0.87	2'-8 1/2"	.118 - 1 1/2"	
5.3	0.39	-2.72	U 1 x 3/4 x 0.091	z 99	0.96	do	.091 - 1 1/2"	
5.4	0.38	-2.68	U 1 x 3/4 x 0.091	z 99	0.95	do	.091 - 1 1/2"	
5.5	0.88	-4.25	U 1 x 1 1/8 x 0.118	z 69	0.86	2'-8 1/2"	.118 - 1 1/2"	
5.6	1.02	-4.04	U 1 x 0.091	z 52	0.88	1'-11 3/4"	.090 - 1 1/2"	
Secondary Web Member								
7.1	0.19	-0.81	U 1 x 3/4 x 0.091	z 78	0.22	2'-2 1/8"	.091 - 1"	
7.2	0.18	-0.77	do	z 65	0.19	1'-10"	do	
7.3	0.17	-0.76	do	z 65	0.18	do	do	
7.4	0.17	-0.76	do	z 65	0.19	do	do	
7.5	0.17	-0.76	do	z 65	0.18	do	do	
7.6	0.18	-0.77	do	z 65	0.19	1'-10"	do	



Mark : J3A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:44

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
7.7	0.20	-0.83	U 1 x 3/4 x 0.091	z 78 0.23	2'-2 1/8"	.091 - 1"		

----- **BRIDGING** -----

Maximum spacing between rows of bridging

@ Top Chord:	13'-10" ==>	2 Row(s) Minimum	Lateral Supports Deck (36")
@ Bottom Chord:	20'-8 1/8" ==>	4 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-6 7/8"	3'-3 1/2"
	19'-1 3/8"	9'-6 7/8"
		19'-1 3/8"
		25'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
212	/	242	Area to Paint	:	81.50 ft2
					Material Sort : Cost

149(169)-149(169)-25-14/8-212(242) NNN,NNN



Mark : J4

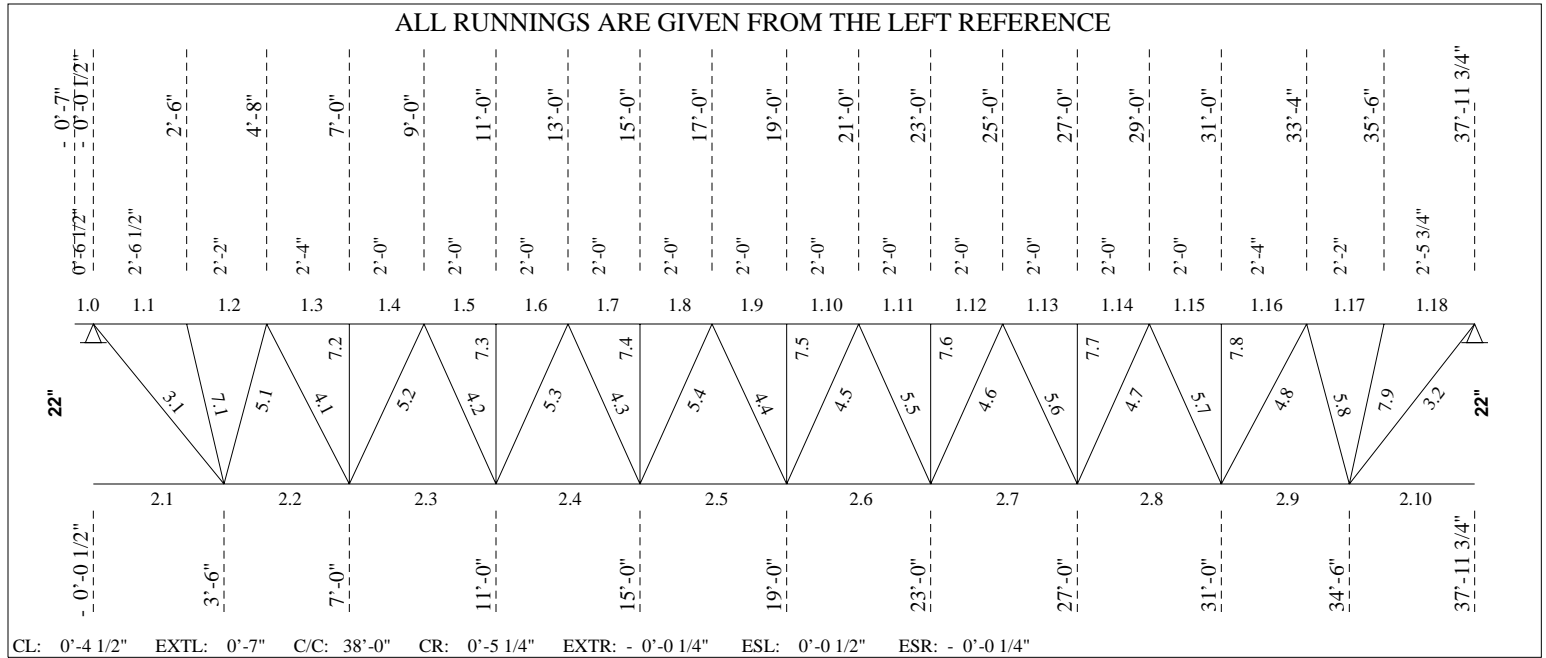
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J4 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 307.67 lb/ft 22K9 LIVE LOAD...: 169.73 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.045 ft-kip	(0.329)
TL =	308	LL =	170 ntQL =	84	Req.D. LL = L/	180 =	0.04 TL = L/	90 = 0.07
I =	0.49 in^4				Cal.D. LL = L/	9999 =	0.00 TL = L/	-156 = -0.04

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.26 in (L/ 360)
Calculated deflection under service live load..... =	1.13 in (L/ 400)
Joist inertia..... =	270.19 in^4
Required camber..... =	0.58 in



Mark : J4

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.88 in)

Left Reaction = 5.96/ -1.63 kips Right Reaction = 5.80/ -1.58 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .166	z 16	0.33	0'-6 1/2"		
1.1	2.88	-10.53	do	z 72	0.53	2'-6 1/2"		
1.2	2.77	-10.13	do	z 66	0.64	2'-2"		
1.3	5.11	-18.72	do	z 53	0.66	2'-4"		
1.4	5.11	-18.72	do	z 46	0.79	2'-0"		
1.5	7.04	-25.77	do	z 46	0.84	do		
1.6	7.04	-25.77	do	z 46	0.91	do		
1.7	8.19	-29.99	do	z 46	0.97	do		
1.8	8.19	-29.99	do	z 46	0.97	do		
1.9	8.57	-31.39	x do	zz 30	0.94	do		
1.10	8.57	-31.39	x do	zz 30	0.94	do		
1.11	8.18	-29.95	do	z 46	0.97	do		
1.12	8.18	-29.95	do	z 46	0.97	do		
1.13	7.01	-25.68	do	z 46	0.90	do		
1.14	7.01	-25.68	do	z 46	0.84	do		
1.15	5.08	-18.59	do	z 46	0.78	2'-0"		
1.16	5.08	-18.59	do	z 53	0.66	2'-4"		
1.17	2.72	-9.96	do	z 66	0.63	2'-2"		
1.18	2.83	-10.36	LL 2 X .166	z 70	0.52	2'-5 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 102	0.34	3'-6 1/2"		
2.2	13.31	-3.63	do	z 96	0.58	3'-6"		
2.3	22.60	-6.17	do	z 109	0.72	4'-0"		
2.4	28.24	-7.71	do	z 109	0.80	do		
2.5	31.04	-8.48	do	z 109	0.86	do		
2.6	31.02	-8.47	do	z 109	0.86	do		
2.7	28.17	-7.69	do	z 109	0.80	do		
2.8	22.49	-6.14	do	z 109	0.72	4'-0"		
2.9	13.15	-3.59	do	z 96	0.58	3'-6"		
2.10	0.00	0.00	LL 2 X .156	z 100	0.34	3'-5 3/4"		
End Diagonal								
3.1	11.85	-3.24	BR 1"	yy146	0.65	3'-10 1/8"	.230 - 1 1/4"	
3.2	11.70	-3.19	BR 1"	yy144	0.62	3'-9 3/8"	.230 - 1 1/4"	
Diagonal Towards End								
4.1	7.46	-1.85	U 1 x 0.091	z 79	0.99	2'-11 5/8"	.090 - 2 3/4"	
4.2	5.04	-1.15	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.3	3.57	-0.64	do	z 98	0.59	do	.091 - 1 1/2"	
4.4	2.27	-1.65	do	z 98	0.58	do	do	
4.5	2.27	-1.65	do	z 98	0.58	do	do	
4.6	3.59	-0.64	do	z 98	0.59	do	.091 - 1 1/2"	
4.7	5.06	-1.16	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.8	7.49	-1.85	U 1 x 0.091	z 79	1.00	2'-11 5/8"	.090 - 2 3/4"	
Diagonal Towards Center								
5.1	1.56	-5.77	U 1 x 1 1/8 x 0.118	z 54	0.97	2'-2 1/8"	.118 - 1 5/8"	
5.2	1.40	-5.83	U 1 x 1 1/4 x 0.136	z 63	0.96	2'-8 1/2"	.136 - 1 1/2"	
5.3	0.89	-4.29	U 1 x 1 1/8 x 0.118	z 69	0.86	do	.118 - 1 1/2"	
5.4	0.38	-2.89	U 1 x 0.091	z 72	0.82	do	.090 - 1 1/2"	
5.5	0.39	-2.91	U 1 x 0.091	z 72	0.82	do	.090 - 1 1/2"	
5.6	0.90	-4.31	U 1 x 1 1/8 x 0.118	z 69	0.87	do	.118 - 1 1/2"	



Mark : J4

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
5.7	1.41	-5.85	U 1 x 1 1/4 x 0.136	z 63 0.97	2'-8 1/2"	.136 - 1 1/2"		
5.8	1.56	-5.79	U 1 x 1 1/8 x 0.118	z 54 0.98	2'-2 1/8"	.118 - 1 5/8"		
Secondary Web Member								
7.1	0.22	-0.86	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		
7.2	0.18	-0.76	do	z 65 0.19	1'-10"	do		
7.3	0.17	-0.75	do	z 65 0.18	do	do		
7.4	0.17	-0.77	do	z 65 0.19	do	do		
7.5	0.17	-0.78	do	z 65 0.19	do	do		
7.6	0.17	-0.77	do	z 65 0.19	do	do		
7.7	0.17	-0.75	do	z 65 0.18	do	do		
7.8	0.18	-0.76	do	z 65 0.18	1'-10"	do		
7.9	0.22	-0.85	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-9 1/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-4 3/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-5 1/2" 3'-6"
 18'-11 5/8" 9'-5 1/2"
 28'-5 5/8" 18'-11 5/8"
 34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 373 / 409 Area to Paint : 132.85 ft2 Material Sort : Cost

252(276)-252(276)-25-18/10-373(409) NNN,NNN



Mark : J5

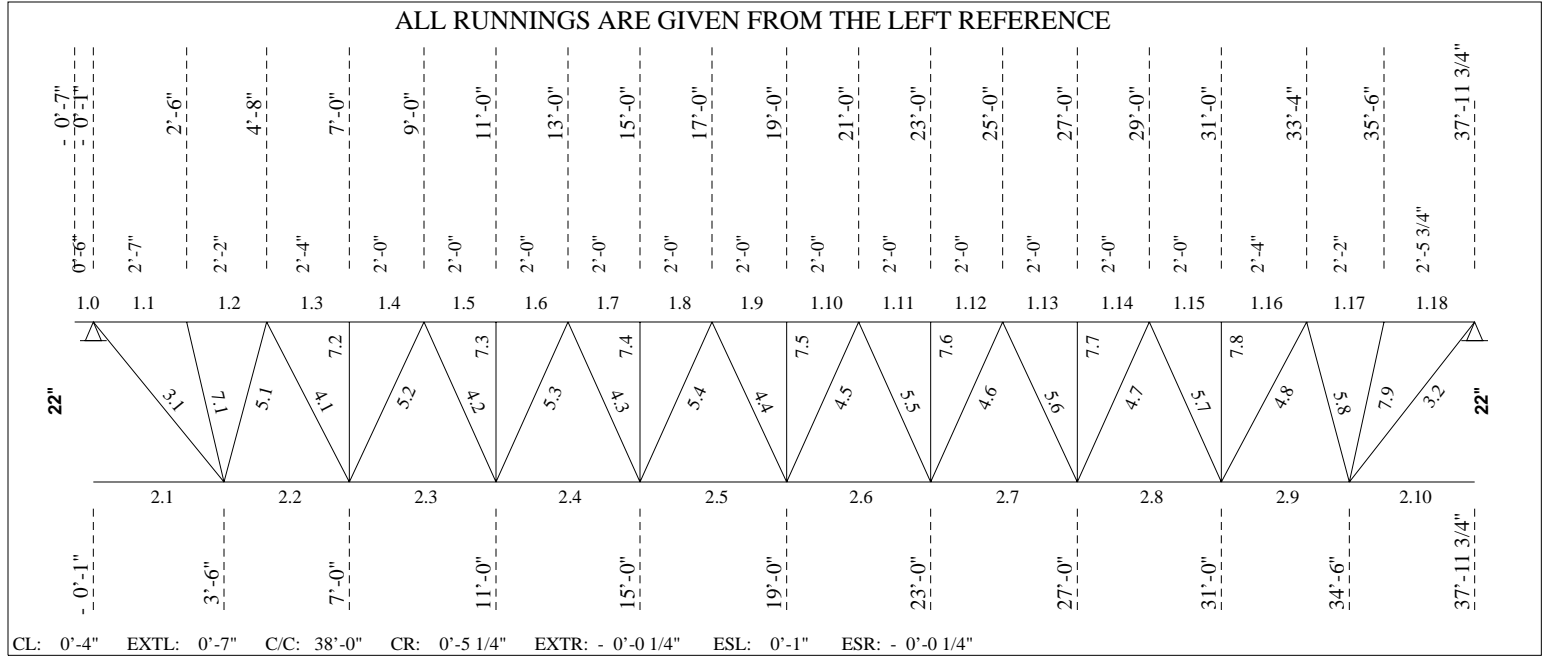
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J5 (MS1, Symmetrical, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 307.00 lb/ft 22K9 LIVE LOAD...: 169.19 lb/ft

----- **EXTENSION** -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.038 ft-kip (0.376)
 TL = 307 LL = 169 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07
 I = 0.54 in^4 Cal.D. LL = L/ 417 = 0.01 TL = L/ -168 = -0.04

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp	
1	1	Both	No	1.50	1.50	1.50	30'-10"*	30'-10"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	35'-10"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.26 in (L/ 360)
 Calculated deflection under service live load..... = 1.26 in (L/ 360)
 Joist inertia..... = 293.27 in^4
 Required camber..... = 0.58 in



Mark : J5

Project: PROJECT EVELER FREEZER PUYALL

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===== LOAD NO 2 (J5#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 307.00 lb/ft 22K9 LIVE LOAD...: 169.19 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.038 ft-kip 0.000
 TL = 307 LL = 169 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	1.90	1.90	0.00	30'-10"*	0'-0"	1	1	90	0
1	1	Both	No	1.50	0.00	0.00	30'-10"*	30'-10"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	35'-10"*	0'-0"	1	1	90	0
3	1	Both	No	1.50	0.00	0.00	35'-10"*	5'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.26 in (L/ 360)
 Calculated deflection under service live load..... = 1.26 in (L/ 360)

===== LOAD NO 3 (J5#03) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 307.00 lb/ft 22K9 LIVE LOAD...: 169.19 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.038 ft-kip 0.000
 TL = 307 LL = 169 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.90	-1.90	0.00	30'-10"*	0'-0"	1	1	90	0
1	1	Both	No	-1.50	-1.50	0.00	30'-10"*	30'-10"	1	1	0	0
4	1	Both	No	1.90	1.90	0.00	35'-10"*	0'-0"	1	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	35'-10"*	5'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.26 in (L/ 360)
 Calculated deflection under service live load..... = 1.11 in (L/ 407)

===== End of multiple loads =====



Mark : J5

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.87 in)

Left Reaction = 6.29/ -1.98 kips Right Reaction = 8.44/ -4.23 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .186	z 15	0.38	0'-6"		
1.1	3.60	-14.29	do	z 74	0.62	2'-7"		
1.2	3.49	-13.88	do	z 66	0.67	2'-2"		
1.3	6.54	-22.94	do	z 53	0.70	2'-4"		
1.4	6.54	-22.94	do	z 46	0.82	2'-0"		
1.5	9.26	-30.52	do	z 46	0.86	do		
1.6	9.26	-30.52	do	z 46	0.94	do		
1.7	11.21	-35.28	do	z 46	0.99	do		
1.8	11.21	-35.28	do	z 46	0.99	do		
1.9	12.39	-37.21	x do	zz 30	0.98	do		
1.10	12.39	-37.21	x do	zz 30	0.98	do		
1.11	12.80	-36.32	x do	zz 30	0.98	do		
1.12	12.80	-36.32	x do	zz 30	0.97	do		
1.13	12.44	-32.61	do	z 46	0.97	do		
1.14	12.44	-32.61	do	z 46	0.93	do		
1.15	11.30	-26.08	do	z 46	0.93	2'-0"		
1.16	11.30	-24.80	do	z 53	0.86	2'-4"		
1.17	6.62	-13.86	do	z 66	0.76	2'-2"		
1.18	7.47	-14.99	LL 2 X .186	z 70	0.85	2'-5 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .166	z 104	0.35	3'-7"		
2.2	14.33	-4.59	do	z 96	0.59	3'-6"		
2.3	24.46	-8.00	do	z 109	0.75	4'-0"		
2.4	30.88	-10.33	do	z 109	0.83	do		
2.5	34.47	-11.90	do	z 109	0.90	do		
2.6	35.24	-12.69	do	z 109	0.92	do		
2.7	33.18	-12.72	do	z 109	0.87	do		
2.8	28.30	-11.96	do	z 109	0.80	4'-0"		
2.9	17.81	-8.27	do	z 96	0.68	3'-6"		
2.10	0.00	0.00	LL 2 X .166	z 101	0.43	3'-5 3/4"		
End Diagonal								
3.1	12.72	-4.04	BR 1"	yy147	0.82	3'-10 1/2"	.230 - 1 3/8"	
3.2	16.93	-8.44	1" SQUARE BAR	yy124	0.96	3'-9 3/8"	.250 - 2 1/4"	
Diagonal Towards End								
4.1	7.44	-2.43	U 1 x 1 1/8 x 0.118	z 76	0.75	2'-11 5/8"	.118 - 2 1/8"	
4.2	5.02	-1.68	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.3	3.56	-1.17	do	z 98	0.59	do	.091 - 1 1/2"	
4.4	3.22	-1.64	do	z 98	0.57	do	do	
4.5	3.22	-1.64	do	z 98	0.57	do	do	
4.6	3.59	-0.65	do	z 98	0.59	do	.091 - 1 1/2"	
4.7	5.06	-1.16	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.8	9.56	-3.78	U 1 x 1 1/8 x 0.118	z 76	0.96	2'-11 5/8"	.118 - 2 3/4"	
Diagonal Towards Center								
5.1	1.98	-6.11	d U 1 3/8 x 1 1/4 x 0.118	z 47	0.75	2'-2 1/8"	.118 - 1 3/4"	
5.2	1.93	-5.81	U 1 x 1 1/4 x 0.136	z 63	0.96	2'-8 1/2"	.136 - 1 1/2"	
5.3	1.42	-4.27	U 1 x 1 1/8 x 0.118	z 69	0.86	do	.118 - 1 1/2"	
5.4	0.91	-3.22	U 1 x 0.091	z 72	0.91	do	.090 - 1 1/2"	
5.5	0.39	-3.22	U 1 x 0.091	z 72	0.91	do	.090 - 1 1/2"	
5.6	0.90	-4.31	U 1 x 1 1/8 x 0.118	z 69	0.87	do	.118 - 1 1/2"	



Mark : J5

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
5.7	1.41	-5.85	U 1 x 1 1/4 x 0.136	z 63	0.97	2'-8 1/2"	.136 - 1 1/2"	
5.8	2.95	-7.71	d U 1 3/8 x 1 1/4 x 0.118	z 47	0.95	2'-2 1/8"	.118 - 2 1/4"	
Secondary Web Member								
7.1	0.22	-0.89	U 1 x 3/4 x 0.091	z 74	0.23	2'-1"	.091 - 1"	
7.2	0.18	-0.78	do	z 65	0.19	1'-10"	do	
7.3	0.17	-0.77	do	z 65	0.19	do	do	
7.4	0.17	-0.80	do	z 65	0.19	do	do	
7.5	0.17	-0.81	do	z 65	0.20	do	do	
7.6	0.17	-0.80	do	z 65	0.19	do	do	
7.7	0.17	-0.78	do	z 65	0.19	do	do	
7.8	1.68	-2.70	do	z 65	0.65	1'-10"	do	
7.9	1.70	-2.72	U 1 x 3/4 x 0.091	z 74	0.71	2'-1"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-9 3/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-4 3/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-5 1/8" 3'-6"
 18'-11 3/8" 9'-5 1/8"
 28'-5 1/2" 18'-11 3/8"
 28'-5 1/2" 28'-5 1/2"
 34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 407 / 442 Area to Paint : 133.78 ft2 Material Sort : Cost

275(298)-275(298)-25-18/10-407(442) NNN,NNN



Mark : J6

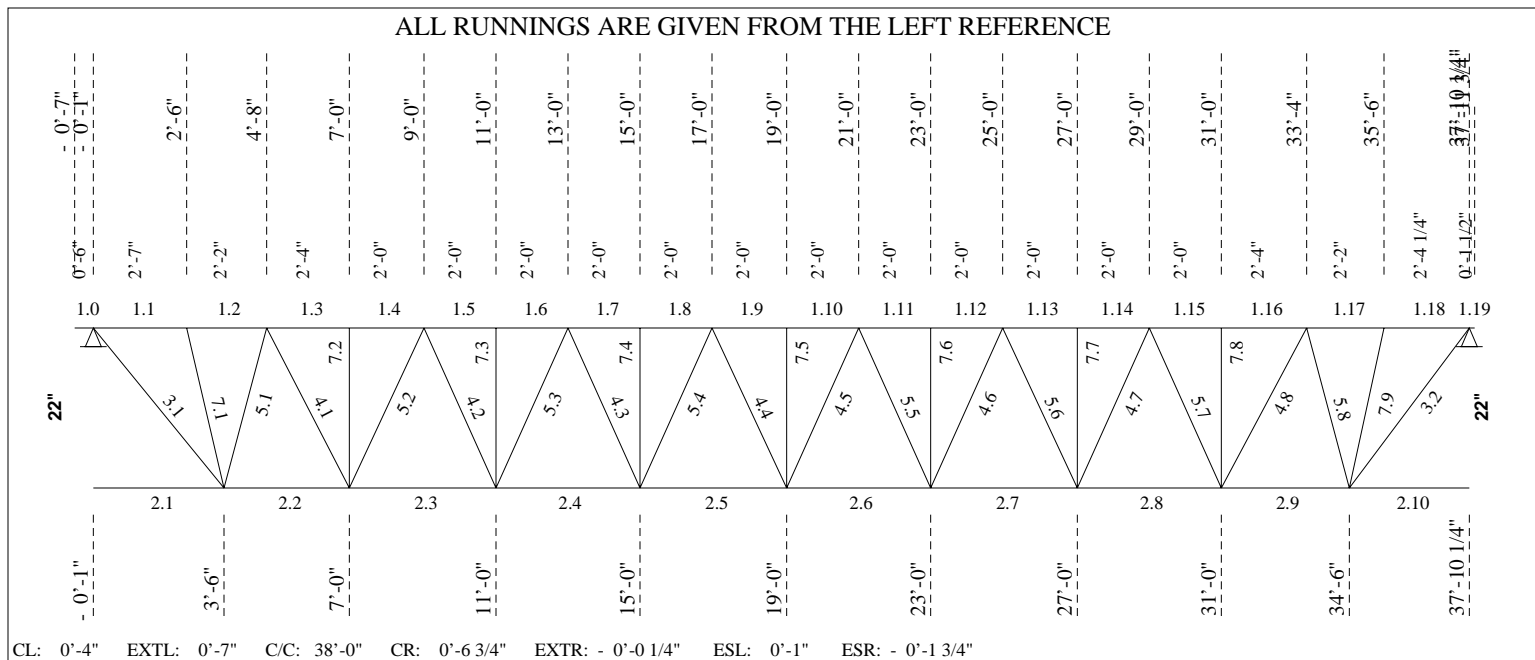
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J6 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.039 ft-kip	(0.325)
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	0.49 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -156 = -0.04
Tcx-R	0'-1 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.002 ft-kip	(0.265)
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.01	TL = L/ 90 = 0.02
I =	0.49 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -155 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.25 in (L/ 360)
Calculated deflection under service live load..... =	1.13 in (L/ 400)
Joist inertia..... =	270.19 in ⁴
Required camber..... =	0.57 in



Mark : J6

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.88 in)

Left Reaction = 5.97/ -1.62 kips Right Reaction = 5.85/ -1.59 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .166	z 15	0.32	0'-6"		
1.1	2.90	-10.67	do	z 73	0.55	2'-7"		
1.2	2.79	-10.27	do	z 66	0.64	2'-2"		
1.3	5.12	-18.85	do	z 53	0.67	2'-4"		
1.4	5.12	-18.85	do	z 46	0.79	2'-0"		
1.5	7.03	-25.87	do	z 46	0.84	do		
1.6	7.03	-25.87	do	z 46	0.91	do		
1.7	8.17	-30.05	do	z 46	0.97	do		
1.8	8.17	-30.05	do	z 46	0.97	do		
1.9	8.53	-31.39	x do	zz 30	0.94	do		
1.10	8.53	-31.39	x do	zz 30	0.94	do		
1.11	8.12	-29.89	do	z 46	0.97	do		
1.12	8.12	-29.89	do	z 46	0.97	do		
1.13	6.94	-25.54	do	z 46	0.90	do		
1.14	6.94	-25.54	do	z 46	0.83	do		
1.15	4.99	-18.36	do	z 46	0.78	2'-0"		
1.16	4.99	-18.36	do	z 53	0.65	2'-4"		
1.17	2.62	-9.64	do	z 66	0.63	2'-2"		
1.18	2.72	-10.02	do	z 66	0.49	2'-4 1/4"		
1.19	0.00	0.00	LL 2 X .166	z 4	0.27	0'-1 1/2"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 104	0.34	3'-7"		
2.2	13.44	-3.65	do	z 96	0.58	3'-6"		
2.3	22.71	-6.17	do	z 109	0.73	4'-0"		
2.4	28.31	-7.70	do	z 109	0.80	do		
2.5	31.07	-8.45	do	z 109	0.86	do		
2.6	30.99	-8.42	do	z 109	0.86	do		
2.7	28.07	-7.63	do	z 109	0.80	do		
2.8	22.31	-6.06	do	z 109	0.72	4'-0"		
2.9	12.85	-3.49	do	z 96	0.57	3'-6"		
2.10	0.00	0.00	LL 2 X .156	z 97	0.33	3'-4 1/4"		
End Diagonal								
3.1	11.98	-3.26	BR 1"	yy147	0.66	3'-10 1/2"	.230 - 1 1/4"	
3.2	11.42	-3.10	BR 1"	yy139	0.57	3'-8 1/8"	.230 - 1 1/8"	
Diagonal Towards End								
4.1	7.46	-1.83	U 1 x 1 1/8 x 0.118	z 76	0.75	2'-11 5/8"	.118 - 2 1/8"	
4.2	5.03	-1.14	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.3	3.55	-0.63	do	z 98	0.59	do	.091 - 1 1/2"	
4.4	2.27	-1.63	do	z 98	0.57	do	do	
4.5	2.30	-1.63	do	z 98	0.57	do	do	
4.6	3.63	-0.65	do	z 98	0.60	do	.091 - 1 1/2"	
4.7	5.12	-1.17	U 1 x 3/4 x 0.091	z 98	0.84	2'-8 1/2"	.091 - 1 7/8"	
4.8	7.57	-1.87	U 1 x 1 1/8 x 0.118	z 76	0.76	2'-11 5/8"	.118 - 2 1/8"	
Diagonal Towards Center								
5.1	1.55	-5.77	U 1 x 1 1/8 x 0.118	z 54	0.97	2'-2 1/8"	.118 - 1 5/8"	
5.2	1.39	-5.82	U 1 x 1 1/4 x 0.136	z 63	0.96	2'-8 1/2"	.136 - 1 1/2"	
5.3	0.88	-4.27	U 1 x 1 1/8 x 0.118	z 69	0.86	do	.118 - 1 1/2"	
5.4	0.37	-2.87	U 1 x 0.091	z 72	0.81	do	.090 - 1 1/2"	
5.5	0.40	-2.95	U 1 x 0.091	z 72	0.83	do	.090 - 1 1/2"	



Mark : J6

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
5.6	0.91	-4.36	U 1 x 1 1/8 x 0.118	z 69 0.88	do	.118 - 1 1/2"		
5.7	1.42	-5.91	U 1 x 1 1/4 x 0.136	z 63 0.98	2'-8 1/2"	.136 - 1 1/2"		
5.8	1.57	-5.85	U 1 x 1 1/8 x 0.118	z 54 0.99	2'-2 1/8"	.118 - 1 3/4"		
Secondary Web Member								
7.1	0.22	-0.87	U 1 x 3/4 x 0.091	z 74 0.23	2'-1"	.091 - 1"		
7.2	0.18	-0.77	do	z 65 0.19	1'-10"	do		
7.3	0.17	-0.75	do	z 65 0.18	do	do		
7.4	0.17	-0.77	do	z 65 0.19	do	do		
7.5	0.17	-0.78	do	z 65 0.19	do	do		
7.6	0.17	-0.77	do	z 65 0.19	do	do		
7.7	0.17	-0.75	do	z 65 0.18	do	do		
7.8	0.18	-0.77	do	z 65 0.19	1'-10"	do		
7.9	0.21	-0.83	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-8 5/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-3 7/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-4 3/4" 3'-6"
 18'-10 5/8" 9'-4 3/4"
 28'-4 3/8" 18'-10 5/8"
 34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 374 / 411 Area to Paint : 133.00 ft2 Material Sort : Cost

253(278)-253(278)-25-18/10-374(411) NNN,NNN



Mark : J6A

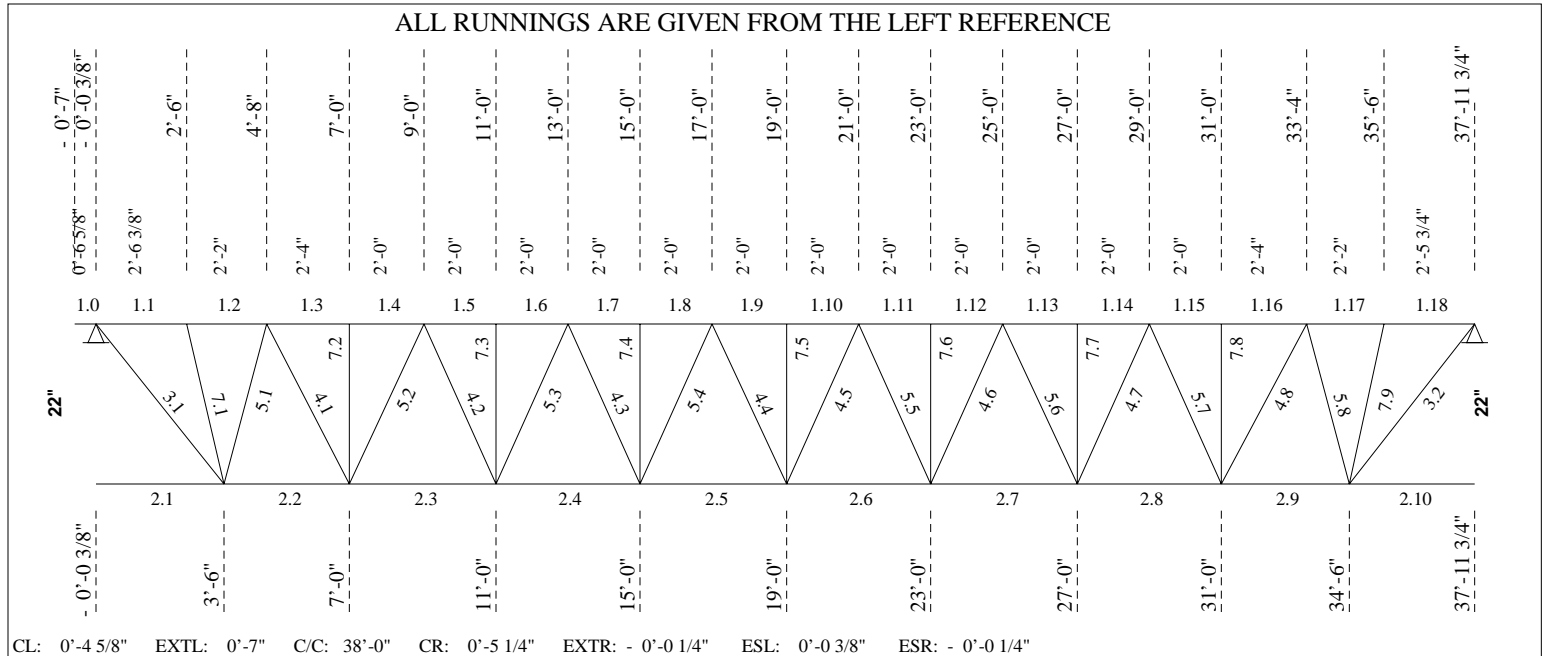
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J6A (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 307.83 lb/ft 22K9 LIVE LOAD...: 169.86 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6 5/8"	Type	F[S]	Shoe =	2.50	Mf =	-0.047 ft-kip	(0.330)
TL =	308	LL =	170 ntQL =	84	Req.D. LL = L/	180 =	0.04 TL = L/	90 = 0.07
I =	0.49 in ⁴				Cal.D. LL = L/	9999 =	0.00 TL = L/	-156 = -0.04

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.26 in (L/ 360)
Calculated deflection under service live load..... =	1.13 in (L/ 400)
Joist inertia..... =	270.19 in ⁴
Required camber..... =	0.58 in



Mark : J6A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.88 in)

Left Reaction = 5.97/ -1.63 kips Right Reaction = 5.80/ -1.58 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .166	z 17	0.33	0'-6 5/8"		
1.1	2.87	-10.51	do	z 72	0.53	2'-6 3/8"		
1.2	2.76	-10.11	do	z 66	0.64	2'-2"		
1.3	5.10	-18.71	do	z 53	0.66	2'-4"		
1.4	5.10	-18.71	do	z 46	0.79	2'-0"		
1.5	7.03	-25.76	do	z 46	0.84	do		
1.6	7.03	-25.76	do	z 46	0.91	do		
1.7	8.18	-29.99	do	z 46	0.97	do		
1.8	8.18	-29.99	do	z 46	0.97	do		
1.9	8.56	-31.39	x do	zz 30	0.94	do		
1.10	8.56	-31.39	x do	zz 30	0.94	do		
1.11	8.17	-29.95	do	z 46	0.97	do		
1.12	8.17	-29.95	do	z 46	0.97	do		
1.13	7.01	-25.69	do	z 46	0.90	do		
1.14	7.01	-25.69	do	z 46	0.84	do		
1.15	5.07	-18.60	do	z 46	0.79	2'-0"		
1.16	5.07	-18.60	do	z 53	0.66	2'-4"		
1.17	2.72	-9.96	do	z 66	0.63	2'-2"		
1.18	2.83	-10.36	LL 2 X .166	z 70	0.52	2'-5 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 102	0.34	3'-6 3/8"		
2.2	13.28	-3.62	do	z 96	0.58	3'-6"		
2.3	22.59	-6.16	do	z 109	0.72	4'-0"		
2.4	28.23	-7.70	do	z 109	0.80	do		
2.5	31.04	-8.47	do	z 109	0.86	do		
2.6	31.02	-8.47	do	z 109	0.86	do		
2.7	28.17	-7.69	do	z 109	0.80	do		
2.8	22.50	-6.14	do	z 109	0.72	4'-0"		
2.9	13.15	-3.59	do	z 96	0.58	3'-6"		
2.10	0.00	0.00	LL 2 X .156	z 100	0.34	3'-5 3/4"		
End Diagonal								
3.1	11.83	-3.23	BR 1"	yy145	0.64	3'-10"	.230 - 1 1/4"	
3.2	11.70	-3.19	BR 1"	yy144	0.62	3'-9 3/8"	.230 - 1 1/4"	
Diagonal Towards End								
4.1	7.47	-1.85	U 1 x 0.091	z 79	0.99	2'-11 5/8"	.090 - 2 3/4"	
4.2	5.04	-1.15	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.3	3.57	-0.64	do	z 98	0.59	do	.091 - 1 1/2"	
4.4	2.27	-1.65	do	z 98	0.58	do	do	
4.5	2.27	-1.65	do	z 98	0.58	do	do	
4.6	3.59	-0.64	do	z 98	0.59	do	.091 - 1 1/2"	
4.7	5.06	-1.15	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.8	7.50	-1.85	U 1 x 0.091	z 79	1.00	2'-11 5/8"	.090 - 2 3/4"	
Diagonal Towards Center								
5.1	1.56	-5.78	U 1 x 1 1/8 x 0.118	z 54	0.97	2'-2 1/8"	.118 - 1 5/8"	
5.2	1.40	-5.83	U 1 x 1 1/4 x 0.136	z 63	0.97	2'-8 1/2"	.136 - 1 1/2"	
5.3	0.89	-4.29	U 1 x 1 1/8 x 0.118	z 69	0.86	do	.118 - 1 1/2"	
5.4	0.38	-2.89	U 1 x 0.091	z 72	0.82	do	.090 - 1 1/2"	
5.5	0.39	-2.91	U 1 x 0.091	z 72	0.82	do	.090 - 1 1/2"	
5.6	0.90	-4.31	U 1 x 1 1/8 x 0.118	z 69	0.87	do	.118 - 1 1/2"	



Mark : J6A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:45

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
5.7	1.41	-5.86	U 1 x 1 1/4 x 0.136	z 63 0.97	2'-8 1/2"	.136 - 1 1/2"		
5.8	1.56	-5.79	U 1 x 1 1/8 x 0.118	z 54 0.98	2'-2 1/8"	.118 - 1 5/8"		
Secondary Web Member								
7.1	0.22	-0.86	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		
7.2	0.18	-0.76	do	z 65 0.19	1'-10"	do		
7.3	0.17	-0.75	do	z 65 0.18	do	do		
7.4	0.17	-0.77	do	z 65 0.19	do	do		
7.5	0.17	-0.78	do	z 65 0.19	do	do		
7.6	0.17	-0.77	do	z 65 0.19	do	do		
7.7	0.17	-0.75	do	z 65 0.18	do	do		
7.8	0.18	-0.76	do	z 65 0.19	1'-10"	do		
7.9	0.22	-0.85	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	15'-9 1/4" ==>	3 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	24'-4 1/2" ==>	5 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-5 5/8"	3'-6"
	18'-11 5/8"	9'-5 5/8"
	28'-5 3/4"	18'-11 5/8"
		28'-5 3/4"
		34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

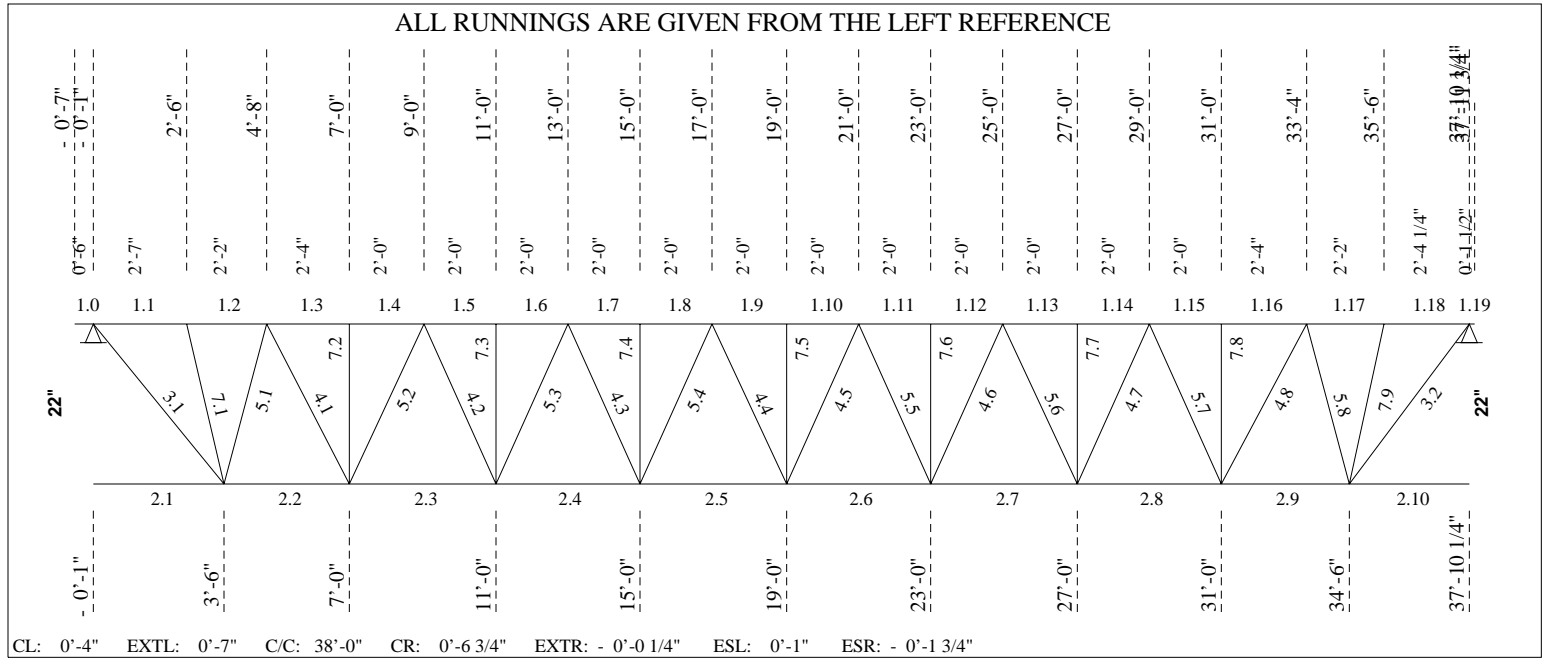
Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
373	/	409	Area to Paint	:	132.87 ft2
					Material Sort : Cost

252(276)-252(276)-25-18/10-373(409) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J6B (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type F[S]	Shoe = 2.50	Mf = -0.039 ft-kip	(0.255)
TL =	309	LL = 171 ntQL = 84	Req.D. LL = L/ 180 =	0.03	TL = L/ 90 = 0.07
I =	1.31 in ⁴		Cal.D. LL = L/ 9999 =	0.00	TL = L/ -130 = -0.05
Tcx-R	0'-1 1/2"	Type F[S]	Shoe = 2.50	Mf = -0.002 ft-kip	(0.221)
TL =	309	LL = 171 ntQL = 84	Req.D. LL = L/ 180 =	0.01	TL = L/ 90 = 0.02
I =	1.31 in ⁴		Cal.D. LL = L/ 9999 =	0.00	TL = L/ -130 = -0.01

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp	
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



Mark : J6B

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:46

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.78 in (L/ 578)
 Joist inertia..... = 390.44 in⁴
 Required camber..... = 0.57 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.72 in)

Left Reaction = 8.47/ -1.62 kips Right Reaction = 8.35/ -1.59 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.0	0.00	0.00	LL 2.5 X .230	z 12 0.25	0'-6"		
1.1	2.92	-15.39	do	z 59 0.88	2'-7"		
1.2	2.81	-14.69	do	z 53 0.74	2'-2"		
1.3	5.16	-27.17	do	z 43 0.75	2'-4"		
1.4	5.16	-27.17	do	z 37 0.85	2'-0"		
1.5	7.09	-37.29	do	z 37 0.85	do		
1.6	7.09	-37.29	do	z 37 0.93	do		
1.7	8.23	-43.32	do	z 37 0.93	do		
1.8	8.23	-43.32	do	z 37 0.96	do		
1.9	8.60	-45.25	do	z 37 0.96	do		
1.10	8.60	-45.25	do	z 37 0.96	do		
1.11	8.19	-43.09	do	z 37 0.96	do		
1.12	8.19	-43.09	do	z 37 0.93	do		
1.13	7.00	-36.83	do	z 37 0.93	do		
1.14	7.00	-36.83	do	z 37 0.84	do		
1.15	5.03	-26.47	do	z 37 0.84	2'-0"		
1.16	5.03	-26.47	do	z 43 0.74	2'-4"		
1.17	2.64	-13.80	do	z 53 0.73	2'-2"		
1.18	2.75	-14.45	do	z 53 0.79	2'-4 1/4"		
1.19	0.00	0.00	LL 2.5 X .230	z 3 0.22	0'-1 1/2"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .203	z 104 0.39	3'-7"		
2.2	19.37	-3.68	do	z 96 0.65	3'-6"		
2.3	32.74	-6.22	do	z 110 0.81	4'-0"		
2.4	40.82	-7.76	do	z 110 0.89	do		
2.5	44.80	-8.51	do	z 110 0.97	do		
2.6	44.68	-8.49	do	z 110 0.97	do		
2.7	40.47	-7.69	do	z 110 0.89	do		
2.8	32.16	-6.11	do	z 110 0.81	4'-0"		
2.9	18.53	-3.52	do	z 96 0.64	3'-6"		
2.10	0.00	0.00	LL 2 X .203	z 97 0.37	3'-4 1/4"		
End Diagonal							
3.1	17.24	-3.28	BR 1"	yy147 0.81	3'-10 1/2"	.230 - 1 3/4"	
3.2	16.43	-3.12	BR 1"	yy139 0.78	3'-8 1/8"	.230 - 1 3/4"	
Diagonal Towards End							
4.1	10.21	-1.84	U 1 x 1 1/4 x 0.136	z 69 0.84	2'-11 5/8"	.136 - 2 1/2"	
4.2	6.92	-1.14	U 1 x 1 1/8 x 0.118	z 69 0.70	2'-8 1/2"	.118 - 2"	
4.3	4.62	-0.63	U 1 x 3/4 x 0.091	z 98 0.76	do	.091 - 1 3/4"	
4.4	3.24	-1.63	do	z 98 0.57	do	.091 - 1 1/2"	
4.5	3.24	-1.63	do	z 98 0.57	do	.091 - 1 1/2"	
4.6	4.75	-0.66	U 1 x 3/4 x 0.091	z 98 0.78	do	.091 - 1 3/4"	
4.7	7.05	-1.17	U 1 x 1 1/8 x 0.118	z 69 0.71	2'-8 1/2"	.118 - 2"	
4.8	10.36	-1.88	U 1 x 1 1/4 x 0.136	z 69 0.85	2'-11 5/8"	.136 - 2 1/2"	

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension		Compres.	d	REQUIRED MATERIAL			REQUIRED WELD		Remarks
					x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
Diagonal Towards Center										
5.1	1.55	-8.37	d		U 1 3/8 x 0.136	z 43	0.82	2'-2 1/8"	.136 - 2 1/8"	
5.2	1.40	-8.07	d		U 1 3/8 x 0.136	z 55	0.88	2'-8 1/2"	.136 - 2"	
5.3	0.89	-5.77			U 1 x 1 1/4 x 0.136	z 63	0.95	do	.136 - 1 1/2"	
5.4	0.91	-3.47			U 1 x 1 1/8 x 0.118	z 69	0.70	do	.118 - 1 1/2"	
5.5	0.84	-3.60			U 1 x 1 1/8 x 0.118	z 69	0.72	do	.118 - 1 1/2"	
5.6	0.91	-5.90			U 1 x 1 1/4 x 0.136	z 63	0.97	do	.136 - 1 1/2"	
5.7	1.43	-8.20	d		U 1 3/8 x 0.136	z 55	0.90	2'-8 1/2"	.136 - 2"	
5.8	1.57	-8.46	d		U 1 3/8 x 0.136	z 43	0.83	2'-2 1/8"	.136 - 2 1/8"	

Secondary Web Member										
7.1	0.22	-3.79			U 1 x 3/4 x 0.091	z 74	0.98	2'-1"	.091 - 1 3/8"	
7.2	0.18	-3.31			do	z 64	0.80	1'-10"	.091 - 1 1/4"	
7.3	0.17	-3.31			do	z 64	0.80	do	do	
7.4	0.17	-3.34			do	z 64	0.80	do	do	
7.5	0.17	-3.35			do	z 64	0.81	do	do	
7.6	0.17	-3.34			do	z 64	0.80	do	do	
7.7	0.17	-3.31			do	z 64	0.80	do	do	
7.8	0.18	-3.31			do	z 64	0.79	1'-10"	.091 - 1 1/4"	
7.9	0.21	-3.74			U 1 x 3/4 x 0.091	z 74	0.97	2'-1"	.091 - 1 3/8"	

----- **BRIDGING** -----

Maximum spacing between rows of bridging

@ Top Chord:	18'-4 5/8" ==>	3 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	24'-6 5/8" ==>	5 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-4 3/4"	3'-6"
	18'-10 5/8"	9'-4 3/4"
	28'-4 3/8"	18'-10 5/8"
		28'-4 3/8"
		34'-6"

Equally Spaced Bridging between Uplift Rows : No

----- v1.51 -----

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension,	3 = Right Extension
Side: Both Side, Near Side, Far Side	Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

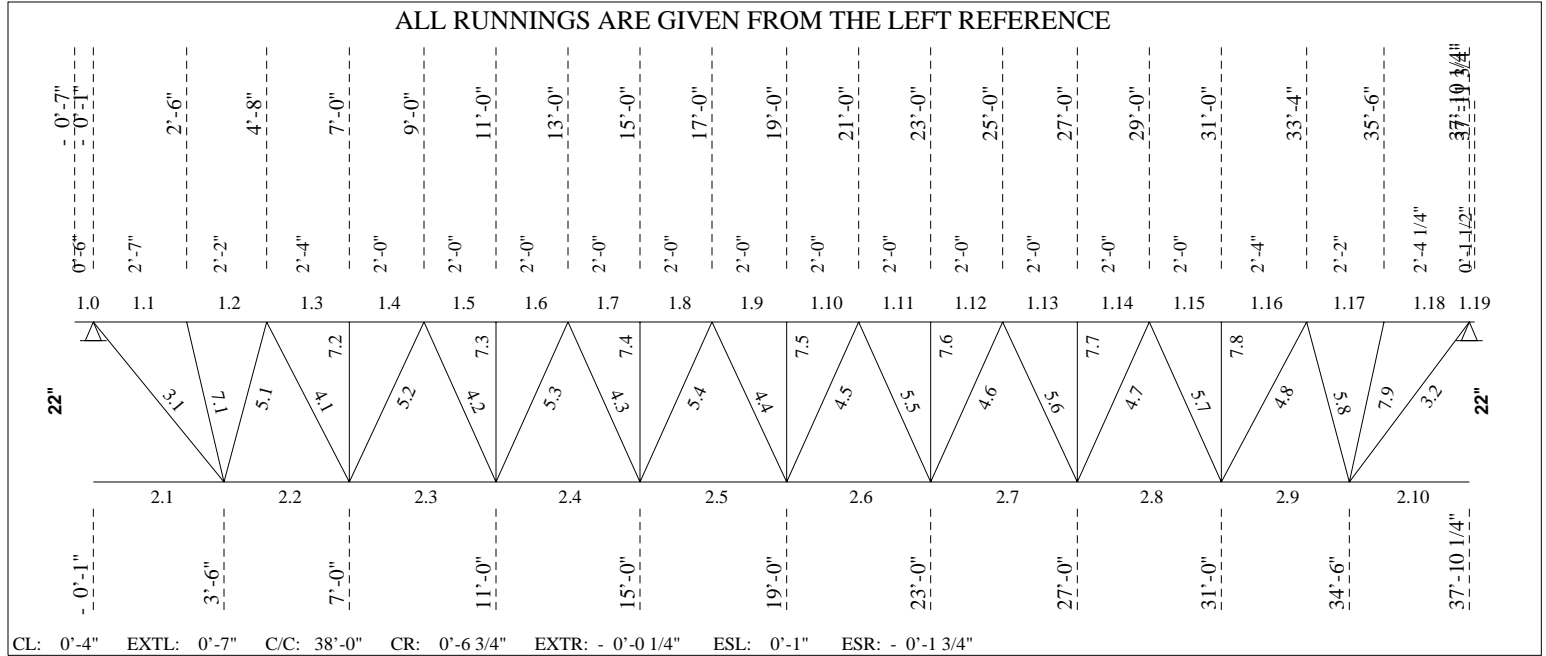
Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
544 / 588	Area to Paint	: 147.94 ft2
		Material Sort : Cost

367(396)-367(396)-25-18/10-544(588) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J8 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.039 ft-kip	(0.264)
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	393 =	0.02	TL = L/ -224 = -0.03
Tcx-R	0'-1 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.002 ft-kip	(0.202)
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.01	TL = L/ 90 = 0.02
I =	1.21 in ⁴				Cal.D. LL = L/	430 =	0.00	TL = L/ -223 = -0.01

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	1.50	1.50	1.50	11'-4"*	11'-4"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	16'-4"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



Mark : J8

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:46

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.25 in (L/ 360)
 Joist inertia..... = 388.94 in^4
 Required camber..... = 0.57 in

===== LOAD NO 2 (J8#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.039 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-1 1/2" Type F[S] Shoe = 2.50 Mf = -0.002 ft-kip 0.000
 TL = 311 LL = 172 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	0.00	0.00	11'-4"*	11'-4"	1	1	0	0
2	1	Both	No	1.90	1.90	0.00	11'-4"*	0'-0"	1	1	90	0
3	1	Both	No	1.50	0.00	0.00	16'-4"*	5'-0"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	16'-4"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 83.69 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.08 in (L/ 418)

===== LOAD NO 3 (J8#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.039 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-1 1/2" Type F[S] Shoe = 2.50 Mf = -0.002 ft-kip 0.000
 TL = 311 LL = 172 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.50	-1.50	0.00	11'-4"*	11'-4"	1	1	0	0



Mark : J8

Project: PROJECT EVELER FREEZER PUYALL

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-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.90	-1.90	0.00	11'-4"*	0'-0"	1	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	16'-4"*	5'-0"	1	1	0	0
4	1	Both	No	1.90	1.90	0.00	16'-4"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 83.69 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.15 in (L/ 394)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.72 in)

Left Reaction = 7.87/ -3.52 kips Right Reaction = 6.95/ -2.69 kips

REQUIRED MATERIAL
 x = tied at mid-length

REQUIRED WELD
 Weld-Ea.Side

No	Tension	Compres.	REQUIRED MATERIAL	Slend.	Util.	Length	REQUIRED WELD	Remarks
Top Chord								
1.0	0.00	0.00	LL 2.5 X .210	z 12	0.26	0'-6"		
1.1	6.69	-14.52	do	z 59	0.39	2'-7"		
1.2	6.58	-14.11	do	z 53	0.51	2'-2"		
1.3	12.79	-26.62	do	z 43	0.54	2'-4"		
1.4	12.79	-26.62	do	z 36	0.66	2'-0"		
1.5	19.12	-38.10	do	z 36	0.81	do		
1.6	19.12	-38.10	do	z 36	0.81	do		
1.7	21.49	-43.54	do	z 36	0.87	do		
1.8	21.49	-43.54	do	z 36	0.95	do		
1.9	20.47	-43.51	do	z 36	0.95	do		
1.10	20.47	-43.51	do	z 36	0.84	do		
1.11	17.52	-39.45	do	z 36	0.79	do		
1.12	17.52	-39.45	do	z 36	0.76	do		
1.13	13.79	-32.53	do	z 36	0.72	do		
1.14	13.79	-32.53	do	z 36	0.63	do		
1.15	9.28	-22.75	do	z 36	0.60	2'-0"		
1.16	9.28	-22.75	do	z 43	0.46	2'-4"		
1.17	4.67	-11.74	do	z 53	0.45	2'-2"		
1.18	4.77	-12.13	do	z 53	0.32	2'-4 1/4"		
1.19	0.00	0.00	LL 2.5 X .210	z 3	0.20	0'-1 1/2"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .216	z 104	0.35	3'-7"		
2.2	18.60	-8.73	do	z 96	0.62	3'-6"		
2.3	32.72	-16.05	do	z 110	0.79	4'-0"		
2.4	41.33	-20.55	do	yy 87	0.84	do		
2.5	44.46	-21.66	do	yy 87	0.91	do		
2.6	41.84	-19.09	do	z 110	0.94	do		
2.7	36.35	-15.75	do	z 110	0.79	do		
2.8	28.00	-11.63	do	z 110	0.68	4'-0"		
2.9	15.72	-6.29	do	z 96	0.53	3'-6"		
2.10	0.00	0.00	LL 2 X .216	z 97	0.30	3'-4 1/4"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend.	Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
End Diagonal										
3.1	16.27	-7.50		1" SQUARE BAR	yy127	0.90	3'-10 1/2"	.250	- 2 1/4"	
3.2	13.79	-5.43		BR 1"	yy139	0.99	3'-8 1/8"	.230	- 1 3/8"	
Diagonal Towards End										
4.1	9.98	-5.04		U 1 x 1 1/4 x 0.136	z 69	0.91	2'-11 5/8"	.136	- 2 1/2"	
4.2	7.12	-4.05		U 1 x 1 1/8 x 0.118	z 69	0.81	2'-8 1/2"	.118	- 2"	
4.3	4.83	-1.25		U 1 x 3/4 x 0.091	z 98	0.80	do	.091	- 1 3/4"	
4.4	3.01	-1.63		do	z 98	0.57	do	.091	- 1 1/2"	
4.5	3.01	-1.82		do	z 98	0.64	do		do	
4.6	4.10	-2.34		U 1 x 3/4 x 0.091	z 98	0.82	do	.091	- 1 1/2"	
4.7	5.99	-2.85		U 1 x 1 1/8 x 0.118	z 69	0.60	2'-8 1/2"	.118	- 1 3/4"	
4.8	8.74	-3.72		U 1 x 1 1/4 x 0.136	z 69	0.72	2'-11 5/8"	.136	- 2 1/8"	
Diagonal Towards Center										
5.1	3.85	-8.01	d	U 1 3/8 x 1 1/4 x 0.118	z 47	0.98	2'-2 1/8"	.118	- 2 1/4"	
5.2	4.31	-8.06	d	U 1 3/8 x 0.136	z 55	0.88	2'-8 1/2"	.136	- 2"	
5.3	1.88	-5.29		U 1 x 1 1/4 x 0.136	z 63	0.87	do	.136	- 1 1/2"	
5.4	0.37	-3.01		U 1 x 0.091	z 71	0.85	do	.090	- 1 1/2"	
5.5	2.08	-3.15		U 1 x 0.091	z 71	0.89	do	.090	- 1 1/2"	
5.6	2.59	-5.04		U 1 x 1 1/4 x 0.136	z 63	0.83	do	.136	- 1 1/2"	
5.7	3.11	-6.93	d	U 1 3/8 x 0.136	z 55	0.76	2'-8 1/2"	.136	- 1 3/4"	
5.8	2.90	-7.12	d	U 1 3/8 x 1 1/4 x 0.118	z 47	0.87	2'-2 1/8"	.118	- 2"	
Secondary Web Member										
7.1	0.22	-0.89		U 1 x 3/4 x 0.091	z 74	0.23	2'-1"	.091	- 1"	
7.2	0.18	-0.81		do	z 64	0.19	1'-10"		do	
7.3	1.42	-2.36		do	z 64	0.57	do		do	
7.4	0.67	-1.41		do	z 64	0.34	do		do	
7.5	0.17	-0.84		do	z 64	0.20	do		do	
7.6	0.17	-0.82		do	z 64	0.20	do		do	
7.7	0.17	-0.79		do	z 64	0.19	do		do	
7.8	0.18	-0.79		do	z 64	0.19	1'-10"		do	
7.9	0.21	-0.84		U 1 x 3/4 x 0.091	z 74	0.22	2'-1"	.091	- 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-3 7/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-7 3/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-4 3/4" 3'-6"
 18'-10 5/8" 9'-4 3/4"
 28'-4 3/8" 18'-10 5/8"
 28'-4 3/8" 34'-6"

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension



Mark : J8

Project: PROJECT EVELER FREEZER PUYALL

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Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

534 / 572

Area to Paint

: 148.34 ft2

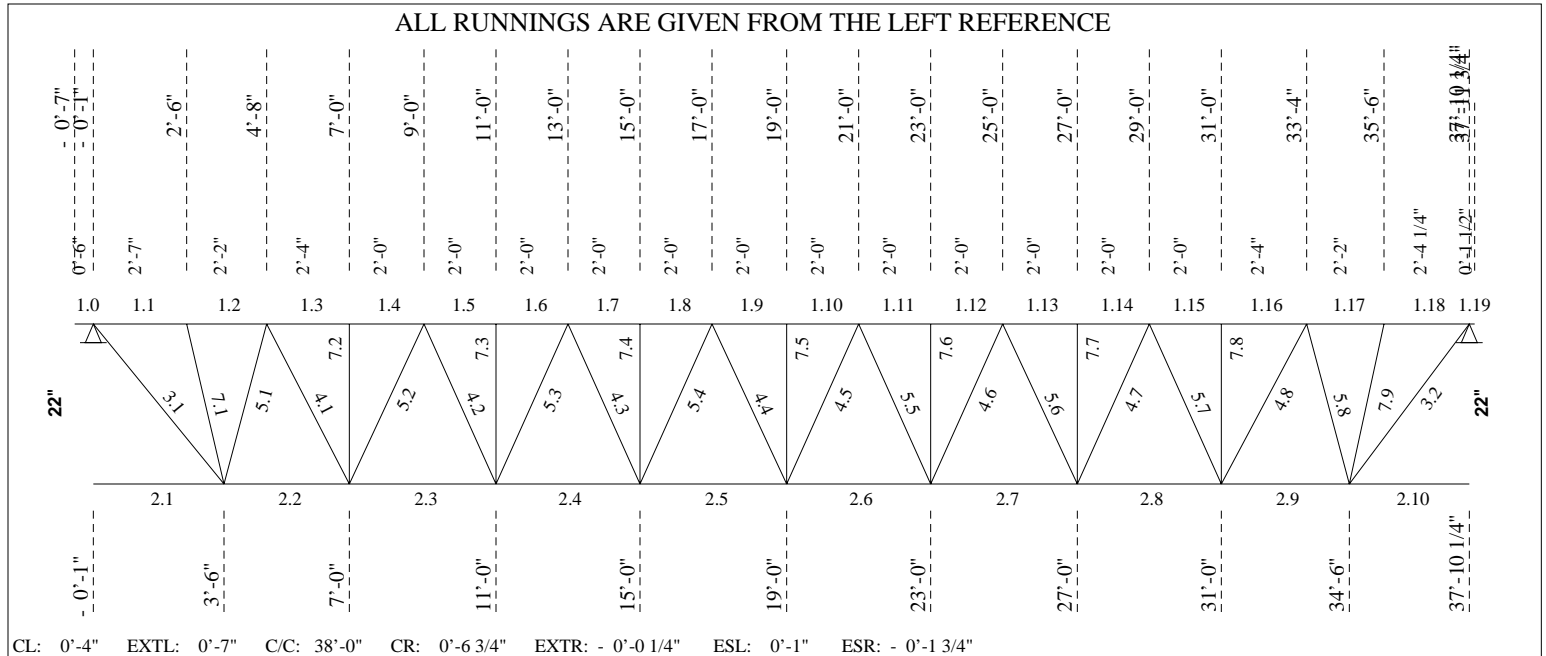
Material Sort : Cost

360(386)-360(386)-25-18/10-534(572) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J9 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 304.79 lb/ft 22KCS3 LIVE LOAD...: 152.39 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type S	Shoe =	2.50	Mf =	-0.038 ft-kip	(0.252)		
TL =	305	LL =	152 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/	90 =	0.07
I =	1.31 in ⁴		Cal.D. LL = L/	9999 =	0.00 TL = L/	-123 =	-0.05		

Tcx-R	0'-1 1/2"	Type S	Shoe =	2.50	Mf =	-0.002 ft-kip	(0.219)		
TL =	305	LL =	152 ntQL =	84	Req.D. LL = L/	180 =	0.01 TL = L/	90 =	0.02
I =	1.31 in ⁴		Cal.D. LL = L/	9999 =	0.00 TL = L/	-123 =	-0.01		

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



Mark : J9

Project: PROJECT EVELER FREEZER PUYALL

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----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.70 in (L/ 649)
 Joist inertia..... = 390.44 in⁴
 Required camber..... = 0.57 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 20.72 in)

Left Reaction = 8.38/ -1.62 kips Right Reaction = 8.27/ -1.59 kips

No	Tension	Compres.	REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00	LL 2.5 X .230		z 12 0.25	0'-6"			
1.1	2.92	-15.24	do		z 59 0.90	2'-7"			
1.2	2.81	-14.55	do		z 53 0.68	2'-2"			
1.3	5.16	-31.77	do		z 43 0.88	2'-4"			
1.4	5.16	-31.77	do		z 37 0.88	2'-0"			
1.5	7.09	-36.93	do		z 37 0.84	do			
1.6	7.09	-36.93	do		z 37 0.92	do			
1.7	8.23	-42.90	do		z 37 0.92	do			
1.8	8.23	-42.90	do		z 37 0.95	do			
1.9	8.60	-44.82	do		z 37 0.95	do			
1.10	8.60	-44.82	do		z 37 0.95	do			
1.11	8.19	-42.67	do		z 37 0.95	do			
1.12	8.19	-42.67	do		z 37 0.92	do			
1.13	7.00	-36.47	do		z 37 0.92	do			
1.14	7.00	-36.47	do		z 37 0.83	do			
1.15	5.03	-31.77	do		z 37 0.88	2'-0"			
1.16	5.03	-31.77	do		z 43 0.88	2'-4"			
1.17	2.64	-13.66	do		z 53 0.60	2'-2"			
1.18	2.75	-14.31	do		z 53 0.80	2'-4 1/4"			
1.19	0.00	0.00	LL 2.5 X .230		z 3 0.22	0'-1 1/2"			
Bottom Chord									
2.1	31.77	0.00	LL 2 X .203		z 104 0.69	3'-7"			
2.2	31.77	-3.68	do		z 107 0.69	3'-6"			
2.3	32.43	-6.22	do		z 122 0.81	4'-0"			
2.4	40.43	-7.76	do		z 122 0.89	do			
2.5	44.37	-8.51	do		z 122 0.96	do			
2.6	44.25	-8.49	do		z 122 0.96	do			
2.7	40.08	-7.69	do		z 122 0.88	do			
2.8	31.85	-6.11	do		z 122 0.80	4'-0"			
2.9	31.77	-3.52	do		z 107 0.69	3'-6"			
2.10	31.77	0.00	LL 2 X .203		z 97 0.69	3'-4 1/4"			
End Diagonal									
3.1	17.08	-3.28	BR 1"		yy147 0.81	3'-10 1/2"	.230 -	1 3/4"	
3.2	16.28	-3.12	BR 1"		yy139 0.77	3'-8 1/8"	.230 -	1 3/4"	
Diagonal Towards End									
4.1	11.10	-11.10	U 1 3/8 X 0.176		z 59 0.93	2'-11 5/8"	.176 -	2 1/8"	
4.2	10.10	-10.10	U 1 3/8 x 0.157		z 54 0.90	2'-8 1/2"	.158 -	2 1/8"	
4.3	10.10	-10.10	do		z 54 0.90	do		do	
4.4	10.10	-10.10	do		z 54 0.90	do		do	
4.5	10.10	-10.10	do		z 54 0.90	do		do	
4.6	10.10	-10.10	do		z 54 0.90	do		do	
4.7	10.10	-10.10	U 1 3/8 x 0.157		z 54 0.90	2'-8 1/2"	.158 -	2 1/8"	
4.8	11.10	-11.10	U 1 3/8 X 0.176		z 59 0.93	2'-11 5/8"	.176 -	2 1/8"	



Mark : J9

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension		Compres.	i	REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
	x = tied at mid-length								Weld-Ea.Side		
Diagonal Towards Center											
5.1	1.55	-8.29			U 1 3/8 x 0.136		z 43 0.81	2'-2 1/8"	.136	- 2"	
5.2	1.40	-10.10			U 1 3/8 x 0.157		z 54 0.90	2'-8 1/2"	.158	- 2 1/8"	
5.3	0.89	-10.10			do		z 54 0.90	do	do		
5.4	0.84	-10.10			do		z 54 0.90	do	do		
5.5	0.77	-10.10			do		z 54 0.90	do	do		
5.6	0.91	-10.10			do		z 54 0.90	do	do		
5.7	1.43	-10.10			U 1 3/8 x 0.157		z 54 0.90	2'-8 1/2"	.158	- 2 1/8"	
5.8	1.57	-8.38		i	U 1 3/8 x 0.136		z 43 0.82	2'-2 1/8"	.136	- 2 1/8"	
Secondary Web Member											
7.1	0.22	-7.63		i	U 1 3/8 x 0.136		z 42 0.74	2'-1"	.136	- 1 7/8"	
7.2	0.18	-6.60			U 1 3/8 x 1 1/4 x 0.118		z 39 0.76	1'-10"	.118	- 1 7/8"	
7.3	0.17	-6.60			do		z 39 0.76	do	do		
7.4	0.17	-6.60			do		z 39 0.76	do	do		
7.5	0.17	-6.60			do		z 39 0.76	do	do		
7.6	0.17	-6.60			do		z 39 0.76	do	do		
7.7	0.17	-6.60			do		z 39 0.76	do	do		
7.8	0.18	-6.60			U 1 3/8 x 1 1/4 x 0.118		z 39 0.76	1'-10"	.118	- 1 7/8"	
7.9	0.21	-7.63		i	U 1 3/8 x 0.136		z 42 0.74	2'-1"	.136	- 1 7/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-5 5/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-8 1/4" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-4 3/4" 3'-6"
 18'-10 5/8" 9'-4 3/4"
 28'-4 3/8" 18'-10 5/8"
 28'-4 3/8" 28'-4 3/8"
 34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Side, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 594 / 623 Area to Paint : 155.91 ft2 Material Sort : Cost

This mark has been edited

402(422)-402(422)-25-18/10-594(623) NNN,NNN



Mark : J11

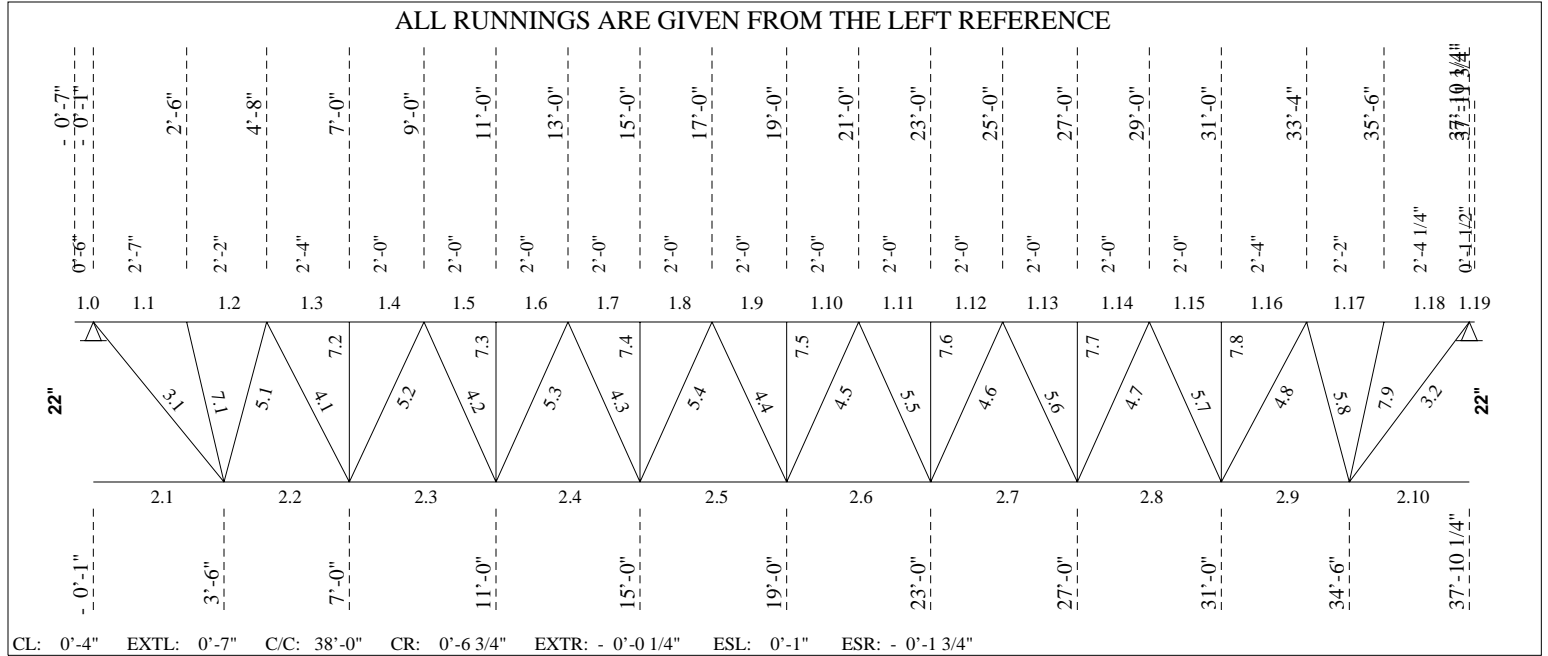
Project: PROJECT EVELER FREEZER PUYALL

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Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J11 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.039 ft-kip	(0.290)
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	0.69 in ⁴				Cal.D. LL = L/	381 =	0.02 TL = L/	-212 = -0.03
Tcx-R	0'-1 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.002 ft-kip	(0.254)
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.01 TL = L/	90 = 0.02
I =	0.69 in ⁴				Cal.D. LL = L/	477 =	0.00 TL = L/	-210 = -0.01

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	1.50	1.50	1.50	24'-9"*	24'-9"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	29'-9"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.25 in (L/ 360)
 Joist inertia..... = 366.64 in⁴
 Required camber..... = 0.57 in

===== LOAD NO 2 (J11#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.039 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-1 1/2" Type F[S] Shoe = 2.50 Mf = -0.002 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	0.00	0.00	24'-9"*	24'-9"	1	1	0	0
2	1	Both	No	1.90	1.90	0.00	24'-9"*	0'-0"	1	1	90	0
3	1	Both	No	1.50	0.00	0.00	29'-9"*	5'-0"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	29'-9"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.17 in (L/ 386)

===== LOAD NO 3 (J11#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.039 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-1 1/2" Type F[S] Shoe = 2.50 Mf = -0.002 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.50	-1.50	0.00	24'-9"*	24'-9"	1	1	0	0



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-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.90	-1.90	0.00	24'-9"*	0'-0"	1	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	29'-9"*	5'-0"	1	1	0	0
4	1	Both	No	1.90	1.90	0.00	29'-9"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.06 in (L/ 425)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.83 in)

Left Reaction = 6.80/ -2.45 kips Right Reaction = 8.02/ -3.76 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
	x = tied at mid-length						Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00	LL 2 X .247		z 15 0.29	0'-6"			
1.1	4.55	-14.36	do		z 74 0.48	2'-7"			
1.2	4.44	-13.96	do		z 66 0.52	2'-2"			
1.3	8.45	-23.06	do		z 54 0.54	2'-4"			
1.4	8.45	-23.06	do		z 46 0.64	2'-0"			
1.5	12.28	-31.16	do		z 46 0.67	do			
1.6	12.28	-31.16	do		z 46 0.75	do			
1.7	15.34	-37.27	do		z 46 0.80	do			
1.8	15.34	-37.27	do		z 46 0.81	do			
1.9	17.62	-40.53	do		z 46 0.87	do			
1.10	17.62	-40.53	do		z 46 0.87	do			
1.11	19.13	-40.94	do		z 46 0.87	do			
1.12	19.13	-40.94	do		z 46 0.96	do			
1.13	17.92	-36.56	do		z 46 0.96	do			
1.14	17.92	-36.56	do		z 46 0.96	do			
1.15	13.35	-26.75	do		z 46 0.96	2'-0"			
1.16	13.35	-26.75	do		z 54 0.73	2'-4"			
1.17	6.60	-13.64	do		z 66 0.55	2'-2"			
1.18	6.71	-14.02	do		z 67 0.43	2'-4 1/4"			
1.19	0.00	0.00	LL 2 X .247		z 4 0.25	0'-1 1/2"			
Bottom Chord									
2.1	0.00	0.00	LL 2 X .203		z 104 0.31	3'-7"			
2.2	15.67	-5.86	do		z 96 0.54	3'-6"			
2.3	27.04	-10.46	do		z 110 0.69	4'-0"			
2.4	34.57	-13.91	do		z 110 0.78	do			
2.5	39.26	-16.58	do		z 110 0.87	do			
2.6	41.09	-18.47	do		z 110 0.97	do			
2.7	39.87	-19.38	x do		yy 87 0.86	do			
2.8	32.55	-16.27	do		z 110 0.85	4'-0"			
2.9	18.32	-8.94	do		z 96 0.65	3'-6"			
2.10	0.00	0.00	LL 2 X .203		z 97 0.37	3'-4 1/4"			



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	13.84	-5.10	1" SQUARE BAR	yy127	0.61	3'-10 1/2"	.250 - 1 7/8"	
3.2	15.97	-7.64	1" SQUARE BAR	yy121	0.82	3'-8 1/8"	.250 - 2 1/8"	
Diagonal Towards End								
4.1	8.15	-3.23	d U 1 3/8 x 0.136	z 61	0.55	2'-11 5/8"	.136 - 2"	
4.2	5.46	-2.41	U 1 x 1 1/8 x 0.118	z 69	0.55	2'-8 1/2"	.118 - 1 5/8"	
4.3	3.57	-1.90	U 1 x 3/4 x 0.091	z 98	0.66	do	.091 - 1 1/2"	
4.4	3.06	-1.63	do	z 98	0.57	do	do	
4.5	3.06	-1.63	do	z 98	0.57	do	do	
4.6	3.64	-0.66	U 1 x 3/4 x 0.091	z 98	0.60	do	.091 - 1 1/2"	
4.7	6.81	-2.19	U 1 x 1 1/8 x 0.118	z 69	0.68	2'-8 1/2"	.118 - 2"	
4.8	10.50	-5.50	d U 1 3/8 x 0.136	z 61	0.70	2'-11 5/8"	.136 - 2 5/8"	
Diagonal Towards Center								
5.1	2.55	-6.71	d U 1 3/8 x 0.136	z 44	0.66	2'-2 1/8"	.136 - 1 5/8"	
5.2	2.67	-6.40	d U 1 3/8 x 0.136	z 55	0.70	2'-8 1/2"	.136 - 1 5/8"	
5.3	2.15	-4.52	U 1 x 1 1/4 x 0.136	z 63	0.75	do	.136 - 1 1/2"	
5.4	1.64	-3.06	U 1 x 0.091	z 72	0.86	do	.090 - 1 1/2"	
5.5	0.40	-3.06	U 1 x 0.091	z 72	0.86	do	.090 - 1 1/2"	
5.6	1.93	-5.87	U 1 x 1 1/4 x 0.136	z 63	0.97	do	.136 - 1 1/2"	
5.7	3.87	-7.69	d U 1 3/8 x 0.136	z 55	0.84	2'-8 1/2"	.136 - 1 7/8"	
5.8	4.18	-8.39	d U 1 3/8 x 0.136	z 44	0.82	2'-2 1/8"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.22	-0.89	U 1 x 3/4 x 0.091	z 74	0.23	2'-1"	.091 - 1"	
7.2	0.18	-0.79	do	z 64	0.19	1'-10"	do	
7.3	0.17	-0.78	do	z 64	0.19	do	do	
7.4	0.17	-0.81	do	z 64	0.20	do	do	
7.5	0.17	-0.83	do	z 64	0.20	do	do	
7.6	0.36	-1.05	do	z 64	0.25	do	do	
7.7	0.17	-0.81	do	z 64	0.20	do	do	
7.8	0.74	-1.48	do	z 64	0.36	1'-10"	do	
7.9	0.21	-0.85	U 1 x 3/4 x 0.091	z 74	0.22	2'-1"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-11 3/4" ==> 3 Row(s) Minimum Lateral Supports
 @ Bottom Chord: 24'-6 5/8" ==> 5 Row(s) Minimum Deck (36")
 Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-4 3/4" 3'-6"
 18'-10 5/8" 9'-4 3/4"
 28'-4 3/8" 18'-10 5/8"
 28'-4 3/8" 28'-4 3/8"
 34'-6"

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope
 Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)
 Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension



Mark : J11

Project: PROJECT EVELER FREEZER PUYALL

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Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

511 / 543

Area to Paint

: 136.84 ft2

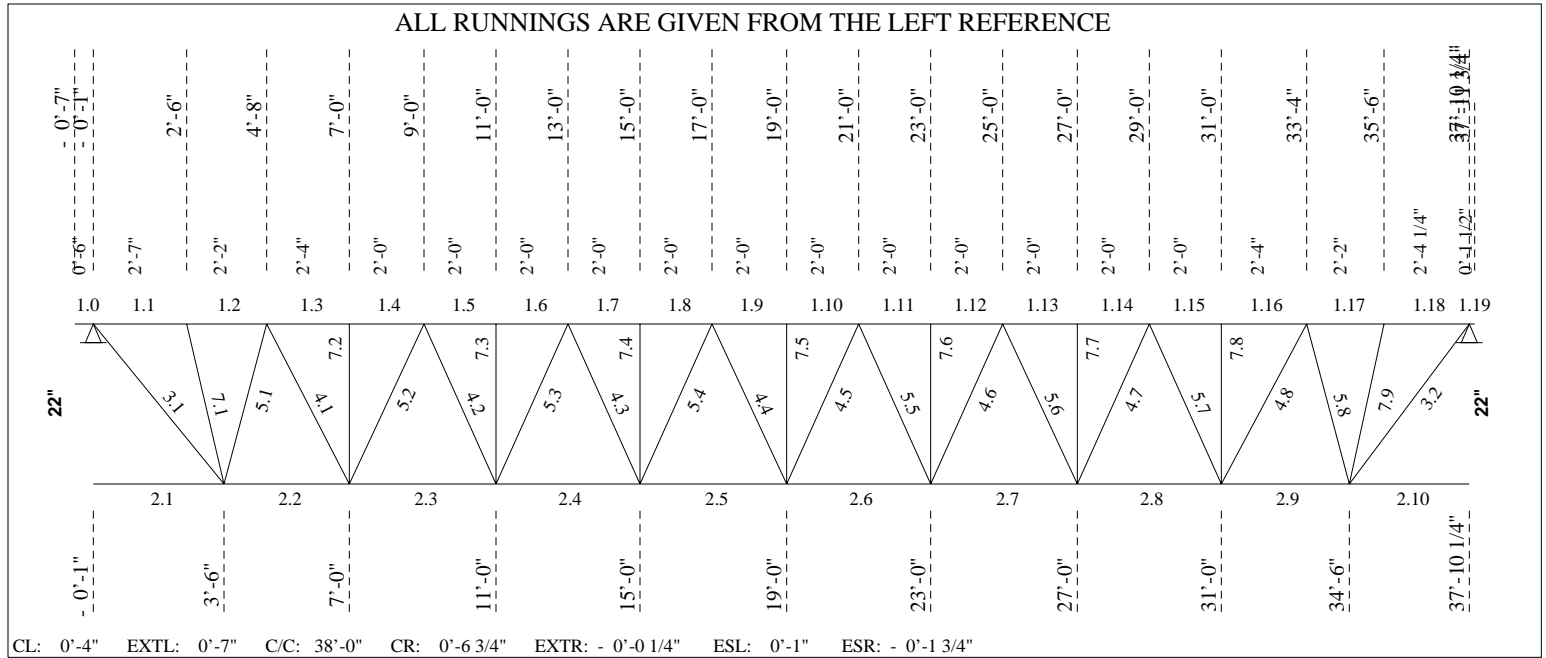
Material Sort : Cost

343(365)-343(365)-25-18/10-511(543) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J11A (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type S	Shoe =	2.50	Mf =	-0.039 ft-kip	(0.262)	
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/ 90 =	0.07
I =	2.26 in^4				Cal.D. LL = L/	481 =	0.01 TL = L/ -154 =	-0.04

Tcx-R	0'-1 1/2"	Type S	Shoe =	2.50	Mf =	-0.002 ft-kip	(0.240)	
TL =	309	LL =	171 ntQL =	84	Req.D. LL = L/	180 =	0.01 TL = L/ 90 =	0.02
I =	2.26 in^4				Cal.D. LL = L/	598 =	0.00 TL = L/ -153 =	-0.01

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	1.50	1.50	1.50	24'-9"*	24'-9"	1	1	90	0
3	1	Both	No	1.50	1.50	1.50	29'-9"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



Mark : J11A

Project: PROJECT EVELER FREEZER PUYALL

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----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.02 in (L/ 442)
 Joist inertia..... = 460.26 in⁴
 Required camber..... = 0.57 in

===== LOAD NO 2 (J11A#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type S Shoe = 2.50 Mf = -0.039 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-1 1/2" Type S Shoe = 2.50 Mf = -0.002 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
3	1	Both	No	1.90	1.90	0.00	24'-9"*	0'-0"	1	1	90	0
2	1	Both	No	1.50	0.00	0.00	24'-9"*	24'-9"	1	1	0	0
4	1	Both	No	1.50	0.00	0.00	29'-9"*	5'-0"	1	1	0	0
5	1	Both	No	-1.90	-1.90	0.00	29'-9"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.93 in (L/ 484)

===== LOAD NO 3 (J11A#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 309.06 lb/ft 22K9 LIVE LOAD...: 170.94 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type S Shoe = 2.50 Mf = -0.039 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-1 1/2" Type S Shoe = 2.50 Mf = -0.002 ft-kip 0.000
 TL = 309 LL = 171 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02



Mark : J11A

Project: PROJECT EVELER FREEZER PUYALL

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----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	-1.50	-1.50	0.00	24'-9"*	24'-9"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	24'-9"*	0'-0"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	29'-9"*	5'-0"	1	1	0	0
5	1	Both	No	1.90	1.90	0.00	29'-9"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 0.85 in (L/ 534)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.58 in)

Left Reaction = 9.30/ -2.45 kips Right Reaction = 10.52/ -3.76 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 3 X .224	z 10	0.26	0'-6"		
1.1	4.60	-19.20	do	z 49	0.65	2'-7"		
1.2	4.49	-18.50	do	z 44	0.63	2'-2"		
1.3	8.56	-31.58	do	z 35	0.65	2'-4"		
1.4	8.56	-31.58	do	z 30	0.75	2'-0"		
1.5	12.44	-42.85	do	z 30	0.77	do		
1.6	12.44	-42.85	do	z 30	0.85	do		
1.7	15.53	-50.86	do	z 30	0.89	do		
1.8	15.53	-50.86	do	z 30	0.90	do		
1.9	17.84	-54.74	do	z 30	0.95	do		
1.10	17.84	-54.74	do	z 30	0.95	do		
1.11	19.37	-54.51	do	z 30	0.94	do		
1.12	19.37	-54.51	do	z 30	0.96	do		
1.13	18.15	-48.18	do	z 30	0.96	do		
1.14	18.15	-48.18	do	z 30	0.93	do		
1.15	13.52	-35.10	do	z 30	0.93	2'-0"		
1.16	13.52	-35.10	do	z 35	0.76	2'-4"		
1.17	6.69	-17.92	do	z 44	0.68	2'-2"		
1.18	6.79	-18.58	do	z 44	0.62	2'-4 1/4"		
1.19	0.00	0.00	LL 3 X .224	z 3	0.24	0'-1 1/2"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .247	z 105	0.36	3'-7"		
2.2	21.73	-5.93	do	z 97	0.62	3'-6"		
2.3	37.30	-10.59	do	z 110	0.79	4'-0"		
2.4	47.37	-14.08	do	z 110	0.88	do		
2.5	53.32	-16.79	do	z 110	0.96	do		
2.6	55.14	-18.71	do	z 110	0.99	do		
2.7	52.62	-19.62	do	z 110	0.95	do		
2.8	42.70	-16.48	do	z 110	0.87	4'-0"		
2.9	24.16	-9.05	do	z 97	0.71	3'-6"		
2.10	0.00	0.00	LL 2 X .247	z 98	0.40	3'-4 1/4"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	19.19	-5.15	1" SQUARE BAR	yy127	0.71	3'-10 1/2"	.250 - 2 5/8"	
3.2	21.09	-7.71	1" SQUARE BAR	yy120	0.83	3'-8 1/8"	.250 - 2 7/8"	
Diagonal Towards End								
4.1	11.66	-3.26	d U 1 3/8 X 0.176	z 59	0.61	2'-11 5/8"	.176 - 2 1/4"	
4.2	8.22	-2.43	U 1 x 1 1/4 x 0.136	z 63	0.68	2'-8 1/2"	.136 - 2"	
4.3	5.92	-1.91	U 1 x 0.091	z 71	0.79	do	.090 - 2 1/4"	
4.4	4.04	-1.70	U 1 x 1 1/8 x 0.118	z 68	0.41	do	.118 - 1 1/2"	
4.5	3.35	-4.04	U 1 x 1 1/8 x 0.118	z 68	0.81	do	.118 - 1 1/2"	
4.6	4.79	-0.66	U 1 x 0.091	z 71	0.64	do	.090 - 1 3/4"	
4.7	9.61	-2.20	U 1 x 1 1/4 x 0.136	z 63	0.79	2'-8 1/2"	.136 - 2 3/8"	
4.8	14.06	-5.54	d U 1 3/8 X 0.176	z 59	0.73	2'-11 5/8"	.176 - 2 3/4"	
Diagonal Towards Center								
5.1	2.56	-9.39	d U 1 3/8 X 0.176	z 42	0.67	2'-2 1/8"	.176 - 1 3/4"	
5.2	2.68	-9.38	d U 1 3/8 x 0.157	z 54	0.84	2'-8 1/2"	.158 - 2"	
5.3	2.17	-7.07	d U 1 3/8 x 0.136	z 55	0.77	do	.136 - 1 3/4"	
5.4	1.65	-4.76	U 1 x 1 1/8 x 0.118	z 68	0.95	do	.118 - 1 1/2"	
5.5	1.30	-4.04	U 1 x 1 1/8 x 0.118	z 68	0.81	do	.118 - 1 1/2"	
5.6	1.94	-8.45	d U 1 3/8 x 0.136	z 55	0.92	do	.136 - 2 1/8"	
5.7	3.90	-10.70	d U 1 3/8 x 0.157	z 54	0.95	2'-8 1/2"	.158 - 2 1/4"	
5.8	4.20	-11.10	d U 1 3/8 X 0.176	z 42	0.79	2'-2 1/8"	.176 - 2 1/8"	
Secondary Web Member								
7.1	0.22	-3.81	U 1 x 3/4 x 0.091	z 74	0.98	2'-1"	.091 - 1 3/8"	
7.2	0.18	-3.33	do	z 64	0.80	1'-10"	.091 - 1 1/4"	
7.3	0.17	-3.34	do	z 64	0.80	do	do	
7.4	0.17	-3.38	do	z 64	0.81	do	do	
7.5	0.17	-3.40	do	z 64	0.81	do	.091 - 1 1/4"	
7.6	0.36	-3.61	do	z 64	0.87	do	.091 - 1 3/8"	
7.7	0.17	-3.37	do	z 64	0.81	do	.091 - 1 1/4"	
7.8	0.74	-4.02	do	z 64	0.96	1'-10"	.091 - 1 1/2"	
7.9	0.21	-3.77	U 1 x 3/4 x 0.091	z 74	0.97	2'-1"	.091 - 1 3/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 20'-10 1/2" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-9 1/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-4 3/4"	3'-6"
	18'-10 5/8"	9'-4 3/4"
	28'-4 3/8"	18'-10 5/8"
		28'-4 3/8"
		34'-6"

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope
 Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)
 Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension



Mark : J11A

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:47

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

657 / 696

Area to Paint

: 162.42 ft2

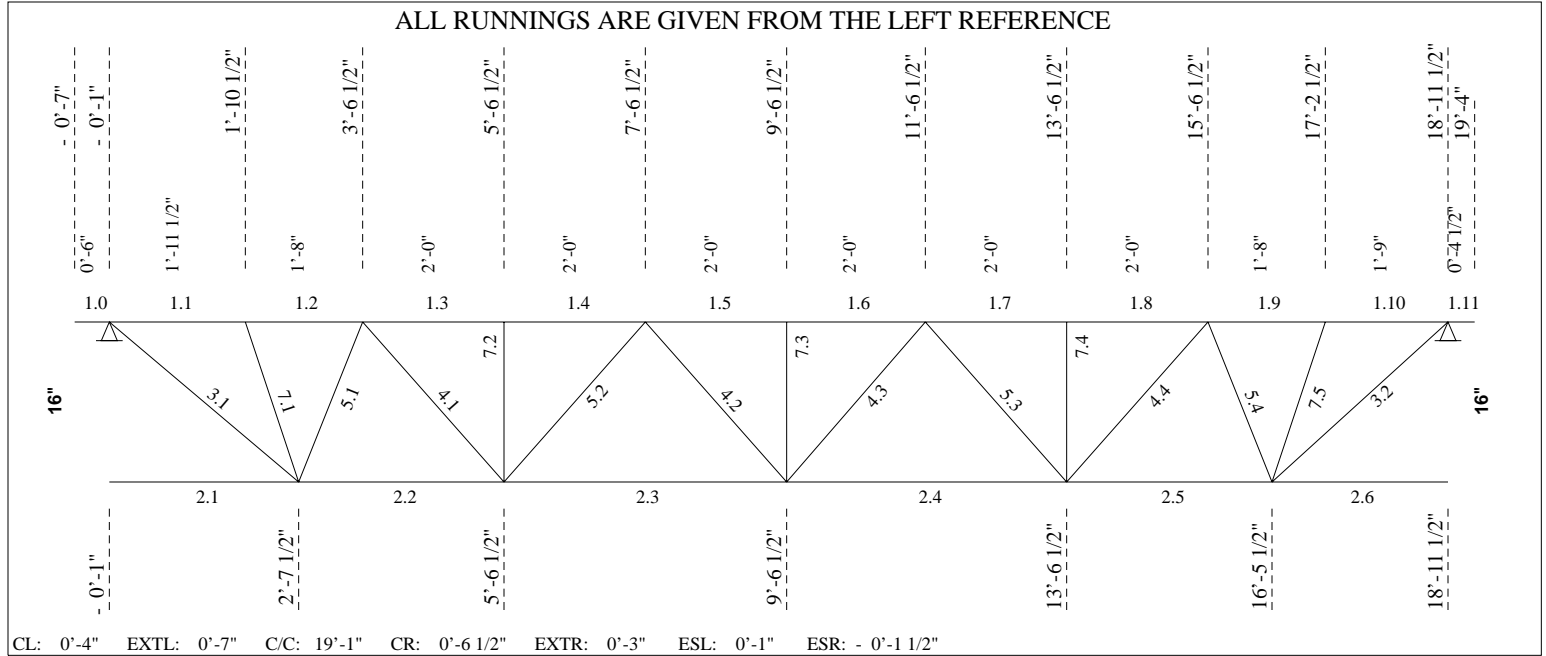
Material Sort : Cost

441(467)-441(467)-25-18/10-657(696) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J12 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 504.16 lb/ft 16KCS3 LIVE LOAD...: 252.08 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.063 ft-kip	(0.272)
TL =	504	LL =	252 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	0.54 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -384 = -0.02
Tcx-R	0'-4 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.035 ft-kip	(0.228)
TL =	504	LL =	252 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.05
I =	0.54 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -376 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	0.62 in (L/ 360)
Calculated deflection under service live load..... =	0.19 in (L/ 1181)
Joist inertia..... =	144.79 in ⁴
Required camber..... =	0.24 in



----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 14.87 in)

Left Reaction = 4.97/ -0.83 kips Right Reaction = 4.91/ -0.82 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .186	z 15	0.27	0'-6"		
1.1	1.46	-8.75	do	z 55	0.43	1'-11 1/2"		
1.2	1.37	-8.22	do	z 51	0.41	1'-8"		
1.3	2.45	-31.60	do	z 46	0.95	2'-0"		
1.4	2.45	-31.60	do	z 46	0.95	do		
1.5	2.96	-31.60	do	z 46	0.94	do		
1.6	2.96	-31.60	do	z 46	0.94	do		
1.7	2.39	-31.60	do	z 46	0.95	do		
1.8	2.39	-31.60	do	z 46	0.95	2'-0"		
1.9	1.27	-7.63	do	z 51	0.40	1'-8"		
1.10	1.35	-8.13	do	z 48	0.38	1'-9"		
1.11	0.00	0.00	LL 2 X .186	z 11	0.23	0'-4 1/2"		
Bottom Chord								
2.1	31.60	0.00	LL 2 X .156	z 77	0.88	2'-8 1/2"		
2.2	31.60	-1.79	do	z 88	0.88	2'-11"		
2.3	31.60	-2.84	do	z 121	0.88	4'-0"		
2.4	31.60	-2.81	do	z 121	0.88	4'-0"		
2.5	31.60	-1.70	do	z 88	0.88	2'-11"		
2.6	31.60	0.00	LL 2 X .156	z 71	0.88	2'-6"		
End Diagonal								
3.1	10.95	-1.62	BR 1"	yy109	0.52	2'-10 1/2"	.230 - 1 1/8"	
3.2	10.23	-1.53	BR 1"	yy101	0.48	2'-8 1/4"	.230 - 1 1/8"	
Diagonal Towards End								
4.1	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
4.2	9.11	-9.11	do	z 49	0.94	do	do	
4.3	9.11	-9.11	do	z 49	0.94	do	do	
4.4	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
Diagonal Towards Center								
5.1	0.71	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
5.2	0.46	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.3	0.50	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.4	0.73	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
Secondary Web Member								
7.1	0.17	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	
7.2	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.3	0.17	-4.80	do	z 28	0.51	do	do	
7.4	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.5	0.16	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-2 7/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-5 1/2" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-5 1/4" 2'-7 1/2"
 9'-5 1/4"



Mark : J12

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:47

16'-5 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

220 / 236

Area to Paint

: 72.47 ft2

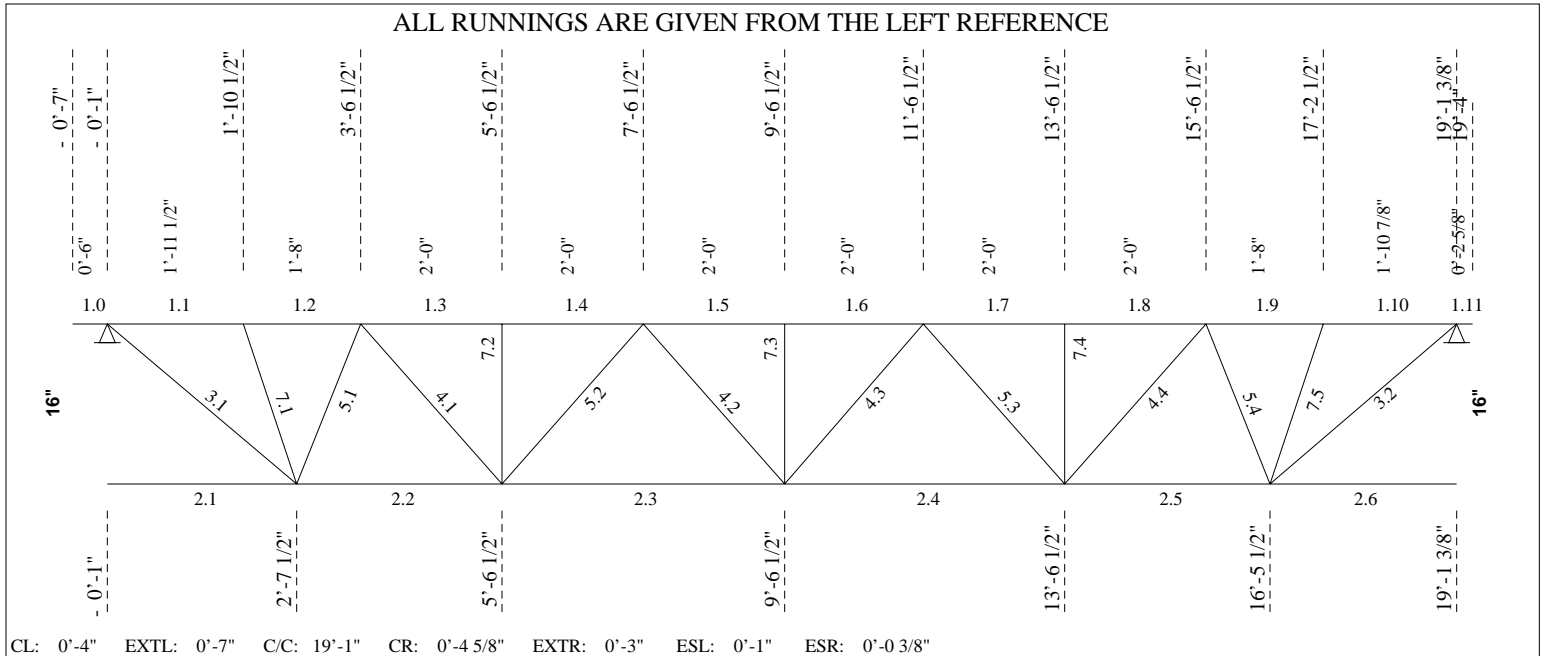
Material Sort : Cost

149(160)-149(160)-25-10/6-220(236) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J12A (MS 1" KCS, Symmetrical, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 500.05 lb/ft 16KCS3 LIVE LOAD...: 250.03 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type F[S]	Shoe = 2.50	Mf = -0.062 ft-kip (0.272)
TL =	500	LL = 250 ntQL = 84	Req.D. LL = L/ 180 =	0.03 TL = L/ 90 = 0.07
I =	0.54 in ⁴		Cal.D. LL = L/ 9999 =	0.00 TL = L/ -377 = -0.02
Tcx-R	0'-2 5/8"	Type F[S]	Shoe = 2.50	Mf = -0.012 ft-kip (0.215)
TL =	500	LL = 250 ntQL = 84	Req.D. LL = L/ 180 =	0.01 TL = L/ 90 = 0.03
I =	0.54 in ⁴		Cal.D. LL = L/ 9999 =	0.00 TL = L/ -365 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	0.63 in (L/ 360)
Calculated deflection under service live load..... =	0.19 in (L/ 1161)
Joist inertia..... =	144.79 in ⁴
Required camber..... =	0.24 in



Mark : J12A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:47

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 14.87 in)

Left Reaction = 4.97/ -0.83 kips Right Reaction = 4.83/ -0.81 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .186	z 15	0.27	0'-6"		
1.1	1.47	-8.76	do	z 55	0.43	1'-11 1/2"		
1.2	1.38	-8.23	do	z 51	0.41	1'-8"		
1.3	2.48	-31.60	do	z 46	0.95	2'-0"		
1.4	2.48	-31.60	do	z 46	0.95	do		
1.5	3.01	-31.60	do	z 46	0.94	do		
1.6	3.01	-31.60	do	z 46	0.94	do		
1.7	2.46	-31.60	do	z 46	0.95	do		
1.8	2.46	-31.60	do	z 46	0.95	2'-0"		
1.9	1.36	-8.09	do	z 51	0.41	1'-8"		
1.10	1.44	-8.60	do	z 53	0.42	1'-10 7/8"		
1.11	0.00	0.00	LL 2 X .186	z 7	0.21	0'-2 5/8"		
Bottom Chord								
2.1	31.60	0.00	LL 2 X .156	z 77	0.88	2'-8 1/2"		
2.2	31.60	-1.81	do	z 88	0.88	2'-11"		
2.3	31.60	-2.88	do	z 121	0.88	4'-0"		
2.4	31.60	-2.88	do	z 121	0.88	4'-0"		
2.5	31.60	-1.78	do	z 88	0.88	2'-11"		
2.6	31.60	0.00	LL 2 X .156	z 76	0.88	2'-7 7/8"		
End Diagonal								
3.1	10.95	-1.64	BR 1"	yy109	0.52	2'-10 1/2"	.230 - 1 1/8"	
3.2	10.77	-1.61	BR 1"	yy107	0.51	2'-9 7/8"	.230 - 1 1/8"	
Diagonal Towards End								
4.1	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
4.2	9.11	-9.11	do	z 49	0.94	do	do	
4.3	9.11	-9.11	do	z 49	0.94	do	do	
4.4	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
Diagonal Towards Center								
5.1	0.71	-5.97 i	U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
5.2	0.48	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.3	0.48	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.4	0.72	-5.97 i	U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
Secondary Web Member								
7.1	0.17	-5.61 i	U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	
7.2	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.3	0.17	-4.80	do	z 28	0.51	do	do	
7.4	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.5	0.17	-5.61 i	U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-2 5/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-5 1/2" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-6 1/4" 2'-7 1/2"
 9'-6 1/4"



Mark : J12A

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:47

16'-5 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

219 / 236

Area to Paint

: 72.30 ft2

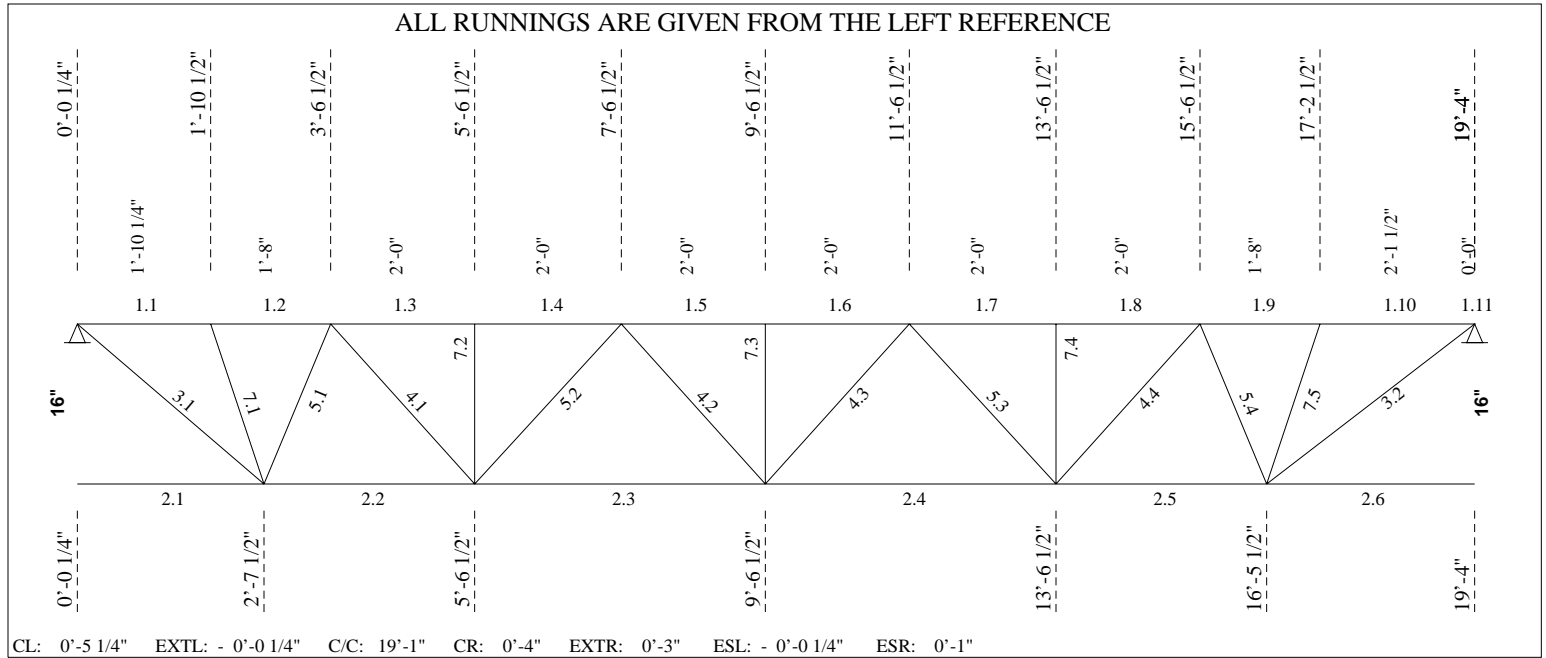
Material Sort : Cost

149(160)-149(160)-25-10/6-219(236) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J13 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 501.41 lb/ft 16KCS3 LIVE LOAD...: 250.71 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-2" Type F[S] Shoe = 2.50 Mf = -0.007 ft-kip (0.181)
 TL = 501 LL = 251 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02
 I = 1.21 in^4 Cal.D. LL = L/ 728 = 0.00 TL = L/ -416 = 0.00

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both No	1.50	1.50	1.50	3'-3"*	3'-3"	1	1	90	0
2	1	Both No	1.50	1.50	1.50	8'-3"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.30 in (L/ 760)
 Joist inertia..... = 164.92 in^4
 Required camber..... = 0.24 in



Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:48

=====**LOAD NO 2 (J13#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 501.41 lb/ft 16KCS3 LIVE LOAD...: 250.71 lb/ft

-----**EXTENSION**-----

Tcx-R 0'-2" Type F[S] Shoe = 2.50 Mf = -0.007 ft-kip 0.000
 TL = 501 LL = 251 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.90	1.90	0.00	3'-3"*	3'-3"	1	1	90	0
2	1	Both	No	1.50	0.00	0.00	3'-3"*	0'-0"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	8'-3"*	5'-0"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	8'-3"*	0'-0"	1	1	0	0

-----**UPLIFT**-----

Net uplift uniform load : 84.00 lb/ft

-----**DEFLECTION**-----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.22 in (L/ 1008)

=====**LOAD NO 3 (J13#03)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 501.41 lb/ft 16KCS3 LIVE LOAD...: 250.71 lb/ft

-----**EXTENSION**-----

Tcx-R 0'-2" Type F[S] Shoe = 2.50 Mf = -0.007 ft-kip 0.000
 TL = 501 LL = 251 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.90	-1.90	0.00	3'-3"*	3'-3"	1	1	90	0
2	1	Both	No	-1.50	-1.50	0.00	3'-3"*	0'-0"	1	1	0	0
3	1	Both	No	1.90	1.90	0.00	8'-3"*	5'-0"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	8'-3"*	0'-0"	1	1	0	0

-----**UPLIFT**-----

Net uplift uniform load : 84.00 lb/ft

-----**DEFLECTION**-----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.28 in (L/ 816)

=====**End of multiple loads**=====



----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 14.74 in)

Left Reaction = 6.83/ -2.90 kips Right Reaction = 5.69/ -1.69 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	5.62	-12.78	LL 2.5 X .210	z 41	0.39	1'-10 1/4"		
1.2	5.37	-12.04	do	z 41	0.44	1'-8"		
1.3	8.88	-31.89	do	z 36	0.66	2'-0"		
1.4	8.88	-31.89	do	z 36	0.81	do		
1.5	9.85	-31.89	do	z 36	0.90	do		
1.6	9.85	-31.89	do	z 36	0.77	do		
1.7	6.43	-31.89	do	z 36	0.66	do		
1.8	6.43	-31.89	do	z 36	0.64	2'-0"		
1.9	3.23	-10.13	do	z 41	0.30	1'-8"		
1.10	3.31	-10.66	do	z 44	0.30	1'-11 1/2"		
1.11	0.00	0.00	LL 2.5 X .210	z 4	0.18	0'-2"		
Bottom Chord								
2.1	31.89	0.00	LL 2 X .156	z 74	0.89	2'-7 1/4"		
2.2	31.89	-7.19	do	z 88	0.89	2'-11"		
2.3	31.89	-10.29	do	z 121	0.89	4'-0"		
2.4	31.89	-8.28	do	z 121	0.89	4'-0"		
2.5	31.89	-4.31	do	z 88	0.89	2'-11"		
2.6	31.89	0.00	LL 2 X .156	z 77	0.89	2'-8 1/2"		
End Diagonal								
3.1	14.23	-6.29	BR 1"	yy105	0.67	2'-9 3/8"	.230 - 1 1/2"	
3.2	11.84	-3.68	BR 1"	yy108	0.56	2'-10 1/2"	.230 - 1 1/4"	
Diagonal Towards End								
4.1	9.17	-9.17	d U 1 3/8 x 0.136	z 49	0.95	2'-4 7/8"	.136 - 2 1/4"	
4.2	9.17	-9.17	d do	z 49	0.95	do	do	
4.3	9.17	-9.17	d do	z 49	0.95	do	do	
4.4	9.17	-9.17	d U 1 3/8 x 0.136	z 49	0.95	2'-4 7/8"	.136 - 2 1/4"	
Diagonal Towards Center								
5.1	3.03	-6.62	d U 1 3/8 x 1 1/4 x 0.118	z 34	0.73	1'-7 3/8"	.118 - 1 7/8"	
5.2	1.66	-9.17	d U 1 3/8 x 0.136	z 49	0.95	2'-4 7/8"	.136 - 2 1/4"	
5.3	2.17	-9.17	d U 1 3/8 x 0.136	z 49	0.95	2'-4 7/8"	.136 - 2 1/4"	
5.4	1.82	-5.99	d U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
Secondary Web Member								
7.1	0.47	-5.62	d U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	
7.2	0.17	-4.80	d do	z 27	0.51	1'-4"	.118 - 1 1/2"	
7.3	0.70	-4.80	d do	z 27	0.51	do	do	
7.4	0.17	-4.80	d do	z 27	0.51	1'-4"	.118 - 1 1/2"	
7.5	0.17	-5.62	d U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 18'-11 1/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-6 3/4" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-7 1/8" 2'-7 1/2"
 9'-7 1/8"
 16'-5 1/2"



Mark : J13

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:48

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal

Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

253 / 270

Area to Paint

: 76.27 ft2

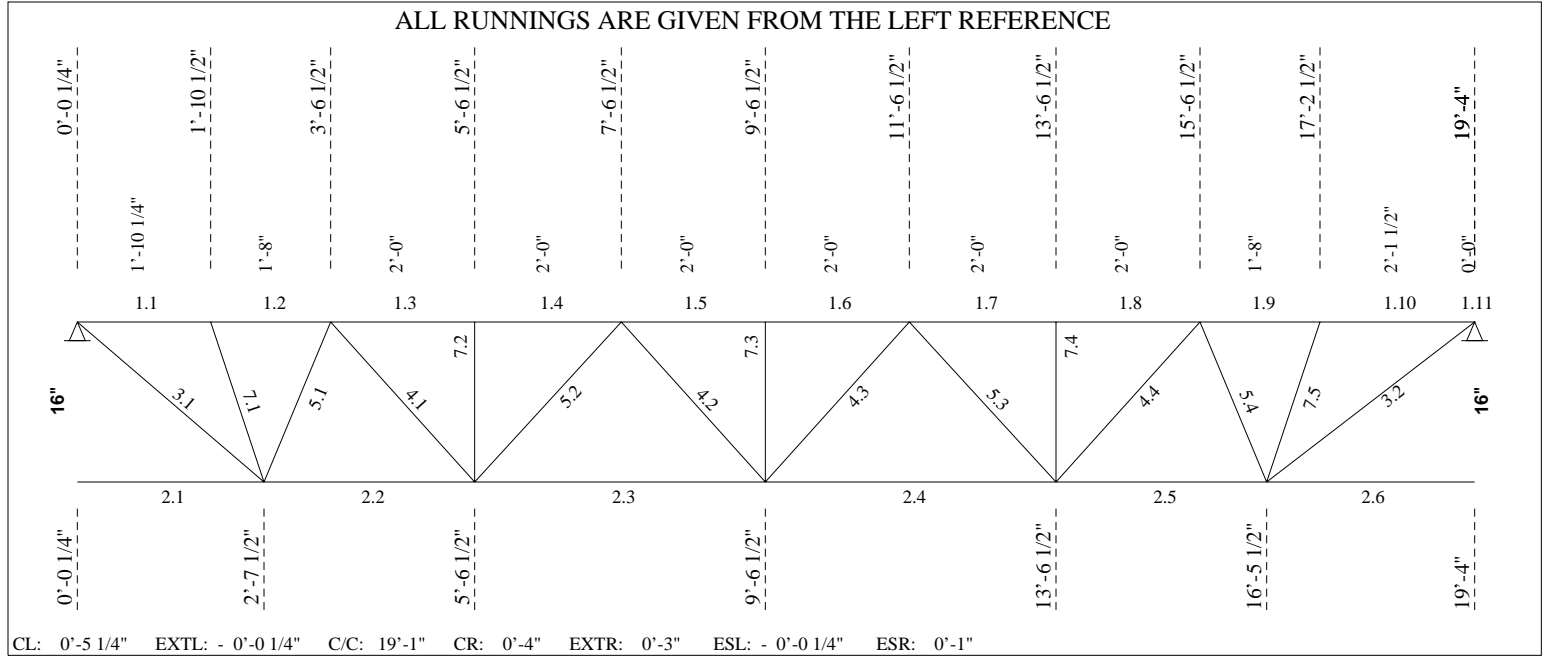
Material Sort : Cost

172(182)-172(182)-25-10/6-253(270) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J14 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 501.41 lb/ft 16KCS3 LIVE LOAD...: 250.71 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-2" Type F[S] Shoe = 2.50 Mf = -0.007 ft-kip (0.213)
 TL = 501 LL = 251 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02
 I = 0.54 in^4 Cal.D. LL = L/ 9999 = 0.00 TL = L/ -366 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.19 in (L/ 1168)
 Joist inertia..... = 144.79 in^4
 Required camber..... = 0.24 in



Mark : J14

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:48

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 14.87 in)

Left Reaction = 4.80/ -0.79 kips Right Reaction = 4.80/ -0.80 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	1.41	-8.45	LL 2 X .186	z 51	0.40	1'-10 1/4"		
1.2	1.33	-7.94	do	z 51	0.40	1'-8"		
1.3	2.44	-31.60	do	z 46	0.95	2'-0"		
1.4	2.44	-31.60	do	z 46	0.95	do		
1.5	3.00	-31.60	do	z 46	0.94	do		
1.6	3.00	-31.60	do	z 46	0.94	do		
1.7	2.47	-31.60	do	z 46	0.95	do		
1.8	2.47	-31.60	do	z 46	0.95	2'-0"		
1.9	1.38	-8.23	do	z 51	0.41	1'-8"		
1.10	1.47	-8.75	do	z 55	0.43	1'-11 1/2"		
1.11	0.00	0.00	LL 2 X .186	z 5	0.21	0'-2"		
Bottom Chord								
2.1	31.60	0.00	LL 2 X .156	z 74	0.88	2'-7 1/4"		
2.2	31.60	-1.76	do	z 88	0.88	2'-11"		
2.3	31.60	-2.85	do	z 121	0.88	4'-0"		
2.4	31.60	-2.87	do	z 121	0.88	4'-0"		
2.5	31.60	-1.80	do	z 88	0.88	2'-11"		
2.6	31.60	0.00	LL 2 X .156	z 77	0.88	2'-8 1/2"		
End Diagonal								
3.1	10.59	-1.59	BR 1"	yy105	0.50	2'-9 3/8"	.230 - 1 1/8"	
3.2	10.95	-1.63	BR 1"	yy109	0.52	2'-10 1/2"	.230 - 1 1/8"	
Diagonal Towards End								
4.1	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
4.2	9.11	-9.11	do	z 49	0.94	do	do	
4.3	9.11	-9.11	do	z 49	0.94	do	do	
4.4	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
Diagonal Towards Center								
5.1	0.72	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
5.2	0.49	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.3	0.47	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.4	0.71	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
Secondary Web Member								
7.1	0.16	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	
7.2	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.3	0.17	-4.80	do	z 28	0.51	do	do	
7.4	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.5	0.17	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-3 7/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-6 3/4" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-7 1/8" 2'-7 1/2"
 9'-7 1/8"
 16'-5 1/2"



Mark : J14

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:48

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

214 / 230

Area to Paint

: 69.94 ft2

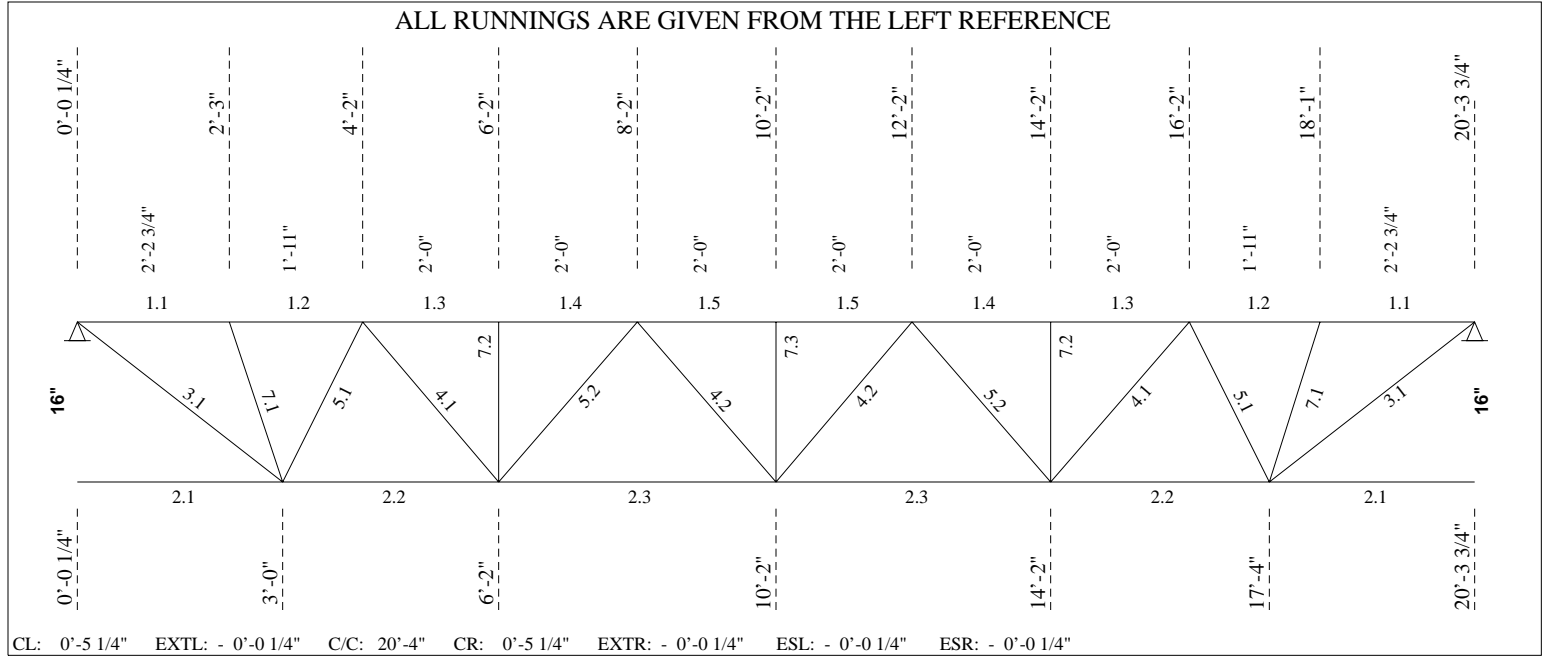
Material Sort : Cost

146(156)-146(156)-25-10/6-214(230) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J16 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 398.62 lb/ft 16K3 LIVE LOAD...: 316.87 lb/ft

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.67 in (L/ 360)
 Calculated deflection under service live load..... = 0.44 in (L/ 542)
 Joist inertia..... = 101.40 in⁴
 Required camber..... = 0.25 in

----- **F O R C E S I N M E M B E R S [kips]** -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 15.14 in)

Left Reaction = 3.98/ -0.84 kips Right Reaction = 3.98/ -0.84 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	1.68	-7.95	LL 1.5 X .155	z 84 0.77	2'-2 3/4"		
1.2	1.58	-7.48	do	z 78 0.76	1'-11"		
1.3	2.78	-13.21	do	z 61 0.81	2'-0"		
1.4	2.78	-13.21	do	z 61 0.89	do		



Mark : J16

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:48

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.5	3.32	-15.73	LL 1.5 X .155	z 61	0.90	2'-0"		
Bottom Chord								
2.1	0.00	0.00	LL 1.5 X .155	z 115	0.35	2'-11 3/4"		
2.2	10.05	-2.12	do	z 116	0.53	3'-2"		
2.3	15.10	-3.18	LL 1.5 X .155	z 147	0.57	4'-0"		
End Diagonal								
3.1	8.72	-1.84	BR 1"	yy118	0.41	3'-1 3/8"	.230 - 0 7/8"	
Diagonal Towards End								
4.1	4.71	-0.79	U 1 x 3/4 x 0.091	z 88	0.78	2'-4 7/8"	.091 - 1 3/4"	
4.2	2.39	-1.40	U 1 x 3/4 x 0.091	z 88	0.43	2'-4 7/8"	.091 - 1 1/2"	
Diagonal Towards Center								
5.1	0.80	-3.97	U 1 x 3/4 x 0.091	z 64	0.95	1'-9 1/4"	.091 - 1 1/2"	
5.2	0.47	-3.49	U 1 x 0.091	z 64	0.89	2'-4 7/8"	.090 - 1 1/2"	
Secondary Web Member								
7.1	0.19	-0.96	U 1 x 3/4 x 0.091	z 54	0.22	1'-6 3/8"	.091 - 1"	
7.2	0.17	-0.87	do	z 47	0.19	1'-4"	do	
7.3	0.17	-0.88	U 1 x 3/4 x 0.091	z 47	0.19	1'-4"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 13'-6 5/8" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 20'-8 1/8" ==> 4 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 6'-9 3/8" 3'-0"
 13'-6 5/8" 6'-9 3/8"
 13'-6 5/8" 13'-6 5/8"
 17'-4" 17'-4"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

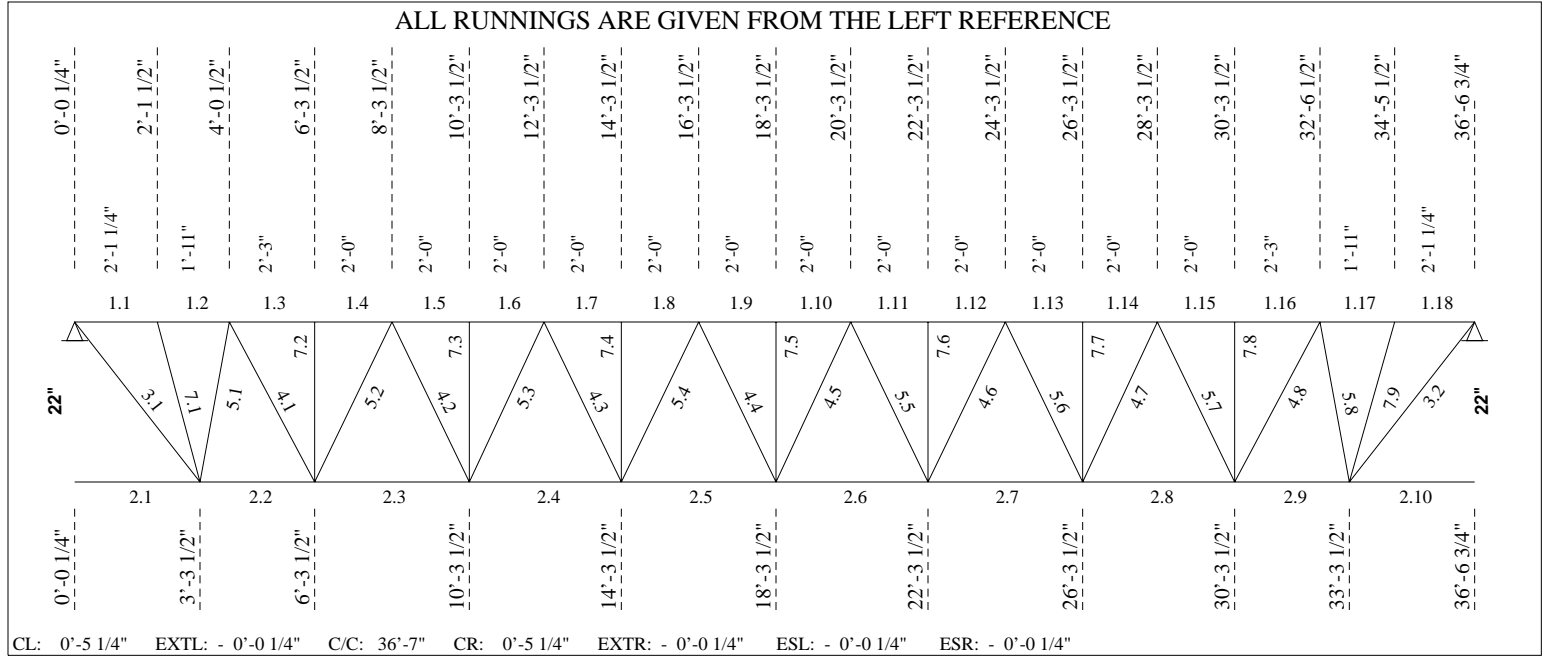
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 142 / 165 Area to Paint : 53.93 ft2 Material Sort : Cost

100(115)-100(115)-25-10/6-142(165) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J18 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl.	Cmp
									0-9	1/2	[deg]	
1	1	Both	No	1.50	1.50	1.50	29'-6"*	29'-6"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	34'-6"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 1.20 in (L/ 361)
 Joist inertia..... = 302.18 in⁴
 Required camber..... = 0.54 in
 Wrapped angle at right.....: L 1.5 X .155 26.00 in

===== **LOAD NO 2 (J18#02)** =====

----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft



Mark : J18

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:48

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.90	1.90	0.00	29'-6"*	29'-6"	1	1	90	0
2	1	Both	No	1.50	0.00	0.00	29'-6"*	0'-0"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	34'-6"*	5'-0"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	34'-6"*	0'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 80.75 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 1.20 in (L/ 362)

===== LOAD NO 3 (J18#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.90	-1.90	0.00	29'-6"*	29'-6"	1	1	90	0
2	1	Both	No	-1.50	-1.50	0.00	29'-6"*	0'-0"	1	1	0	0
3	1	Both	No	1.90	1.90	0.00	34'-6"*	5'-0"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	34'-6"*	0'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 80.75 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 1.04 in (L/ 419)

===== End of multiple loads =====

----- FORCES IN MEMBERS [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.86 in)

Left Reaction = 6.41/ -1.89 kips Right Reaction = 8.67/ -4.15 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	3.22	-13.84	LL 2 X .216	z 59	0.44	2'-1 1/4"		
1.2	3.11	-13.40	do	z 59	0.55	1'-11"		
1.3	5.72	-21.71	do	z 52	0.57	2'-3"		
1.4	5.72	-21.71	do	z 46	0.71	2'-0"		
1.5	8.50	-29.99	do	z 46	0.73	do		
1.6	8.50	-29.99	do	z 46	0.82	do		
1.7	10.50	-35.19	do	z 46	0.86	do		
1.8	10.50	-35.19	do	z 46	0.86	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
1.9	11.73	-37.32	do		z 46 0.91	do			
1.10	11.73	-37.32	do		z 46 0.91	do			
1.11	12.18	-36.39	do		z 46 0.89	do			
1.12	12.18	-36.39	do		z 46 0.88	do			
1.13	11.87	-32.38	do		z 46 0.86	do			
1.14	11.87	-32.38	do		z 46 1.00	do			
1.15	10.09	-23.81	do		z 46 1.00	2'-0"			
1.16	10.09	-23.29	do		z 52 0.89	2'-3"			
1.17	6.16	-13.47	do		z 59 0.51	1'-11"			
1.18	7.27	-14.91	LL 2 X .216		z 59 0.52	2'-1 1/4"			
Bottom Chord									
2.1	0.00	0.00	LL 2 X .156		z 94 0.33	3'-3 1/4"			
2.2	12.78	-3.82	do		z 82 0.60	3'-0"			
2.3	23.56	-7.21	do		z 109 0.78	4'-0"			
2.4	30.54	-9.59	do		z 109 0.88	do			
2.5	34.46	-11.21	do		z 109 0.96	do			
2.6	35.30	-12.05	do		z 109 0.98	do			
2.7	33.07	-12.12	do		z 109 0.92	do			
2.8	27.77	-11.42	do		z 109 0.85	4'-0"			
2.9	16.15	-7.20	do		z 82 0.71	3'-0"			
2.10	0.00	0.00	LL 2 X .156		z 94 0.41	3'-3 1/4"			
End Diagonal									
3.1	12.45	-3.69	BR 1"		yy137 0.65	3'-7 1/4"	.230 -	1 1/4"	
3.2	17.09	-8.34	BR 1"		z 136 0.81	3'-7 1/4"	.230 -	1 3/4"	
3.2 r			L 1.5 X .155			2'-2"			
Diagonal Towards End									
4.1	7.86	-2.40	U 1 x 1 1/4 x 0.136		z 68 0.65	2'-10 7/8"	.136 -	2"	
4.2	5.43	-1.71	U 1 x 3/4 x 0.091		z 98 0.89	2'-8 1/2"	.091 -	2"	
4.3	3.82	-1.20	do		z 98 0.63	do	.091 -	1 1/2"	
4.4	3.31	-1.73	do		z 98 0.61	do	do		
4.5	3.31	-1.73	do		z 98 0.61	do	do		
4.6	3.82	-0.62	do		z 98 0.63	do	.091 -	1 1/2"	
4.7	5.43	-1.11	U 1 x 3/4 x 0.091		z 98 0.89	2'-8 1/2"	.091 -	2"	
4.8	9.84	-3.66	U 1 x 1 1/4 x 0.136		z 68 0.81	2'-10 7/8"	.136 -	2 1/2"	
Diagonal Towards Center									
5.1	1.79	-5.92	U 1 x 1 1/4 x 0.136		z 45 0.77	1'-11 3/4"	.136 -	1 1/2"	
5.2	1.97	-6.30	d U 1 3/8 x 1 1/4 x 0.118		z 59 0.86	2'-8 1/2"	.118 -	1 3/4"	
5.3	1.45	-4.61	U 1 x 1 1/8 x 0.118		z 69 0.93	do	.118 -	1 1/2"	
5.4	0.94	-3.31	U 1 x 0.091		z 72 0.93	do	.090 -	1 1/2"	
5.5	0.37	-3.31	U 1 x 0.091		z 72 0.93	do	.090 -	1 1/2"	
5.6	0.86	-4.61	U 1 x 1 1/8 x 0.118		z 69 0.93	do	.118 -	1 1/2"	
5.7	1.76	-6.34	d U 1 3/8 x 1 1/4 x 0.118		z 59 0.87	2'-8 1/2"	.118 -	1 3/4"	
5.8	2.63	-7.31	U 1 x 1 1/4 x 0.136		z 45 0.95	1'-11 3/4"	.136 -	1 3/4"	
Secondary Web Member									
7.1	0.19	-0.85	U 1 x 3/4 x 0.091		z 78 0.23	2'-2 1/8"	.091 -	1"	
7.2	0.18	-0.82	do		z 65 0.20	1'-10"	do		
7.3	0.17	-0.82	do		z 65 0.20	do	do		
7.4	0.17	-0.85	do		z 65 0.21	do	do		
7.5	0.17	-0.86	do		z 65 0.21	do	do		
7.6	0.17	-0.86	do		z 65 0.21	do	do		
7.7	0.17	-0.84	do		z 65 0.20	do	do		
7.8	1.08	-1.98	do		z 65 0.48	1'-10"	.091 -	1"	
7.9	2.00	-3.12	U 1 x 3/4 x 0.091		z 78 0.84	2'-2 1/8"	.091 -	1 1/8"	



Mark : J18

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:48

BRIDGING

Maximum spacing between rows of bridging				Lateral Supports
@ Top Chord:	16'-0 5/8" ==>	3 Row(s) Minimum		Deck (36")
@ Bottom Chord:	24'-5 1/8" ==>	5 Row(s) Minimum		Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-1 7/8"	3'-3 1/2"
	18'-3 1/2"	9'-1 7/8"
	27'-5 1/8"	18'-3 1/2"
		27'-5 1/8"
		33'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
411	/	440	Area to Paint	:	127.83 ft2
					Material Sort : Cost

This mark has been edited

278(297)-278(297)-25-18/10-411(440) NNN,NNN



Mark : J18A

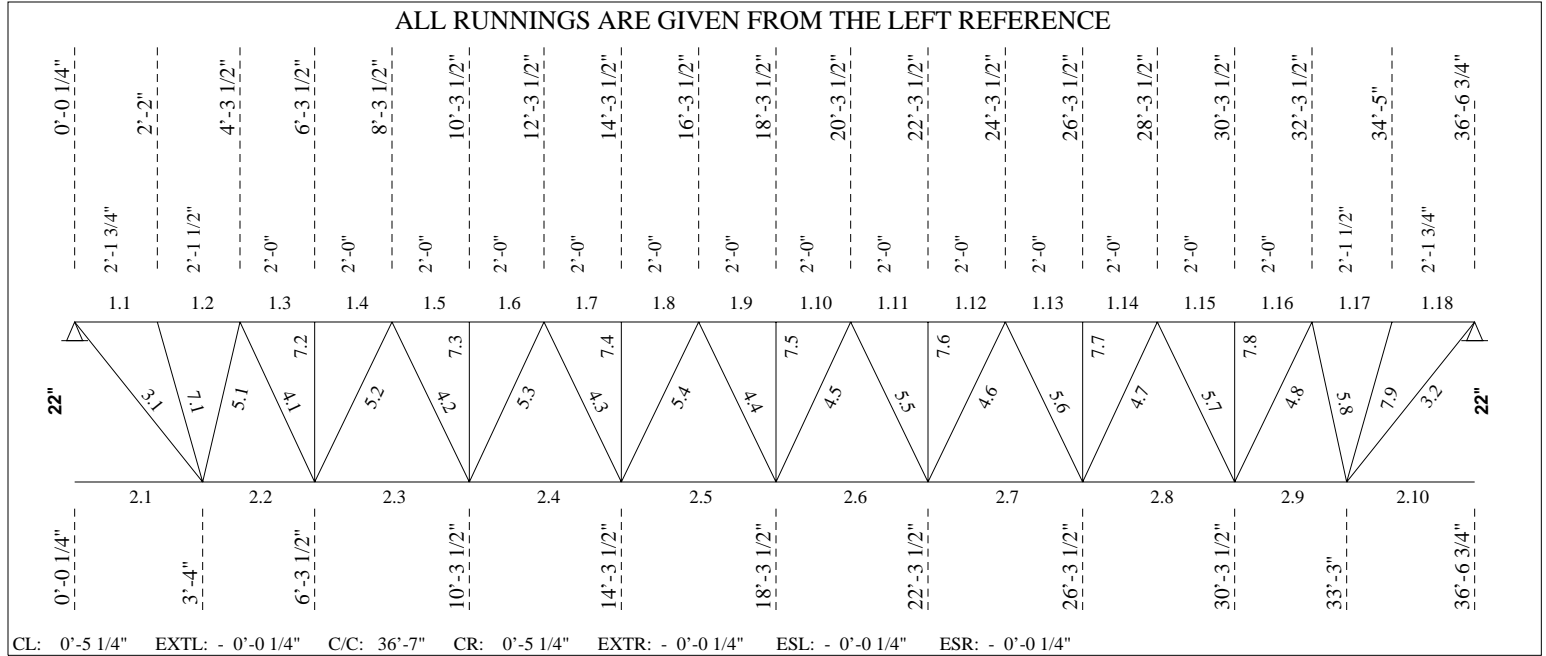
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:49

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J18A (LS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl.	Cmp
									0-9	1/2	[deg]	
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	3	1	90	0
3	1	Both	No	1.50	1.50	1.50	29'-6" *	29'-6"	1	1	90	0
4	1	Both	No	1.50	1.50	1.50	34'-6" *	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 0.69 in (L/ 627)
 Joist inertia..... = 524.11 in⁴
 Required camber..... = 0.54 in



Mark : J18A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:49

=====**LOAD NO 2 (J18A#02)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	3	1	90	0
3	1	Both	No	1.90	1.90	0.00	29'-6"*	29'-6"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	29'-6"*	0'-0"	1	1	0	0
5	1	Both	No	-1.90	-1.90	0.00	34'-6"*	5'-0"	1	1	90	0
6	1	Both	No	1.50	0.00	0.00	34'-6"*	0'-0"	1	1	0	0

-----**UPLIFT**-----

Net uplift uniform load : 80.75 lb/ft

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 0.69 in (L/ 627)

=====**LOAD NO 3 (J18A#03)**=====

-----**LOADING CONDITIONS**-----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

-----**CONCENTRATED LOADS (From Axis)**-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	3	1	90	0
3	1	Both	No	-1.90	-1.90	0.00	29'-6"*	29'-6"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	29'-6"*	0'-0"	1	1	0	0
5	1	Both	No	1.90	1.90	0.00	34'-6"*	5'-0"	1	1	90	0
6	1	Both	No	-1.50	-1.50	0.00	34'-6"*	0'-0"	1	1	0	0

-----**UPLIFT**-----

Net uplift uniform load : 80.75 lb/ft

-----**DEFLECTION**-----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 0.60 in (L/ 727)

=====**End of multiple loads**=====



Mark : J18A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:49

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.45 in)

Left Reaction = 11.41/ -1.89 kips Right Reaction = 13.67/ -4.15 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	3.33	-22.97	LL 3 X .25	z 40	0.54	2'-1 3/4"		
1.2	3.21	-21.96	do	z 43	0.62	2'-1 1/2"		
1.3	5.85	-37.03	do	z 30	0.62	2'-0"		
1.4	5.85	-37.03	do	z 30	0.78	do		
1.5	8.68	-51.96	do	z 30	0.79	do		
1.6	8.68	-51.96	do	z 30	0.88	do		
1.7	10.73	-61.15	do	z 30	0.90	do		
1.8	10.73	-61.15	do	z 30	0.93	do		
1.9	11.98	-64.62	do	z 30	0.95	do		
1.10	11.98	-64.62	do	z 30	0.95	do		
1.11	12.45	-62.36	do	z 30	0.93	do		
1.12	12.45	-62.36	do	z 30	0.92	do		
1.13	12.13	-54.38	do	z 30	0.91	do		
1.14	12.13	-54.38	do	z 30	0.90	do		
1.15	10.33	-39.15	do	z 30	0.90	do		
1.16	10.33	-38.68	do	z 30	0.75	2'-0"		
1.17	6.37	-22.09	do	z 43	0.62	2'-1 1/2"		
1.18	7.51	-24.13	LL 3 X .25	z 40	0.58	2'-1 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2.5 X .230	z 77	0.34	3'-3 3/4"		
2.2	24.46	-4.13	do	z 65	0.60	2'-11 1/2"		
2.3	42.50	-7.36	do	z 88	0.77	4'-0"		
2.4	54.82	-9.80	do	z 88	0.86	do		
2.5	61.41	-11.45	do	z 88	0.93	do		
2.6	62.27	-12.32	do	z 88	0.95	do		
2.7	57.41	-12.39	do	z 88	0.87	do		
2.8	46.82	-11.68	do	z 88	0.81	4'-0"		
2.9	28.05	-7.72	do	z 65	0.66	2'-11 1/2"		
2.10	0.00	0.00	LL 2.5 X .230	z 77	0.39	3'-3 3/4"		
End Diagonal								
3.1	22.69	-3.79	1" SQUARE BAR	yy119	0.84	3'-7 3/4"	.250 - 3 1/8"	
3.2	27.44	-8.54	LL 2 X .156	zz 54	0.85	3'-7 3/4"	.156 - 6"	
Diagonal Towards End								
4.1	13.67	-2.25	d U 1 3/8 X 0.176	z 53	0.71	2'-8 1/2"	.176 - 2 5/8"	
4.2	10.76	-1.73	U 1 x 1 1/4 x 0.136	z 63	0.89	do	.136 - 2 5/8"	
4.3	7.85	-1.49	U 1 x 1 1/8 x 0.118	z 68	0.79	do	.118 - 2 1/4"	
4.4	5.27	-3.31	U 1 x 0.091	z 71	0.93	do	.090 - 2"	
4.5	5.27	-3.48	U 1 x 0.091	z 71	0.98	do	.090 - 2"	
4.6	7.68	-1.49	U 1 x 1 1/8 x 0.118	z 68	0.77	do	.118 - 2 1/4"	
4.7	10.59	-1.12	U 1 x 1 1/4 x 0.136	z 63	0.87	do	.136 - 2 5/8"	
4.8	15.63	-3.43	d U 1 3/8 X 0.176	z 53	0.81	2'-8 1/2"	.176 - 3"	
Diagonal Towards Center								
5.1	1.87	-11.27	d U 1 3/8 x 0.157	z 40	0.88	2'-0 7/8"	.158 - 2 3/8"	
5.2	1.99	-12.21	d U 1 3/8 X 0.176	z 53	0.97	2'-8 1/2"	.176 - 2 3/8"	
5.3	1.47	-9.30	d U 1 3/8 x 0.157	z 54	0.83	do	.158 - 2"	
5.4	2.35	-6.39	d U 1 3/8 x 1 1/4 x 0.118	z 59	0.87	do	.118 - 1 3/4"	
5.5	2.35	-6.22	d U 1 3/8 x 1 1/4 x 0.118	z 59	0.85	do	.118 - 1 3/4"	
5.6	0.87	-9.13	d U 1 3/8 x 0.157	z 54	0.81	do	.158 - 2"	
5.7	1.77	-12.41	d U 1 3/8 X 0.176	z 53	0.98	2'-8 1/2"	.176 - 2 3/8"	



Mark : J18A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:49

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	d	REQUIRED MATERIAL			REQUIRED WELD		Remarks
				x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
5.8	2.75	-12.74	d	U 1 3/8 x 0.157	z 40	0.99	2'-0 7/8"	.158 - 2 3/4"	
Secondary Web Member									
7.1	0.21	-7.01	d	U 1 3/8 x 0.157	z 42	0.56	2'-2 1/8"	.158 - 1 1/2"	
7.2	0.17	-5.86		U 1 x 1 1/4 x 0.136	z 41	0.72	1'-10"	.136 - 1 1/2"	
7.3	0.17	-5.93		U 1 x 1 1/8 x 0.118	z 44	0.89	do	.118 - 1 3/4"	
7.4	0.17	-5.98		do	z 44	0.90	do	do	
7.5	0.17	-6.00		do	z 44	0.90	do	do	
7.6	0.17	-5.99		do	z 44	0.90	do	do	
7.7	0.17	-5.95		U 1 x 1 1/8 x 0.118	z 44	0.89	do	.118 - 1 3/4"	
7.8	1.07	-7.02		U 1 x 1 1/4 x 0.136	z 41	0.87	1'-10"	.136 - 1 3/4"	
7.9	2.03	-9.30	d	U 1 3/8 x 0.136	z 43	0.91	2'-2 1/8"	.136 - 2 3/8"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	21'-1 5/8" ==>	3 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	28'-7 1/8" ==>	5 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-1 7/8"	3'-4"
	18'-3 1/2"	9'-1 7/8"
	27'-5 1/8"	18'-3 1/2"
		27'-5 1/8"
		33'-3"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension,	3 = Right Extension
Side: Both Sides, Near Side, Far Side	Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

- 1 = within a panel with no reinforcement
- 3 = at any panel point along the joist
- 4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

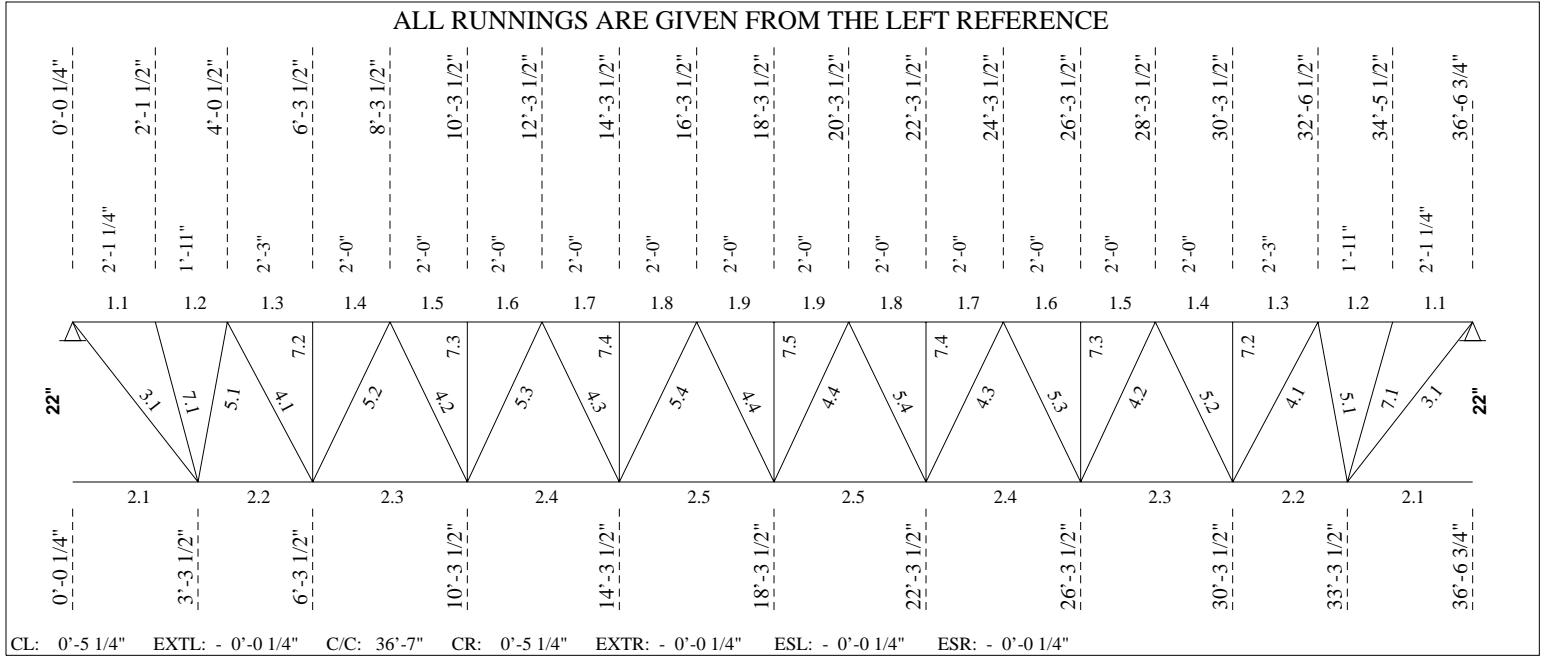
Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
727 / 766	Area to Paint	: 174.77 ft2
		Material Sort : Cost

This mark has been edited

485(511)-485(511)-25-18/10-727(766) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL
JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J19 (MS1, Symmetrical,, Free ends) aligned on J18



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 1.09 in (L/ 398)
 Joist inertia..... = 270.19 in⁴
 Required camber..... = 0.54 in

----- **F O R C E S I N M E M B E R S [kips]** -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.88 in)

Left Reaction = 6.04/ -1.52 kips Right Reaction = 6.04/ -1.52 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	2.57	-10.20	LL 2 X .166	z 59 0.46	2'-1 1/4"		
1.2	2.46	-9.77	do	z 58 0.60	1'-11"		
1.3	4.43	-17.62	do	z 51 0.62	2'-3"		
1.4	4.43	-17.62	do	z 46 0.79	2'-0"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.5	6.37	-25.29	do	z 46	0.82	do		
1.6	6.37	-25.29	do	z 46	0.91	do		
1.7	7.52	-29.89	do	z 46	0.97	do		
1.8	7.52	-29.89	do	z 46	0.97	do		
1.9	7.91	-31.42	x LL 2 X .166	zz 30	0.95	2'-0"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 94	0.31	3'-3 1/4"		
2.2	11.96	-3.01	do	z 82	0.56	3'-0"		
2.3	21.84	-5.50	do	z 109	0.72	4'-0"		
2.4	27.97	-7.04	do	z 109	0.80	do		
2.5	31.04	-7.81	LL 2 X .156	z 109	0.86	4'-0"		
End Diagonal								
3.1	11.69	-2.94	BR 1"	yy137	0.55	3'-7 1/4"	.230 - 1 1/4"	
Diagonal Towards End								
4.1	7.86	-1.80	U 1 x 1 1/8 x 0.118	z 74	0.79	2'-10 7/8"	.118 - 2 1/4"	
4.2	5.43	-1.15	U 1 x 3/4 x 0.091	z 98	0.89	2'-8 1/2"	.091 - 2"	
4.3	3.82	-0.64	do	z 98	0.63	do	.091 - 1 1/2"	
4.4	2.38	-1.73	U 1 x 3/4 x 0.091	z 98	0.61	2'-8 1/2"	.091 - 1 1/2"	
Diagonal Towards Center								
5.1	1.39	-5.53	U 1 x 1 1/8 x 0.118	z 49	0.88	1'-11 3/4"	.118 - 1 5/8"	
5.2	1.41	-6.30	d U 1 3/8 x 1 1/4 x 0.118	z 59	0.86	2'-8 1/2"	.118 - 1 3/4"	
5.3	0.90	-4.60	U 1 x 1 1/8 x 0.118	z 69	0.93	do	.118 - 1 1/2"	
5.4	0.38	-3.08	U 1 x 0.091	z 72	0.87	2'-8 1/2"	.090 - 1 1/2"	
Secondary Web Member								
7.1	0.19	-0.83	U 1 x 3/4 x 0.091	z 78	0.22	2'-2 1/8"	.091 - 1"	
7.2	0.18	-0.80	do	z 65	0.19	1'-10"	do	
7.3	0.17	-0.80	do	z 65	0.19	do	do	
7.4	0.17	-0.82	do	z 65	0.20	do	do	
7.5	0.17	-0.83	U 1 x 3/4 x 0.091	z 65	0.20	1'-10"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-10 5/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-5 1/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-1 7/8" 3'-3 1/2"
 18'-3 1/2" 9'-1 7/8"
 27'-5 1/8" 18'-3 1/2"
 27'-5 1/8" 27'-5 1/8"
 33'-3 1/2" 33'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle



Mark : J19

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

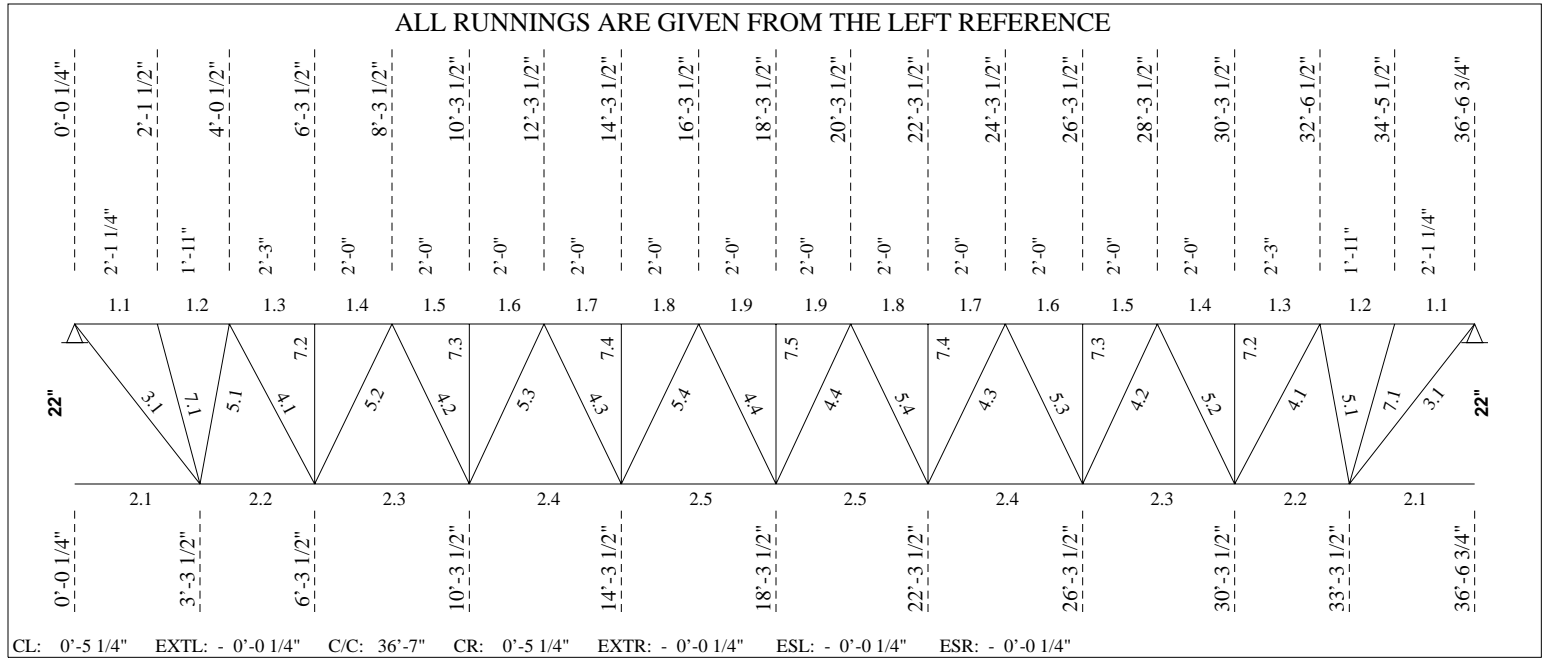
10:14:49

244(263)-244(263)-25-18/10-360(389) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J20 (MS 1" KCS, Symmetrical,, Free ends) aligned on J18



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 328.52 lb/ft 22KCS3 LIVE LOAD...: 164.26 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl.	Cmp
									0-9	1/2	[deg]	
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	3	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 0.53 in (L/ 824)
 Joist inertia..... = 477.47 in⁴
 Required camber..... = 0.54 in



Mark : J20

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:49

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.46 in)

Left Reaction = 10.95/ -1.52 kips Right Reaction = 10.95/ -1.52 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.1	2.62	-18.86	LL 3 X .224	z 39 0.53	2'-1 1/4"		
1.2	2.51	-17.94	do	z 39 0.51	1'-11"		
1.3	4.52	-32.58	do	z 34 0.68	2'-3"		
1.4	4.52	-32.58	do	z 30 0.80	2'-0"		
1.5	6.49	-46.76	do	z 30 0.83	do		
1.6	6.49	-46.76	do	z 30 0.91	do		
1.7	7.68	-55.27	do	z 30 0.96	do		
1.8	7.68	-55.27	do	z 30 0.96	do		
1.9	8.07	-58.10	x LL 3 X .224	zz 20 0.97	2'-0"		
Bottom Chord							
2.1	32.15	0.00	LL 2.5 X .210	z 75 0.53	3'-3 1/4"		
2.2	32.15	-3.07	do	z 73 0.62	3'-0"		
2.3	40.38	-5.61	do	z 97 0.79	4'-0"		
2.4	51.72	-7.18	do	z 97 0.88	do		
2.5	57.39	-7.97	LL 2.5 X .210	z 97 0.95	4'-0"		
End Diagonal							
3.1	21.52	-2.99	1" SQUARE BAR	yy118 0.80	3'-7 1/4"	.250 - 2 7/8"	
Diagonal Towards End							
4.1	14.02	-14.02	1"RB + U1-3/8X.157 (50%)	yy100 0.72	2'-10 7/8"	.230 - 2"	
4.2	10.17	-10.17	d U 1 3/8 x 0.157	z 54 0.91	2'-8 1/2"	.158 - 2 1/8"	
4.3	10.17	-10.17	d do	z 54 0.91	do	do	
4.4	10.17	-10.17	d U 1 3/8 x 0.157	z 54 0.91	2'-8 1/2"	.158 - 2 1/8"	
Diagonal Towards Center							
5.1	1.40	-10.34	d U 1 3/8 x 0.136	z 39 0.97	1'-11 3/4"	.136 - 2 1/2"	
5.2	1.42	-11.55	d U 1 3/8 X 0.176	z 53 0.91	2'-8 1/2"	.176 - 2 1/4"	
5.3	0.91	-10.17	d U 1 3/8 x 0.157	z 54 0.91	do	.158 - 2 1/8"	
5.4	2.24	-10.17	d U 1 3/8 x 0.157	z 54 0.91	2'-8 1/2"	.158 - 2 1/8"	
Secondary Web Member							
7.1	0.20	-8.00	d U 1 3/8 x 0.136	z 43 0.78	2'-2 1/8"	.136 - 2"	
7.2	0.18	-6.60	d U 1 3/8 x 1 1/4 x 0.118	z 38 0.75	1'-10"	.118 - 1 7/8"	
7.3	0.17	-6.60	d do	z 38 0.75	do	do	
7.4	0.17	-6.60	d do	z 38 0.75	do	do	
7.5	0.17	-6.60	d U 1 3/8 x 1 1/4 x 0.118	z 38 0.75	1'-10"	.118 - 1 7/8"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 21'-1 3/4" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 28'-7 5/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-1 7/8" 3'-3 1/2"
 18'-3 1/2" 9'-1 7/8"
 27'-5 1/8" 18'-3 1/2"
 33'-3 1/2" 27'-5 1/8"
 33'-3 1/2" 33'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No



Mark : J20

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:49

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

3 = at any panel point along the joist

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

696 / 730

Area to Paint

: 175.61 ft2

Material Sort : Cost

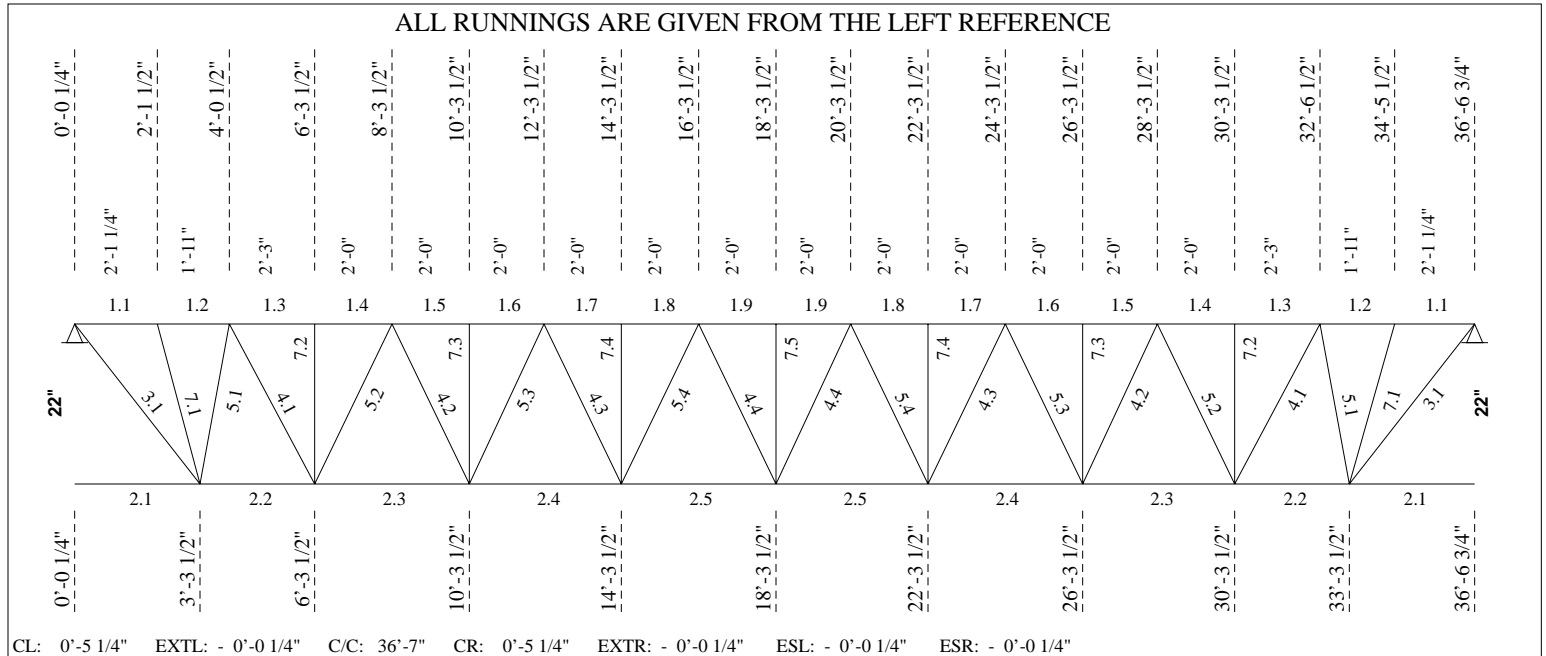
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470(492)-470(492)-25-18/10-696(730) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J21 (MS1, Symmetrical,, Free ends) aligned on J18



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord	Incl.	Cmp
									0-9	1/2	[deg]	
1	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	2.50	0.00	0.00	0'-0"	0'-0"	3	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 0.62 in (L/ 704)
 Joist inertia..... = 477.47 in⁴
 Required camber..... = 0.54 in



----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.46 in)

Left Reaction = 11.04/ -1.52 kips Right Reaction = 11.04/ -1.52 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.1	2.62	-19.02	LL 3 X .224	z 39 0.53	2'-1 1/4"		
1.2	2.51	-18.10	do	z 39 0.65	1'-11"		
1.3	4.52	-32.86	do	z 34 0.65	2'-3"		
1.4	4.52	-32.86	do	z 30 0.81	2'-0"		
1.5	6.49	-47.16	do	z 30 0.84	do		
1.6	6.49	-47.16	do	z 30 0.91	do		
1.7	7.68	-55.74	do	z 30 0.97	do		
1.8	7.68	-55.74	do	z 30 0.97	do		
1.9	8.07	-58.60	x LL 3 X .224	yy 21 0.98	2'-0"		
Bottom Chord							
2.1	0.00	0.00	LL 2.5 X .210	z 75 0.34	3'-3 1/4"		
2.2	22.30	-3.07	do	z 66 0.62	3'-0"		
2.3	40.72	-5.61	do	z 88 0.80	4'-0"		
2.4	52.17	-7.18	do	z 88 0.89	do		
2.5	57.89	-7.97	LL 2.5 X .210	z 88 0.96	4'-0"		
End Diagonal							
3.1	21.70	-2.99	1" SQUARE BAR	yy118 0.80	3'-7 1/4"	.250 - 3"	
Diagonal Towards End							
4.1	14.13	-1.82	d U 1 3/8 x 0.136	z 59 0.94	2'-10 7/8"	.136 - 3 1/2"	
4.2	10.18	-1.16	U 1 x 1 1/4 x 0.136	z 63 0.84	2'-8 1/2"	.136 - 2 1/2"	
4.3	7.28	-1.49	U 1 x 0.091	z 71 0.97	do	.090 - 2 3/4"	
4.4	4.37	-3.21	U 1 x 0.091	z 71 0.90	2'-8 1/2"	.090 - 1 5/8"	
Diagonal Towards Center							
5.1	1.40	-10.42	d U 1 3/8 x 0.136	z 39 0.98	1'-11 3/4"	.136 - 2 5/8"	
5.2	1.42	-11.64	d U 1 3/8 X 0.176	z 53 0.92	2'-8 1/2"	.176 - 2 1/4"	
5.3	0.91	-8.73	d U 1 3/8 x 0.136	z 55 0.95	do	.136 - 2 1/8"	
5.4	2.35	-5.82	U 1 x 1 1/4 x 0.136	z 63 0.96	2'-8 1/2"	.136 - 1 1/2"	
Secondary Web Member							
7.1	0.20	-6.94	U 1 x 1 1/4 x 0.136	z 49 0.95	2'-2 1/8"	.136 - 1 3/4"	
7.2	0.18	-5.88	U 1 x 1 1/8 x 0.118	z 44 0.88	1'-10"	.118 - 1 3/4"	
7.3	0.17	-5.91	do	z 44 0.89	do	do	
7.4	0.17	-5.95	do	z 44 0.89	do	do	
7.5	0.17	-5.97	U 1 x 1 1/8 x 0.118	z 44 0.90	1'-10"	.118 - 1 3/4"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 21'-0 3/4" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 28'-6" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-1 7/8" 3'-3 1/2"
 18'-3 1/2" 9'-1 7/8"
 27'-5 1/8" 18'-3 1/2"
 33'-3 1/2" 27'-5 1/8"
 33'-3 1/2" 33'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No



Mark : J21

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:49

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

3 = at any panel point along the joist

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 655 / 692 Area to Paint : 170.13 ft2 Material Sort : Cost

441(466)-441(466)-25-18/10-655(692) NNN,NNN



----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 15.14 in)

Left Reaction = 4.64/ -0.82 kips Right Reaction = 4.36/ -0.77 kips

REQUIRED MATERIAL

REQUIRED WELD

No Tension Compres. x = tied at mid-length Slend. Util. Length Weld-Ea.Side Remarks

Top Chord

1.0	0.00	0.00	LL 1.5 X .155	z 24	0.48	0'-7"		
1.1	1.35	-7.70	do	z 70	0.67	1'-10 1/2"		
1.2	1.27	-7.23	do	z 64	0.73	1'-7"		
1.3	2.24	-12.73	do	z 56	0.83	1'-10"		
1.4	2.24	-12.73	do	z 61	0.96	2'-0"		
1.5	2.77	-15.74	do	z 61	0.96	do		
1.6	2.77	-15.74	do	z 61	0.96	do		
1.7	2.23	-12.70	do	z 61	0.96	2'-0"		
1.8	2.23	-12.70	do	z 56	0.83	1'-10"		
1.9	1.26	-7.18	do	z 64	0.72	1'-7"		
1.10	1.34	-7.64	LL 1.5 X .155	z 69	0.66	1'-10 1/4"		

Bottom Chord

2.1	0.00	0.00	LL 1.5 X .155	z 100	0.33	2'-7 1/2"		
2.2	9.32	-1.64	do	z 98	0.52	2'-8"		
2.3	14.99	-2.63	do	z 147	0.57	4'-0"		
2.4	14.98	-2.63	do	z 147	0.57	4'-0"		
2.5	9.27	-1.63	do	z 98	0.52	2'-8"		
2.6	0.00	0.00	LL 1.5 X .155	z 99	0.32	2'-7 1/4"		

End Diagonal

3.1	8.65	-1.52	BR 1"	yy106	0.41	2'-9 1/2"	.230 -	0 7/8"
3.2	8.60	-1.51	BR 1"	yy105	0.41	2'-9 3/8"	.230 -	0 7/8"

Diagonal Towards End

4.1	5.10	-0.73	U 1 x 3/4 x 0.091	z 83	0.84	2'-3 1/4"	.091 -	1 7/8"
4.2	2.72	-1.53	do	z 88	0.46	2'-4 7/8"	.091 -	1 1/2"
4.3	2.73	-1.53	do	z 88	0.46	2'-4 7/8"	.091 -	1 1/2"
4.4	5.11	-0.73	U 1 x 3/4 x 0.091	z 83	0.84	2'-3 1/4"	.091 -	1 7/8"

Diagonal Towards Center

5.1	0.67	-3.89	U 1 x 3/4 x 0.091	z 56	0.88	1'-6 7/8"	.091 -	1 1/2"
5.2	0.47	-4.06	U 1 x 1 1/8 x 0.118	z 61	0.74	2'-4 7/8"	.118 -	1 1/2"
5.3	0.47	-4.07	U 1 x 1 1/8 x 0.118	z 61	0.75	2'-4 7/8"	.118 -	1 1/2"
5.4	0.67	-3.90	U 1 x 3/4 x 0.091	z 56	0.89	1'-6 7/8"	.091 -	1 1/2"

Secondary Web Member

7.1	0.16	-0.96	U 1 x 3/4 x 0.091	z 54	0.22	1'-6 3/8"	.091 -	1"
7.2	0.16	-0.98	do	z 47	0.21	1'-4"	do	
7.3	0.17	-1.04	do	z 47	0.22	do	do	
7.4	0.16	-0.98	do	z 47	0.21	1'-4"	do	
7.5	0.16	-0.95	U 1 x 3/4 x 0.091	z 54	0.21	1'-6 3/8"	.091 -	1"

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 13'-8 1/2" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 20'-7 7/8" ==> 4 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 6'-2 1/4" 2'-7 1/2"
 12'-4 1/2" 6'-2 1/4"
 12'-4 1/2" 12'-4 1/2"



Mark : J22

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:49

15' -11 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

135 / 162

Area to Paint

: 52.23 ft2

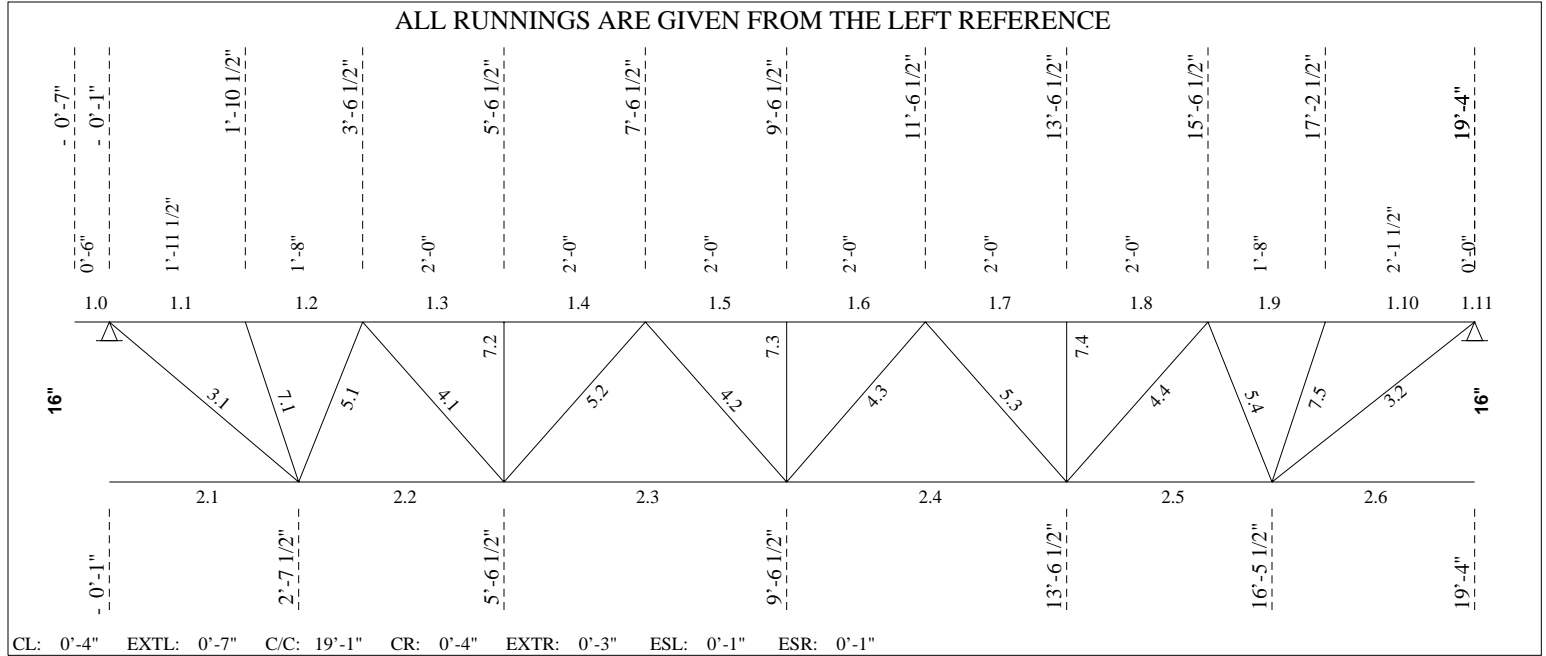
Material Sort : Cost

95(113)-95(113)-25-10/6-135(162) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J24 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 415.58 lb/ft 16KCS2 LIVE LOAD...: 207.79 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.052 ft-kip	(0.242)
TL =	416	LL =	208 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	0.69 in ⁴				Cal.D. LL = L/	662 =	0.01 TL = L/	-500 = -0.01
Tcx-R	0'-2"	Type	F[S]	Shoe =	2.50	Mf =	-0.006 ft-kip	(0.182)
TL =	416	LL =	208 ntQL =	84	Req.D. LL = L/	180 =	0.01 TL = L/	90 = 0.02
I =	0.69 in ⁴				Cal.D. LL = L/	854 =	0.00 TL = L/	-450 = 0.00

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	1.50	1.50	1.50	1'-1"*	1'-1"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	6'-1"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.27 in (L/ 837)
 Joist inertia..... = 161.78 in⁴
 Required camber..... = 0.24 in

===== LOAD NO 2 (J24#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 498.70 lb/ft 16KCS3 LIVE LOAD...: 249.35 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.063 ft-kip 0.000
 TL = 501 LL = 251 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-2" Type F[S] Shoe = 2.50 Mf = -0.007 ft-kip 0.000
 TL = 499 LL = 249 ntQL = 85 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.90	1.90	0.00	1'-1"*	1'-1"	1	1	90	0
2	1	Both	No	1.50	0.00	0.00	1'-1"*	0'-0"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	6'-1"*	5'-0"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	6'-1"*	0'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 85.36 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.20 in (L/ 1154)

===== LOAD NO 3 (J24#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 498.70 lb/ft 16KCS3 LIVE LOAD...: 249.35 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.063 ft-kip 0.000
 TL = 501 LL = 251 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-2" Type F[S] Shoe = 2.50 Mf = -0.007 ft-kip 0.000
 TL = 499 LL = 249 ntQL = 85 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.90	-1.90	0.00	1'-1"*	1'-1"	1	1	90	0



-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.50	-1.50	0.00	1'-1"*	0'-0"	1	1	0	0
3	1	Both	No	1.90	1.90	0.00	6'-1"*	5'-0"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	6'-1"*	0'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 85.36 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.27 in (L/ 837)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 14.85 in)

Left Reaction = 6.59/ -3.28 kips Right Reaction = 5.30/ -1.36 kips

REQUIRED MATERIAL
 x = tied at mid-length

REQUIRED WELD
 Weld-Ea.Side

No	Tension	Compres.	REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
Top Chord							
1.0	0.00	0.00	LL 2 X .247	z 15 0.24	0'-6"		
1.1	5.14	-10.97	do	z 55 0.72	1'-11 1/2"		
1.2	4.54	-10.02	do	z 51 0.60	1'-8"		
1.3	7.87	-31.65	do	z 46 0.94	2'-0"		
1.4	7.87	-31.65	x do	zz 31 0.97	do		
1.5	7.28	-31.65	do	z 46 0.85	do		
1.6	7.28	-31.65	do	z 46 0.75	do		
1.7	4.94	-31.65	do	z 46 0.73	do		
1.8	4.94	-31.65	do	z 46 0.73	2'-0"		
1.9	2.53	-9.28	do	z 51 0.33	1'-8"		
1.10	2.62	-9.80	do	z 55 0.34	1'-11 1/2"		
1.11	0.00	0.00	LL 2 X .247	z 5 0.18	0'-2"		
Bottom Chord							
2.1	31.65	0.00	LL 2 X .156	z 77 0.88	2'-8 1/2"		
2.2	31.65	-5.67	do	z 88 0.88	2'-11"		
2.3	31.65	-8.04	do	z 121 0.88	4'-0"		
2.4	31.65	-6.24	do	z 121 0.88	4'-0"		
2.5	31.65	-3.36	do	z 88 0.88	2'-11"		
2.6	31.65	0.00	LL 2 X .156	z 77 0.88	2'-8 1/2"		
End Diagonal							
3.1	12.20	-5.71	BR 1"	yy109 0.64	2'-10 1/2"	.230 - 1 1/4"	
3.2	10.96	-2.91	BR 1"	yy109 0.52	2'-10 1/2"	.230 - 1 1/8"	
Diagonal Towards End							
4.1	9.12	-9.12	d U 1 3/8 x 0.136	z 49 0.94	2'-4 7/8"	.136 - 2 1/4"	
4.2	9.12	-9.12	d do	z 49 0.94	do	do	
4.3	9.12	-9.12	d do	z 49 0.94	do	do	
4.4	9.12	-9.12	d U 1 3/8 x 0.136	z 49 0.94	2'-4 7/8"	.136 - 2 1/4"	



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
Diagonal Towards Center								
5.1	1.89	-6.00	d	U 1 3/8 x 1 1/4 x 0.118	z 34 0.67	1'-7 3/8"	.118 - 1 3/4"	
5.2	0.49	-9.12	d	U 1 3/8 x 0.136	z 49 0.94	2'-4 7/8"	.136 - 2 1/4"	
5.3	1.53	-9.12	d	U 1 3/8 x 0.136	z 49 0.94	2'-4 7/8"	.136 - 2 1/4"	
5.4	1.41	-5.97	d	U 1 3/8 x 1 1/4 x 0.118	z 34 0.66	1'-7 3/8"	.118 - 1 3/4"	
Secondary Web Member								
7.1	1.15	-5.61	d	U 1 3/8 x 1 1/4 x 0.118	z 32 0.61	1'-6 3/8"	.118 - 1 5/8"	
7.2	1.26	-4.80	d	do	z 28 0.51	1'-4"	.118 - 1 1/2"	
7.3	0.17	-4.80	d	do	z 28 0.51	do	do	
7.4	0.17	-4.80	d	do	z 28 0.51	1'-4"	.118 - 1 1/2"	
7.5	0.17	-5.61	d	U 1 3/8 x 1 1/4 x 0.118	z 32 0.61	1'-6 3/8"	.118 - 1 5/8"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	16'-4 7/8" ==>	1 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	24'-5 1/2" ==>	3 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION

@ Top Chord	9'-6 1/2"	@ Bottom Chord	2'-7 1/2"
			9'-6 1/2"
			16'-5 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

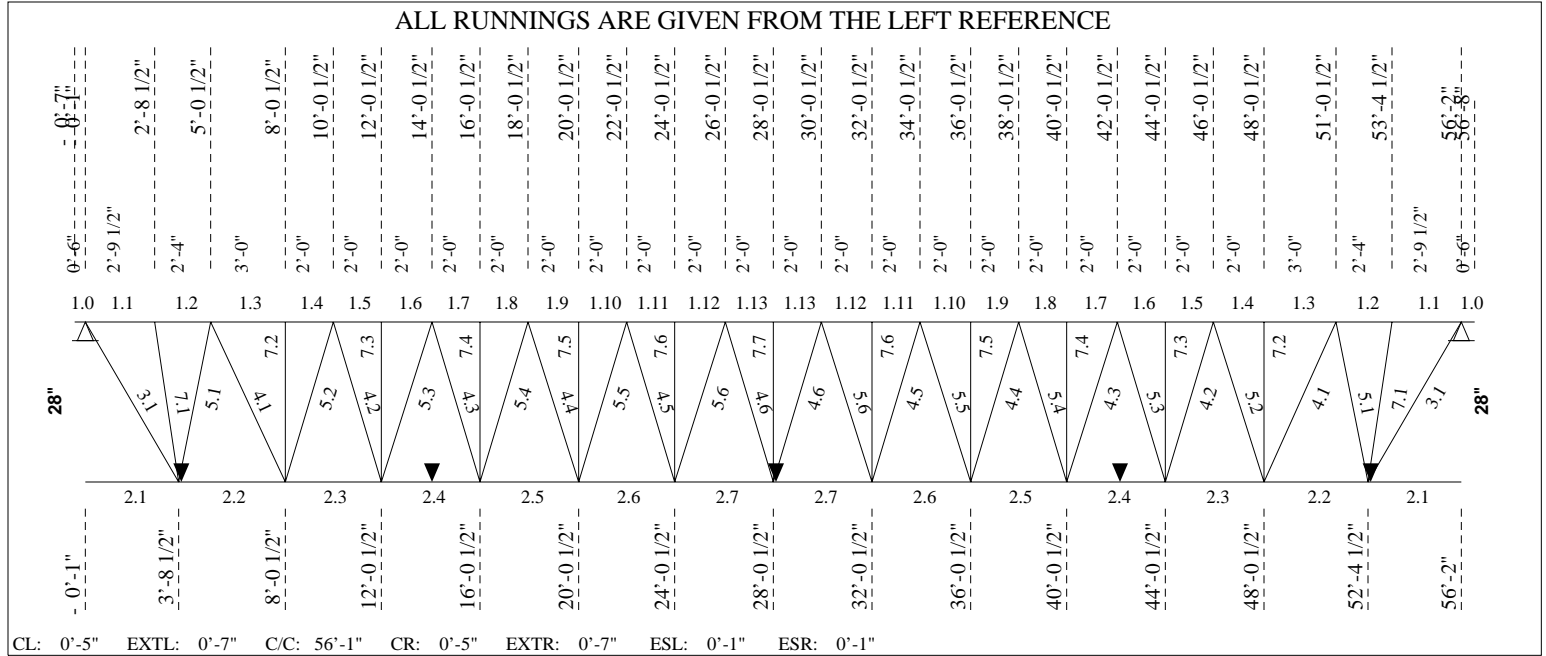
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 249 / 266 Area to Paint : 72.24 ft2 Material Sort : Cost

168(179)-168(179)-25-10/6-249(266) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J25 (MS 1" LH, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.86 in (L/ 360)
Calculated deflection under service live load..... =	1.86 in (L/ 360)
Joist inertia..... =	690.07 in ⁴
Required camber..... =	1.31 in



----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.39 kips Right Reaction = 8.76/ -2.39 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2.5 X .210	z 12	0.24	0'-6"		
1.1	3.64	-13.36	do	z 64	0.35	2'-9 1/2"		
1.2	3.55	-13.02	do	z 57	0.55	2'-4"		
1.3	7.20	-26.41	do	z 55	0.60	3'-0"		
1.4	7.20	-26.41	do	z 36	0.65	2'-0"		
1.5	9.92	-36.37	do	z 36	0.70	do		
1.6	9.92	-36.37	do	z 36	0.79	do		
1.7	12.03	-44.12	do	z 36	0.84	do		
1.8	12.03	-44.12	do	z 36	0.88	do		
1.9	13.54	-49.65	do	z 36	0.95	do		
1.10	13.54	-49.65	do	z 36	0.95	do		
1.11	14.45	-52.97	x do	zz 24	0.96	do		
1.12	14.45	-52.97	x do	zz 24	0.96	do		
1.13	14.75	-54.08	x LL 2.5 X .210	zz 24	0.98	2'-0"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .247	z 111	0.29	3'-9 1/2"		
2.2	17.48	-4.77	do	z 120	0.53	4'-4"		
2.3	31.66	-8.64	do	z 110	0.67	4'-0"		
2.4	40.52	-11.05	do	yy127	0.78	do		
2.5	47.16	-12.86	do	yy128	0.86	do		
2.6	51.59	-14.07	do	yy128	0.93	do		
2.7	53.80	-14.67	LL 2 X .247	yy128	0.97	4'-0"		
End Diagonal								
3.1	15.68	-4.28	BR 1"	yy163	0.97	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-3.03	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.92	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.47	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-1.02	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	U 1 x 0.091	z 81	0.70	3'-0 7/8"	.090 - 1 1/2"	
Diagonal Towards Center								
5.1	2.37	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	2.15	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.69	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	1.24	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.79	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.34	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	3'-0 7/8"	.118 - 1 1/2"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.17	-0.88	do	z 83	0.25	do	do	
7.6	0.17	-0.89	do	z 83	0.26	do	do	
7.7	0.17	-0.90	U 1 x 3/4 x 0.091	z 83	0.26	2'-4"	.091 - 1"	



Mark : J25

Project: PROJECT EVELER FREEZER PUYALL

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BRIDGING

Maximum spacing between rows of bridging				Lateral Supports
@ Top Chord:	18'-6 1/4" ==>	3 Row(s) Minimum		Deck (36")
@ Bottom Chord:	24'-9 1/8" ==>	5 Row(s) Minimum		Imposed and conc. load 5 or

POSITION	@ Top Chord	@ Bottom Chord
	13'-11 3/4"	3'-8 1/2"
	28'-0 1/2"	13'-11 3/4"
	42'-1 1/4"	28'-0 1/2"
		42'-1 1/4"
		52'-4 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

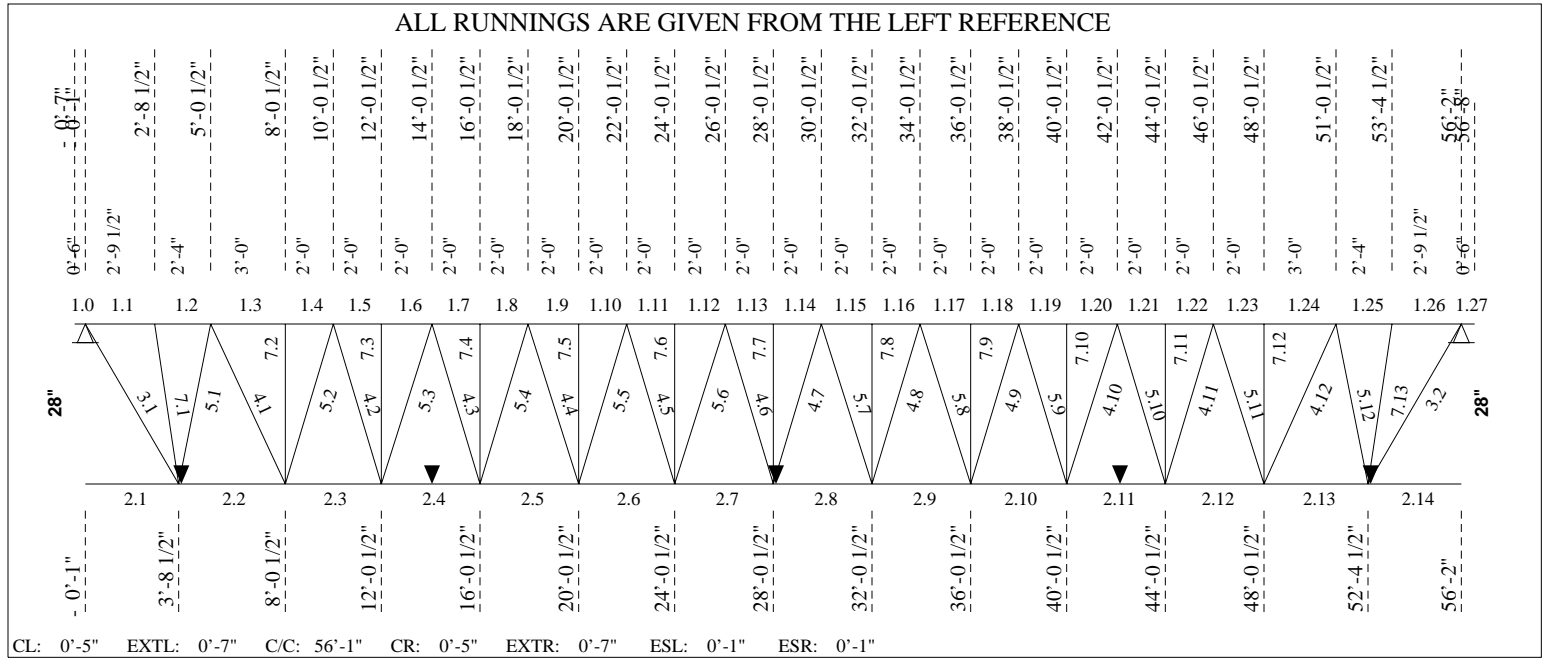
Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
856	/	896	Area to Paint	:	228.37 ft2
					Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J26 (LS, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.189)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	2.76 in ⁴				Cal.D. LL = L/	485 =	0.01 TL = L/	-159 = -0.04

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.179)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	2.76 in ⁴				Cal.D. LL = L/	513 =	0.01 TL = L/	-159 = -0.04

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	1.50	1.50	25'-7"*	25'-7"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	30'-7"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 1055.23 in⁴
 Required camber..... = 1.31 in

===== LOAD NO 2 (J26#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	1.90	1.90	0.00	25'-7"*	0'-0"	1	1	90	0
1	1	Both	No	1.50	0.00	0.00	25'-7"*	25'-7"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	30'-7"*	0'-0"	1	1	90	0
3	1	Both	No	1.50	0.00	0.00	30'-7"*	5'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.67 in (L/ 403)

===== LOAD NO 3 (J26#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.90	-1.90	0.00	25'-7"*	0'-0"	1	1	90	0



Project: PROJECT EVELER FREEZER PUYALL

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-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.50	-1.50	0.00	25'-7"*	25'-7"	1	1	0	0
4	1	Both	No	1.90	1.90	0.00	30'-7"*	0'-0"	1	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	30'-7"*	5'-0"	1	1	0	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.67 in (L/ 403)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.30 in)

Left Reaction = 10.26/ -3.89 kips Right Reaction = 10.27/ -3.89 kips

REQUIRED MATERIAL
 x = tied at mid-length

REQUIRED WELD
 Weld-Ea.Side

No	Tension	Compres.	REQUIRED MATERIAL	Slend.	Util.	Length	REQUIRED WELD	Remarks
Top Chord								
1.0	0.00	0.00	LL 3 X .281	z 10	0.19	0'-6"		
1.1	6.18	-17.04	do	z 53	0.24	2'-9 1/2"		
1.2	6.08	-16.70	do	z 47	0.39	2'-4"		
1.3	12.75	-32.25	do	z 46	0.41	3'-0"		
1.4	12.75	-32.25	do	z 30	0.49	2'-0"		
1.5	18.24	-45.10	do	z 30	0.51	do		
1.6	18.24	-45.10	do	z 30	0.61	do		
1.7	23.12	-55.70	do	z 30	0.62	do		
1.8	23.12	-55.70	do	z 30	0.70	do		
1.9	27.39	-64.05	do	z 30	0.72	do		
1.10	27.39	-64.05	do	z 30	0.75	do		
1.11	31.04	-70.15	do	z 30	0.79	do		
1.12	31.04	-70.15	do	z 30	0.86	do		
1.13	32.40	-72.33	do	z 30	0.86	do		
1.14	32.40	-72.33	do	z 30	0.86	do		
1.15	31.09	-70.20	do	z 30	0.86	do		
1.16	31.09	-70.20	do	z 30	0.80	do		
1.17	27.43	-64.09	do	z 30	0.75	do		
1.18	27.43	-64.09	do	z 30	0.72	do		
1.19	23.15	-55.73	do	z 30	0.70	do		
1.20	23.15	-55.73	do	z 30	0.62	do		
1.21	18.27	-45.12	do	z 30	0.61	do		
1.22	18.27	-45.12	do	z 30	0.51	do		
1.23	12.77	-32.26	do	z 30	0.49	2'-0"		
1.24	12.77	-32.26	do	z 46	0.41	3'-0"		
1.25	6.09	-15.71	do	z 47	0.39	2'-4"		
1.26	6.19	-16.05	do	z 53	0.23	2'-9 1/2"		
1.27	0.00	0.00	LL 3 X .281	z 10	0.18	0'-6"		
Bottom Chord								
2.1	0.00	0.00	LL 3 X .25	z 73	0.23	3'-9 1/2"		
2.2	21.14	-8.23	do	z 79	0.42	4'-4"		
2.3	38.95	-15.57	do	z 73	0.54	4'-0"		
2.4	50.68	-20.76	do	yy 97	0.64	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend.	Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
2.5	60.15	-25.33	do		yy 98	0.72	do			
2.6	67.38	-29.29	do		yy 98	0.78	do			
2.7	72.05	-32.32	do		yy 98	0.84	do			
2.8	72.05	-32.32	do		yy 98	0.84	do			
2.9	67.43	-29.33	do		yy 98	0.78	do			
2.10	60.19	-25.37	do		yy 98	0.72	do			
2.11	50.71	-20.79	do		yy 97	0.64	do			
2.12	38.97	-15.59	do		z 73	0.54	4'-0"			
2.13	21.15	-8.24	do		z 79	0.42	4'-4"			
2.14	0.00	0.00	LL 3 X .25		z 73	0.23	3'-9 1/2"			
End Diagonal										
3.1	18.75	-7.22	1" SQUARE BAR		yy141	0.95	4'-3 3/4"	.250 -	2 1/2"	
3.2	18.76	-7.23	1" SQUARE BAR		yy141	0.95	4'-3 3/4"	.250 -	2 1/2"	
Diagonal Towards End										
4.1	13.76	-5.60	d	U 1 3/8 x 0.136	z 77	0.92	3'-9 5/8"	.136 -	3 3/8"	
4.2	9.11	-3.96		U 1 x 1 1/8 x 0.118	z 77	0.92	3'-0 7/8"	.118 -	2 5/8"	
4.3	7.45	-3.51		U 1 x 1 1/8 x 0.118	z 77	0.79	do	.118 -	2 1/8"	
4.4	5.78	-3.05		U 1 x 0.091	z 80	0.97	do	.090 -	2 1/8"	
4.5	4.11	-2.60		do	z 80	0.83	do	.090 -	1 1/2"	
4.6	3.47	-3.02		do	z 80	0.96	do		do	
4.7	3.47	-3.02		do	z 80	0.96	do		do	
4.8	4.12	-2.60		do	z 80	0.83	do	.090 -	1 1/2"	
4.9	5.79	-3.06		U 1 x 0.091	z 80	0.97	do	.090 -	2 1/8"	
4.10	7.45	-3.51		U 1 x 1 1/8 x 0.118	z 77	0.79	do	.118 -	2 1/8"	
4.11	9.12	-3.97		U 1 x 1 1/8 x 0.118	z 77	0.92	3'-0 7/8"	.118 -	2 5/8"	
4.12	13.77	-5.61	d	U 1 3/8 x 0.136	z 77	0.92	3'-9 5/8"	.136 -	3 3/8"	
Diagonal Towards Center										
5.1	4.13	-10.47	d	U 1 3/8 x 0.157	z 52	0.92	2'-8 1/4"	.158 -	2 1/4"	
5.2	4.19	-9.95	d	U 1 3/8 x 0.157	z 60	0.95	3'-0 7/8"	.158 -	2 1/8"	
5.3	3.73	-8.28	d	U 1 3/8 x 0.136	z 62	0.97	do	.136 -	2"	
5.4	3.28	-6.61	d	U 1 3/8 x 1 1/4 x 0.118	z 66	0.97	do	.118 -	1 7/8"	
5.5	2.82	-4.95		U 1 x 1 1/4 x 0.136	z 71	0.92	do	.136 -	1 1/2"	
5.6	1.90	-3.47		U 1 x 1 1/8 x 0.118	z 77	0.78	do	.118 -	1 1/2"	
5.7	1.82	-3.47		U 1 x 1 1/8 x 0.118	z 77	0.78	do	.118 -	1 1/2"	
5.8	2.83	-4.95		U 1 x 1 1/4 x 0.136	z 71	0.92	do	.136 -	1 1/2"	
5.9	3.28	-6.62	d	U 1 3/8 x 1 1/4 x 0.118	z 66	0.97	do	.118 -	1 7/8"	
5.10	3.74	-8.29	d	U 1 3/8 x 0.136	z 62	0.97	do	.136 -	2"	
5.11	4.19	-9.96	d	U 1 3/8 x 0.157	z 60	0.95	3'-0 7/8"	.158 -	2 1/8"	
5.12	4.14	-10.48	d	U 1 3/8 x 0.157	z 52	0.92	2'-8 1/4"	.158 -	2 1/4"	
Secondary Web Member										
7.1	0.23	-0.93		U 1 x 3/4 x 0.091	z 89	0.29	2'-6 1/2"	.091 -	1"	
7.2	0.21	-0.94		do	z 81	0.26	2'-4"		do	
7.3	0.17	-0.85		do	z 81	0.24	do		do	
7.4	0.17	-0.90		do	z 81	0.25	do		do	
7.5	0.17	-0.95		do	z 81	0.27	do		do	
7.6	0.51	-1.36		do	z 81	0.38	do		do	
7.7	0.17	-0.99		do	z 81	0.28	do		do	
7.8	0.57	-1.42		do	z 81	0.40	do		do	
7.9	0.17	-0.95		do	z 81	0.27	do		do	
7.10	0.17	-0.90		do	z 81	0.25	do		do	
7.11	0.17	-0.85		do	z 81	0.24	do		do	
7.12	0.21	-0.94		do	z 81	0.26	2'-4"		do	
7.13	0.23	-0.92		U 1 x 3/4 x 0.091	z 89	0.29	2'-6 1/2"	.091 -	1"	



Mark : J26

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:50

BRIDGING

Maximum spacing between rows of bridging				Lateral Supports
@ Top Chord:	21'-3 1/8" ==>	2 Row(s) Minimum		Deck (36")
@ Bottom Chord:	32'-5 1/2" ==>	5 Row(s) Minimum		Imposed and conc. load 5 or

POSITION	@ Top Chord	@ Bottom Chord
	18'-8"	3'-8 1/2"
	37'-5"	13'-11 3/4"
		28'-0 1/2"
		42'-1 1/4"
		52'-4 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

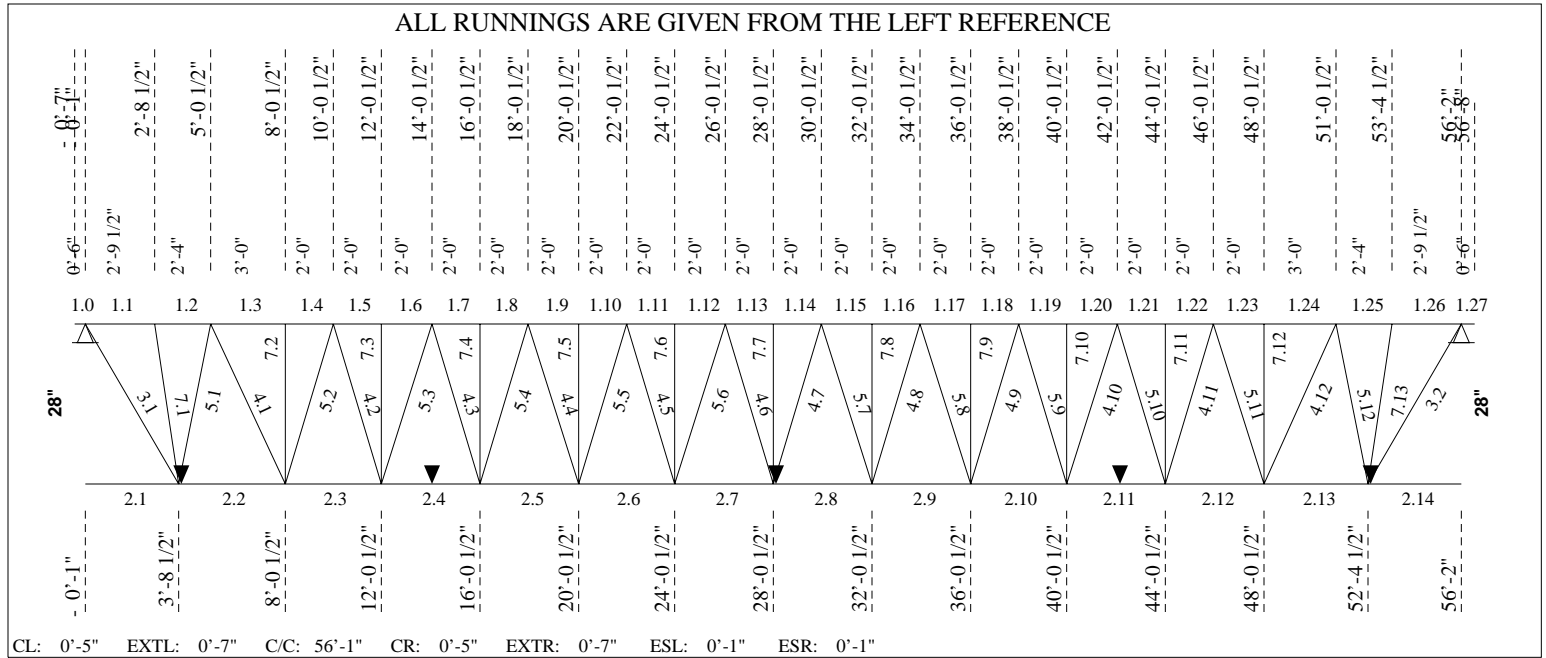
Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	1287 / 1342		Area to Paint	:	285.08 ft2
					Material Sort : Cost

857(893)-857(893)-25-26/14-1287(1342) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J27 (MS 1" LH, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
						1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 690.07 in⁴
 Required camber..... = 1.31 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.04 kips Right Reaction = 8.76/ -1.67 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
1.1	3.10	-13.36	do	z 64 0.35	2'-9 1/2"		
1.2	3.00	-13.02	do	z 57 0.55	2'-4"		
1.3	6.00	-26.41	do	z 55 0.60	3'-0"		
1.4	6.00	-26.41	do	z 36 0.65	2'-0"		
1.5	8.11	-36.37	do	z 36 0.70	do		
1.6	8.11	-36.37	do	z 36 0.79	do		
1.7	9.62	-44.12	do	z 36 0.84	do		
1.8	9.62	-44.12	do	z 36 0.88	do		
1.9	10.53	-49.65	do	z 36 0.95	do		
1.10	10.53	-49.65	do	z 36 0.95	do		
1.11	10.94	-52.97 x	do	zz 24 0.96	do		
1.12	10.94	-52.97 x	do	zz 24 0.96	do		
1.13	10.95	-54.08 x	do	zz 24 0.98	do		
1.14	10.95	-54.08 x	do	zz 24 0.98	do		
1.15	10.57	-52.97 x	do	zz 24 0.96	do		
1.16	10.57	-52.97 x	do	zz 24 0.96	do		
1.17	9.79	-49.65	do	z 36 0.95	do		
1.18	9.79	-49.65	do	z 36 0.95	do		
1.19	8.62	-44.12	do	z 36 0.88	do		
1.20	8.62	-44.12	do	z 36 0.84	do		
1.21	7.05	-36.37	do	z 36 0.79	do		
1.22	7.05	-36.37	do	z 36 0.70	do		
1.23	5.08	-26.41	do	z 36 0.65	2'-0"		
1.24	5.08	-26.41	do	z 55 0.60	3'-0"		
1.25	2.49	-13.02	do	z 57 0.55	2'-4"		
1.26	2.55	-13.36	do	z 64 0.35	2'-9 1/2"		
1.27	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		
2.2	17.48	-4.02	do	z 120 0.53	4'-4"		
2.3	31.66	-7.13	do	z 110 0.67	4'-0"		
2.4	40.52	-8.94	do	yy127 0.78	do		
2.5	47.16	-10.15	do	yy128 0.86	do		
2.6	51.59	-10.78	do	yy128 0.93	do		
2.7	53.80	-10.99	do	yy128 0.97	do		
2.8	53.80	-10.81	do	yy128 0.97	do		
2.9	51.59	-10.23	do	yy128 0.93	do		
2.10	47.16	-9.25	do	yy128 0.86	do		
2.11	40.52	-7.88	do	yy127 0.78	do		
2.12	31.66	-6.11	do	z 110 0.67	4'-0"		
2.13	17.48	-3.35	do	z 120 0.53	4'-4"		
2.14	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	15.68	-3.63	BR 1"	yy163	0.82	4'-3 3/4"	.230 - 1 5/8"	
3.2	15.68	-3.00	BR 1"	yy163	0.68	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-2.47	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.47	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.02	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-0.56	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	do	z 81	0.70	do	do	
4.7	2.95	-2.17	do	z 81	0.70	do	do	
4.8	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.9	5.04	-0.80	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.10	6.34	-1.10	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.11	7.73	-1.40	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.12	11.97	-2.16	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
Diagonal Towards Center								
5.1	1.98	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	1.69	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.24	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	0.79	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.38	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.08	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.7	0.36	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.8	0.66	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.9	0.95	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.10	1.25	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.11	1.54	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.12	1.67	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.14	-0.88	do	z 83	0.25	do	do	
7.6	0.11	-0.89	do	z 83	0.26	do	do	
7.7	0.11	-0.90	do	z 83	0.26	do	do	
7.8	0.11	-0.89	do	z 83	0.26	do	do	
7.9	0.11	-0.88	do	z 83	0.25	do	do	
7.10	0.11	-0.85	do	z 83	0.24	do	do	
7.11	0.11	-0.81	do	z 83	0.23	do	do	
7.12	0.14	-0.91	do	z 83	0.26	2'-4"	do	
7.13	0.15	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-6 1/4" ==> 3 Row(s) Minimum
 @ Bottom Chord: 24'-9 1/8" ==> 5 Row(s) Minimum
 Lateral Supports Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 13'-11 3/4" 3'-8 1/2"
 28'-0 1/2" 13'-11 3/4"
 42'-1 1/4" 28'-0 1/2"
 42'-1 1/4" 42'-1 1/4"
 52'-4 1/2" 52'-4 1/2"



Mark : J27

Project: PROJECT EVELER FREEZER PUYALL

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10:14:50

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

856 / 896

Area to Paint

: 228.37 ft2

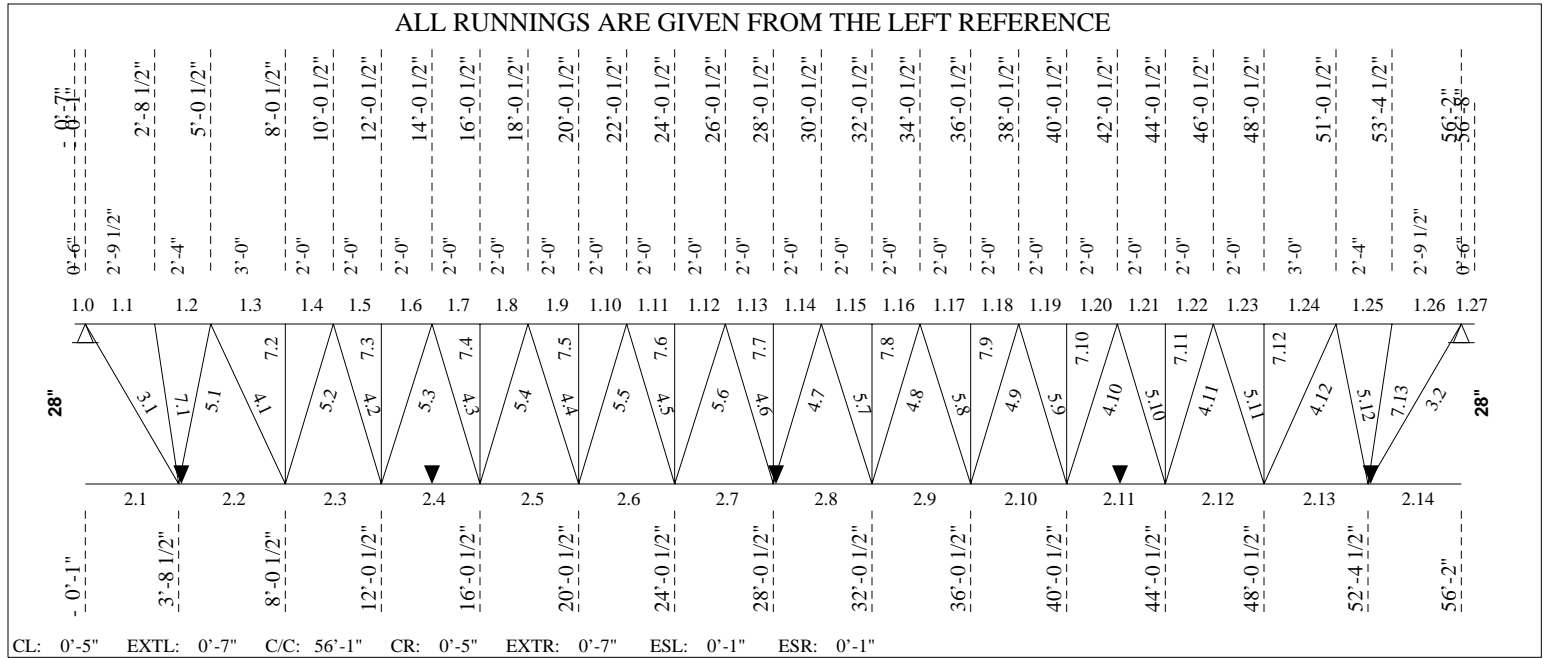
Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J27A (MS 1" LH, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
						1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



Mark : J27A

Project: PROJECT EVELER FREEZER PUYALL

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----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 690.07 in⁴
 Required camber..... = 1.31 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.04 kips Right Reaction = 8.76/ -1.67 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
1.1	3.10	-13.36	do	z 64 0.35	2'-9 1/2"		
1.2	3.00	-13.02	do	z 57 0.55	2'-4"		
1.3	6.00	-26.41	do	z 55 0.60	3'-0"		
1.4	6.00	-26.41	do	z 36 0.65	2'-0"		
1.5	8.11	-36.37	do	z 36 0.70	do		
1.6	8.11	-36.37	do	z 36 0.79	do		
1.7	9.62	-44.12	do	z 36 0.84	do		
1.8	9.62	-44.12	do	z 36 0.88	do		
1.9	10.53	-49.65	do	z 36 0.95	do		
1.10	10.53	-49.65	do	z 36 0.95	do		
1.11	10.94	-52.97 x	do	zz 24 0.96	do		
1.12	10.94	-52.97 x	do	zz 24 0.96	do		
1.13	10.95	-54.08 x	do	zz 24 0.98	do		
1.14	10.95	-54.08 x	do	zz 24 0.98	do		
1.15	10.57	-52.97 x	do	zz 24 0.96	do		
1.16	10.57	-52.97 x	do	zz 24 0.96	do		
1.17	9.79	-49.65	do	z 36 0.95	do		
1.18	9.79	-49.65	do	z 36 0.95	do		
1.19	8.62	-44.12	do	z 36 0.88	do		
1.20	8.62	-44.12	do	z 36 0.84	do		
1.21	7.05	-36.37	do	z 36 0.79	do		
1.22	7.05	-36.37	do	z 36 0.70	do		
1.23	5.08	-26.41	do	z 36 0.65	2'-0"		
1.24	5.08	-26.41	do	z 55 0.60	3'-0"		
1.25	2.49	-13.02	do	z 57 0.55	2'-4"		
1.26	2.55	-13.36	do	z 64 0.35	2'-9 1/2"		
1.27	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		
2.2	17.48	-4.02	do	z 120 0.53	4'-4"		
2.3	31.66	-7.13	do	z 110 0.67	4'-0"		
2.4	40.52	-8.94	do	yy127 0.78	do		
2.5	47.16	-10.15	do	yy128 0.86	do		
2.6	51.59	-10.78	do	yy128 0.93	do		
2.7	53.80	-10.99	do	yy128 0.97	do		
2.8	53.80	-10.81	do	yy128 0.97	do		
2.9	51.59	-10.23	do	yy128 0.93	do		
2.10	47.16	-9.25	do	yy128 0.86	do		
2.11	40.52	-7.88	do	yy127 0.78	do		
2.12	31.66	-6.11	do	z 110 0.67	4'-0"		
2.13	17.48	-3.35	do	z 120 0.53	4'-4"		
2.14	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		



Mark : J27A

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	15.68	-3.63	BR 1"	yy163	0.82	4'-3 3/4"	.230 - 1 5/8"	
3.2	15.68	-3.00	BR 1"	yy163	0.68	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-2.47	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.47	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.02	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-0.56	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	do	z 81	0.70	do	do	
4.7	2.95	-2.17	do	z 81	0.70	do	do	
4.8	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.9	5.04	-0.80	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.10	6.34	-1.10	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.11	7.73	-1.40	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.12	11.97	-2.16	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
Diagonal Towards Center								
5.1	1.98	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	1.69	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.24	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	0.79	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.38	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.08	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.7	0.36	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.8	0.66	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.9	0.95	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.10	1.25	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.11	1.54	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.12	1.67	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.14	-0.88	do	z 83	0.25	do	do	
7.6	0.11	-0.89	do	z 83	0.26	do	do	
7.7	0.11	-0.90	do	z 83	0.26	do	do	
7.8	0.11	-0.89	do	z 83	0.26	do	do	
7.9	0.11	-0.88	do	z 83	0.25	do	do	
7.10	0.11	-0.85	do	z 83	0.24	do	do	
7.11	0.11	-0.81	do	z 83	0.23	do	do	
7.12	0.14	-0.91	do	z 83	0.26	2'-4"	do	
7.13	0.15	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-6 1/4" ==> 3 Row(s) Minimum
 @ Bottom Chord: 24'-9 1/8" ==> 5 Row(s) Minimum
 Lateral Supports Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 13'-11 3/4" 3'-8 1/2"
 28'-0 1/2" 13'-11 3/4"
 42'-1 1/4" 28'-0 1/2"
 42'-1 1/4" 42'-1 1/4"
 52'-4 1/2" 52'-4 1/2"



Mark : J27A

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

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Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

856 / 896

Area to Paint

: 228.37 ft2

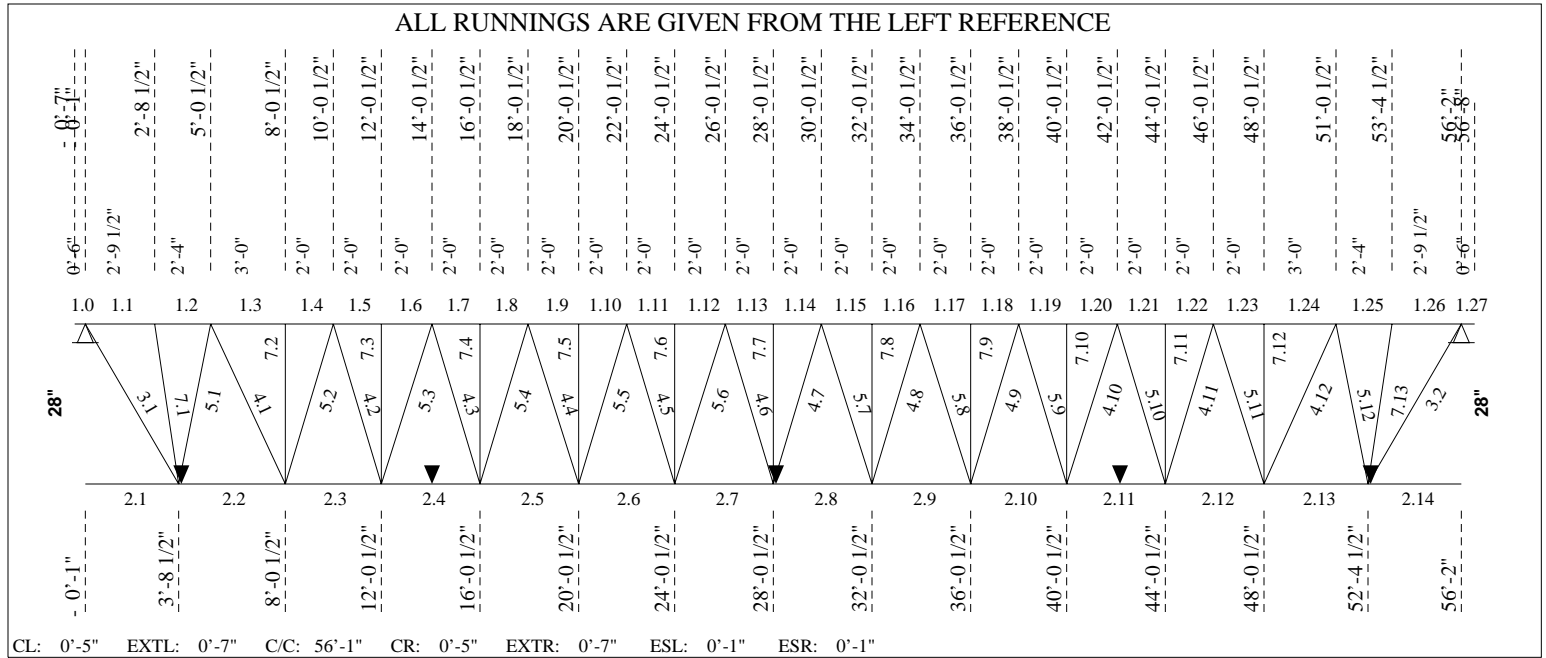
Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J27B (MS 1" LH, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 nt	QL =	55	Req.D. LL = L/	180 =	0.03 TL = L/
I =	1.21 in ⁴			Cal.D. LL = L/	9999 =	0.00 TL = L/	-104 =	-0.06

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 nt	QL =	55	Req.D. LL = L/	180 =	0.03 TL = L/
I =	1.21 in ⁴			Cal.D. LL = L/	9999 =	0.00 TL = L/	-104 =	-0.06

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	
1	1	29.00	29.00	29.00	29.00	0'0	20'0
							1 3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



Mark : J27B

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:51

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 690.07 in^4
 Required camber..... = 1.31 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.04 kips Right Reaction = 8.76/ -1.67 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
	x = tied at mid-length					Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
1.1	3.10	-13.36	do	z 64 0.35	2'-9 1/2"		
1.2	3.00	-13.02	do	z 57 0.55	2'-4"		
1.3	6.00	-26.41	do	z 55 0.60	3'-0"		
1.4	6.00	-26.41	do	z 36 0.65	2'-0"		
1.5	8.11	-36.37	do	z 36 0.70	do		
1.6	8.11	-36.37	do	z 36 0.79	do		
1.7	9.62	-44.12	do	z 36 0.84	do		
1.8	9.62	-44.12	do	z 36 0.88	do		
1.9	10.53	-49.65	do	z 36 0.95	do		
1.10	10.53	-49.65	do	z 36 0.95	do		
1.11	10.94	-52.97 x	do	zz 24 0.96	do		
1.12	10.94	-52.97 x	do	zz 24 0.96	do		
1.13	10.95	-54.08 x	do	zz 24 0.98	do		
1.14	10.95	-54.08 x	do	zz 24 0.98	do		
1.15	10.57	-52.97 x	do	zz 24 0.96	do		
1.16	10.57	-52.97 x	do	zz 24 0.96	do		
1.17	9.79	-49.65	do	z 36 0.95	do		
1.18	9.79	-49.65	do	z 36 0.95	do		
1.19	8.62	-44.12	do	z 36 0.88	do		
1.20	8.62	-44.12	do	z 36 0.84	do		
1.21	7.05	-36.37	do	z 36 0.79	do		
1.22	7.05	-36.37	do	z 36 0.70	do		
1.23	5.08	-26.41	do	z 36 0.65	2'-0"		
1.24	5.08	-26.41	do	z 55 0.60	3'-0"		
1.25	2.49	-13.02	do	z 57 0.55	2'-4"		
1.26	2.55	-13.36	do	z 64 0.35	2'-9 1/2"		
1.27	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		
2.2	17.48	-4.02	do	z 120 0.53	4'-4"		
2.3	31.66	-7.13	do	z 110 0.67	4'-0"		
2.4	40.52	-8.94	do	yy127 0.78	do		
2.5	47.16	-10.15	do	yy128 0.86	do		
2.6	51.59	-10.78	do	yy128 0.93	do		
2.7	53.80	-10.99	do	yy128 0.97	do		
2.8	53.80	-10.81	do	yy128 0.97	do		
2.9	51.59	-10.23	do	yy128 0.93	do		
2.10	47.16	-9.25	do	yy128 0.86	do		
2.11	40.52	-7.88	do	yy127 0.78	do		
2.12	31.66	-6.11	do	z 110 0.67	4'-0"		
2.13	17.48	-3.35	do	z 120 0.53	4'-4"		
2.14	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		



Mark : J27B

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	15.68	-3.63	BR 1"	yy163	0.82	4'-3 3/4"	.230 - 1 5/8"	
3.2	15.68	-3.00	BR 1"	yy163	0.68	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-2.47	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.47	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.02	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-0.56	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	do	z 81	0.70	do	do	
4.7	2.95	-2.17	do	z 81	0.70	do	do	
4.8	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.9	5.04	-0.80	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.10	6.34	-1.10	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.11	7.73	-1.40	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.12	11.97	-2.16	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
Diagonal Towards Center								
5.1	1.98	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	1.69	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.24	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	0.79	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.38	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.08	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.7	0.36	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.8	0.66	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.9	0.95	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.10	1.25	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.11	1.54	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.12	1.67	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.14	-0.88	do	z 83	0.25	do	do	
7.6	0.11	-0.89	do	z 83	0.26	do	do	
7.7	0.11	-0.90	do	z 83	0.26	do	do	
7.8	0.11	-0.89	do	z 83	0.26	do	do	
7.9	0.11	-0.88	do	z 83	0.25	do	do	
7.10	0.11	-0.85	do	z 83	0.24	do	do	
7.11	0.11	-0.81	do	z 83	0.23	do	do	
7.12	0.14	-0.91	do	z 83	0.26	2'-4"	do	
7.13	0.15	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-6 1/4" ==> 3 Row(s) Minimum
 @ Bottom Chord: 24'-9 1/8" ==> 5 Row(s) Minimum
 Lateral Supports Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 13'-11 3/4" 3'-8 1/2"
 28'-0 1/2" 13'-11 3/4"
 42'-1 1/4" 28'-0 1/2"
 42'-1 1/4" 42'-1 1/4"
 52'-4 1/2" 52'-4 1/2"



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Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

856 / 896

Area to Paint

: 228.37 ft2

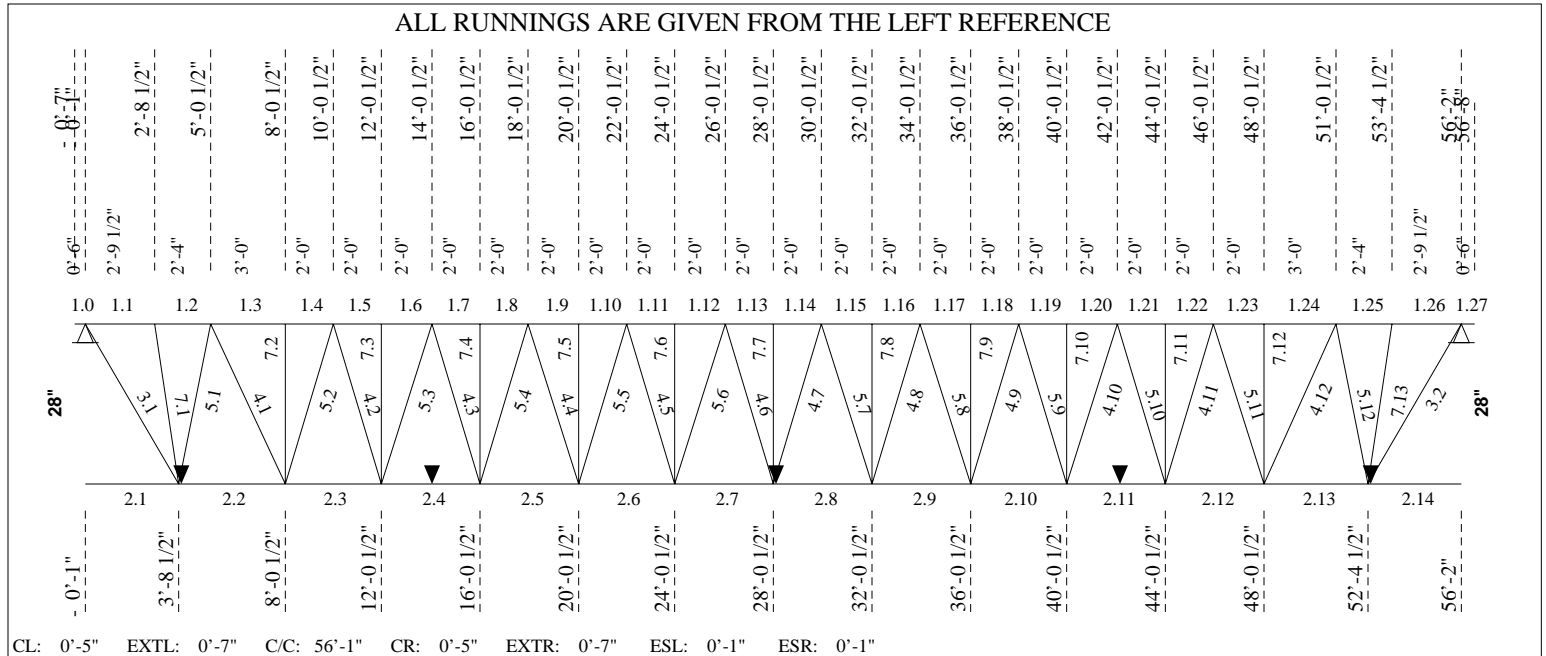
Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J28 (LS, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.214)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	2.49 in ⁴				Cal.D. LL = L/	472 =	0.01	TL = L/ -143 = -0.04

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.185)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	2.49 in ⁴				Cal.D. LL = L/	622 =	0.01	TL = L/ -143 = -0.04

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	1.50	11'-4"*	11'-4"	1	1	90	0
2	1	Both	No	1.50	1.50	16'-4"*	5'-0"	1	1	90	0

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left [lb/ft ²]	Right [lb/ft ²]	Start [ft]	Length [ft]	Chord	Cat.
1	1	29.00	29.00	0'0	20'0	1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 948.52 in⁴
 Required camber..... = 1.31 in

===== LOAD NO 2 (J28#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	0.00	0.00	11'-4"*	11'-4"	1	1	0	0
2	1	Both	No	1.90	1.90	0.00	11'-4"*	0'-0"	1	1	90	0
3	1	Both	No	1.50	0.00	0.00	16'-4"*	5'-0"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	16'-4"*	0'-0"	1	1	90	0

----- PARTIAL LOADS (From Axis) -----

No	Span	Left [lb/ft ²]	Right [lb/ft ²]	Start [ft]	Length [ft]	Chord	Cat.
1	1	29.00	29.00	0'0	20'0	1	3

----- UPLIFT -----

Net uplift uniform load : 55.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.65 in (L/ 407)

===== LOAD NO 3 (J28#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07



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Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 0-9 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.50	-1.50	0.00	11'-4"*	11'-4"	1	1	0	0
2	1	Both	No	-1.90	-1.90	0.00	11'-4"*	0'-0"	1	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	16'-4"*	5'-0"	1	1	0	0
4	1	Both	No	1.90	1.90	0.00	16'-4"*	0'-0"	1	1	90	0

----- PARTIAL LOADS (From Axis) -----

No	Span	Left [lb/ft2]	Right [lb/ft2]	Start [ft]	Length [ft]	Chord	Cat.
1	1	29.00	29.00	0'0	20'0	1	3

----- UPLIFT -----

Net uplift uniform load : 55.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.75 in (L/ 384)

==== End of multiple loads =====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.32 in)

Left Reaction = 11.03/ -4.30 kips Right Reaction = 9.50/ -2.41 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 3 X .25	z 10	0.21	0'-6"		
1.1	6.88	-17.30	do	z 53	0.28	2'-9 1/2"		
1.2	6.79	-16.95	do	z 47	0.48	2'-4"		
1.3	14.29	-35.00	do	z 46	0.51	3'-0"		
1.4	14.29	-35.00	do	z 30	0.65	2'-0"		
1.5	20.08	-48.74	do	z 30	0.70	do		
1.6	20.08	-48.74	do	z 30	0.70	do		
1.7	23.00	-57.99	do	z 30	0.77	do		
1.8	23.00	-57.99	do	z 30	0.78	do		
1.9	22.77	-62.46	do	z 30	0.81	do		
1.10	22.77	-62.46	do	z 30	0.81	do		
1.11	21.84	-64.49	do	z 30	0.84	do		
1.12	21.84	-64.49	do	z 30	0.84	do		
1.13	20.51	-64.27	do	z 30	0.83	do		
1.14	20.51	-64.27	do	z 30	0.83	do		
1.15	18.78	-61.80	do	z 30	0.80	do		
1.16	18.78	-61.80	do	z 30	0.80	do		
1.17	16.64	-57.08	do	z 30	0.75	do		
1.18	16.64	-57.08	do	z 30	0.74	do		
1.19	14.11	-50.12	do	z 30	0.70	do		
1.20	14.11	-50.12	do	z 30	0.65	do		
1.21	11.17	-40.92	do	z 30	0.62	do		
1.22	11.17	-40.92	do	z 30	0.53	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend.	Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
1.23	7.83	-29.46	do		z 30	0.50	2'-0"			
1.24	7.83	-29.46	do		z 46	0.43	3'-0"			
1.25	3.75	-14.43	do		z 47	0.41	2'-4"			
1.26	3.81	-14.78	do		z 53	0.24	2'-9 1/2"			
1.27	0.00	0.00	LL 3 X .25		z 10	0.18	0'-6"			
Bottom Chord										
2.1	0.00	0.00	LL 3 X .224		z 73	0.27	3'-9 1/2"			
2.2	22.85	-9.19	do		z 79	0.50	4'-4"			
2.3	42.39	-17.50	do		z 73	0.64	4'-0"			
2.4	53.65	-21.62	do		yy 97	0.72	do			
2.5	60.61	-23.06	do		yy 98	0.78	do			
2.6	63.76	-22.36	do		yy 98	0.82	do			
2.7	64.66	-21.23	do		yy 98	0.83	do			
2.8	63.31	-19.69	do		yy 98	0.82	do			
2.9	59.72	-17.76	do		yy 98	0.77	do			
2.10	53.88	-15.42	do		yy 98	0.71	do			
2.11	45.80	-12.69	do		yy 97	0.64	do			
2.12	35.47	-9.55	do		z 73	0.54	4'-0"			
2.13	19.40	-5.07	do		z 79	0.42	4'-4"			
2.14	0.00	0.00	LL 3 X .224		z 73	0.23	3'-9 1/2"			
End Diagonal										
3.1	20.22	-8.04	1"RB + U1-3/8X.157 (50%)		yy134	0.86	4'-3 3/4"	.230 - 3"		
3.2	17.27	-4.45	BR 1"		yy163	1.00	4'-3 3/4"	.230 - 1 3/4"		
Diagonal Towards End										
4.1	15.05	-6.32	d U 1 3/8 x 0.157		z 76	0.86	3'-9 5/8"	.158 - 3 1/4"		
4.2	9.43	-3.82	U 1 x 1 1/8 x 0.118		z 77	0.95	3'-0 7/8"	.118 - 2 3/4"		
4.3	7.76	-2.05	U 1 x 1 1/8 x 0.118		z 77	0.78	do	.118 - 2 1/4"		
4.4	5.07	-0.57	U 1 x 3/4 x 0.091		z 110	0.83	do	.091 - 1 7/8"		
4.5	3.85	-1.19	do		z 110	0.63	do	.091 - 1 1/2"		
4.6	3.73	-2.18	do		z 110	0.91	do	do		
4.7	3.73	-2.18	do		z 110	0.91	do	do		
4.8	3.85	-1.51	do		z 110	0.63	do	.091 - 1 1/2"		
4.9	5.07	-1.81	U 1 x 3/4 x 0.091		z 110	0.83	do	.091 - 1 7/8"		
4.10	6.42	-2.10	U 1 x 1 1/8 x 0.118		z 77	0.65	do	.118 - 1 7/8"		
4.11	8.08	-2.40	U 1 x 1 1/8 x 0.118		z 77	0.81	3'-0 7/8"	.118 - 2 3/8"		
4.12	12.47	-3.43	d U 1 3/8 x 0.157		z 76	0.72	3'-9 5/8"	.158 - 2 5/8"		
Diagonal Towards Center										
5.1	4.63	-11.36	d U 1 3/8 x 0.157		z 52	1.00	2'-8 1/4"	.158 - 2 1/2"		
5.2	4.77	-10.98	d U 1 3/8 x 0.176		z 60	0.93	3'-0 7/8"	.176 - 2 1/8"		
5.3	2.28	-8.59	d U 1 3/8 x 0.157		z 61	0.82	do	.158 - 1 7/8"		
5.4	0.80	-5.71	d U 1 3/8 x 1 1/4 x 0.118		z 66	0.83	do	.118 - 1 5/8"		
5.5	0.38	-4.45	U 1 x 1 1/4 x 0.136		z 71	0.82	do	.136 - 1 1/2"		
5.6	0.08	-3.73	U 1 x 1 1/8 x 0.118		z 77	0.84	do	.118 - 1 1/2"		
5.7	1.36	-3.73	U 1 x 1 1/8 x 0.118		z 77	0.84	do	.118 - 1 1/2"		
5.8	1.66	-4.45	U 1 x 1 1/4 x 0.136		z 71	0.82	do	.136 - 1 1/2"		
5.9	1.96	-5.71	d U 1 3/8 x 1 1/4 x 0.118		z 66	0.83	do	.118 - 1 5/8"		
5.10	2.25	-7.25	d U 1 3/8 x 0.157		z 61	0.69	do	.158 - 1 5/8"		
5.11	2.55	-8.92	d U 1 3/8 x 0.176		z 60	0.76	3'-0 7/8"	.176 - 1 3/4"		
5.12	2.54	-9.58	d U 1 3/8 x 0.157		z 52	0.84	2'-8 1/4"	.158 - 2"		
Secondary Web Member										
7.1	0.23	-0.93	U 1 x 3/4 x 0.091		z 89	0.29	2'-6 1/2"	.091 - 1"		
7.2	0.21	-0.95	do		z 81	0.27	2'-4"	do		
7.3	1.14	-2.05	do		z 81	0.58	do	do		
7.4	1.45	-2.48	do		z 81	0.70	do	do		
7.5	0.14	-0.94	do		z 81	0.26	do	do		



Mark : J28

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
7.6	0.11	-0.95	do	z 81	0.27	do	do	
7.7	0.11	-0.95	do	z 81	0.27	do	do	
7.8	0.11	-0.94	do	z 81	0.26	do	do	
7.9	0.11	-0.91	do	z 81	0.26	do	do	
7.10	0.11	-0.88	do	z 81	0.25	do	do	
7.11	0.11	-0.83	do	z 81	0.23	do	do	
7.12	0.14	-0.92	do	z 81	0.26	2'-4"	do	
7.13	0.15	-0.92	U 1 x 3/4 x 0.091	z 89	0.29	2'-6 1/2"	.091 - 1"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 21'-2" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 32'-4 1/8" ==> 5 Row(s) Minimum Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 18'-8" 3'-8 1/2"
 37'-5" 13'-11 3/4"
 28'-0 1/2"
 42'-1 1/4"
 52'-4 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Chord: 1 = Top, 2 = Bottom
 Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

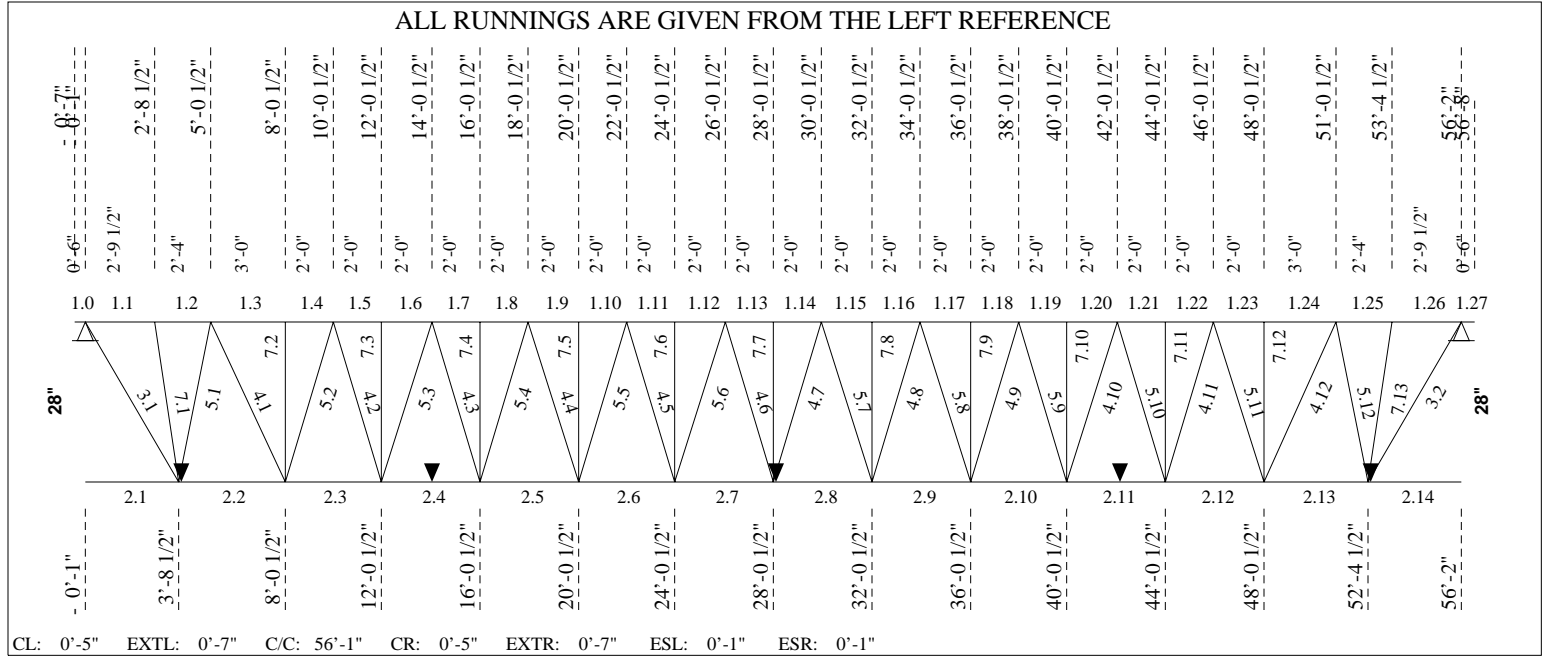
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 1181 / 1231 Area to Paint : 287.70 ft2 Material Sort : Cost

787(820)-787(820)-25-26/14-1181(1231) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J29 (LS, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.211)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	2.49 in ⁴				Cal.D. LL = L/	476 =	0.01	TL = L/ -143 = -0.04
Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.214)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	2.49 in ⁴				Cal.D. LL = L/	633 =	0.01	TL = L/ -143 = -0.04

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp	
1	1	Both	No	1.50	1.50	1.50	39'-9"*	39'-9"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	44'-9"*	5'-0"	1	1	90	0

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left [lb/ft ²]	Right [lb/ft ²]	Start [ft]	Length [ft]	Chord	Cat.
1	1	29.00	29.00	0'0	20'0	1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 948.52 in⁴
 Required camber..... = 1.31 in

===== LOAD NO 2 (J29#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	1.50	0.00	0.00	39'-9"*	0'-0"	1	1	0	0
1	1	Both	No	1.90	1.90	0.00	39'-9"*	39'-9"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	44'-9"*	0'-0"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	44'-9"*	5'-0"	1	1	90	0

----- PARTIAL LOADS (From Axis) -----

No	Span	Left [lb/ft ²]	Right [lb/ft ²]	Start [ft]	Length [ft]	Chord	Cat.
1	1	29.00	29.00	0'0	20'0	1	3

----- UPLIFT -----

Net uplift uniform load : 55.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.74 in (L/ 385)

===== LOAD NO 3 (J29#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07



Project: PROJECT EVELER FREEZER PUYALL

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Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 55 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.50	-1.50	0.00	39'-9"*	0'-0"	1	1	0	0
1	1	Both	No	-1.90	-1.90	0.00	39'-9"*	39'-9"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	44'-9"*	0'-0"	1	1	0	0
3	1	Both	No	1.90	1.90	0.00	44'-9"*	5'-0"	1	1	90	0

----- PARTIAL LOADS (From Axis) -----

No	Span	Left [lb/ft2]	Right [lb/ft2]	Start [ft]	Length [ft]	Chord	Cat.
1	1	29.00	29.00	0'0	20'0	1	3

----- UPLIFT -----

Net uplift uniform load : 55.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.64 in (L/ 409)

==== End of multiple loads =====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.32 in)

Left Reaction = 9.50/ -2.78 kips Right Reaction = 11.03/ -3.93 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 3 X .25	z 10	0.21	0'-6"		
1.1	4.36	-17.03	do	z 53	0.27	2'-9 1/2"		
1.2	4.27	-16.68	do	z 47	0.42	2'-4"		
1.3	8.76	-30.60	do	z 46	0.45	3'-0"		
1.4	8.76	-30.60	do	z 30	0.50	2'-0"		
1.5	12.25	-41.01	do	z 30	0.54	do		
1.6	12.25	-41.01	do	z 30	0.62	do		
1.7	15.13	-50.12	do	z 30	0.65	do		
1.8	15.13	-50.12	do	z 30	0.70	do		
1.9	17.39	-57.08	do	z 30	0.74	do		
1.10	17.39	-57.08	do	z 30	0.75	do		
1.11	19.15	-61.80	do	z 30	0.80	do		
1.12	19.15	-61.80	do	z 30	0.80	do		
1.13	20.51	-64.27	do	z 30	0.83	do		
1.14	20.51	-64.27	do	z 30	0.83	do		
1.15	21.47	-64.49	do	z 30	0.84	do		
1.16	21.47	-64.49	do	z 30	0.84	do		
1.17	22.02	-62.46	do	z 30	0.81	do		
1.18	22.02	-62.46	do	z 30	0.81	do		
1.19	21.98	-57.99	do	z 30	0.78	do		
1.20	21.98	-57.99	do	z 30	0.77	do		
1.21	19.00	-48.74	do	z 30	0.70	do		
1.22	19.00	-48.74	do	z 30	0.70	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend.	Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
1.23	13.36	-35.00	do		z 30	0.65	2'-0"			
1.24	13.36	-35.00	do		z 46	0.51	3'-0"			
1.25	6.27	-16.95	do		z 47	0.48	2'-4"			
1.26	6.33	-17.30	do		z 53	0.28	2'-9 1/2"			
1.27	0.00	0.00	LL 3 X .25		z 10	0.21	0'-6"			
Bottom Chord										
2.1	0.00	0.00	LL 3 X .224		z 73	0.23	3'-9 1/2"			
2.2	19.40	-5.74	do		z 79	0.42	4'-4"			
2.3	35.47	-10.58	do		z 73	0.54	4'-0"			
2.4	45.80	-13.77	do		yy 97	0.64	do			
2.5	53.88	-16.34	do		yy 98	0.71	do			
2.6	59.72	-18.32	do		yy 98	0.77	do			
2.7	63.31	-19.88	do		yy 98	0.82	do			
2.8	64.66	-21.04	do		yy 98	0.83	do			
2.9	63.76	-21.79	do		yy 98	0.82	do			
2.10	60.61	-22.15	do		yy 98	0.78	do			
2.11	53.65	-20.54	do		yy 97	0.72	do			
2.12	42.39	-16.47	do		z 73	0.64	4'-0"			
2.13	22.85	-8.51	do		z 79	0.50	4'-4"			
2.14	0.00	0.00	LL 3 X .224		z 73	0.27	3'-9 1/2"			
End Diagonal										
3.1	17.27	-5.10	1" SQUARE BAR		yy141	0.67	4'-3 3/4"	.250 -	2 3/8"	
3.2	20.22	-7.40	1" SQUARE BAR		yy141	0.98	4'-3 3/4"	.250 -	2 3/4"	
Diagonal Towards End										
4.1	12.47	-3.74	d U 1 3/8 x 0.157		z 76	0.72	3'-9 5/8"	.158 -	2 5/8"	
4.2	8.08	-2.48	U 1 x 1 1/8 x 0.118		z 77	0.81	3'-0 7/8"	.118 -	2 3/8"	
4.3	6.42	-2.02	U 1 x 1 1/8 x 0.118		z 77	0.65	do	.118 -	1 7/8"	
4.4	5.07	-1.57	U 1 x 3/4 x 0.091		z 110	0.83	do	.091 -	1 7/8"	
4.5	3.85	-1.23	do		z 110	0.63	do	.091 -	1 1/2"	
4.6	3.73	-2.18	do		z 110	0.91	do		do	
4.7	3.73	-2.18	do		z 110	0.91	do		do	
4.8	3.85	-1.19	do		z 110	0.63	do	.091 -	1 1/2"	
4.9	5.07	-0.81	U 1 x 3/4 x 0.091		z 110	0.83	do	.091 -	1 7/8"	
4.10	7.76	-2.14	U 1 x 1 1/8 x 0.118		z 77	0.78	do	.118 -	2 1/4"	
4.11	9.43	-3.75	U 1 x 1 1/8 x 0.118		z 77	0.95	3'-0 7/8"	.118 -	2 3/4"	
4.12	15.05	-6.01	d U 1 3/8 x 0.157		z 76	0.86	3'-9 5/8"	.158 -	3 1/4"	
Diagonal Towards Center										
5.1	2.85	-9.58	d U 1 3/8 x 0.157		z 52	0.84	2'-8 1/4"	.158 -	2"	
5.2	2.70	-8.92	d U 1 3/8 x 0.176		z 60	0.76	3'-0 7/8"	.176 -	1 3/4"	
5.3	2.25	-7.25	d U 1 3/8 x 0.157		z 61	0.69	do	.158 -	1 5/8"	
5.4	1.79	-5.71	d U 1 3/8 x 1 1/4 x 0.118		z 66	0.83	do	.118 -	1 5/8"	
5.5	1.38	-4.45	U 1 x 1 1/4 x 0.136		z 71	0.82	do	.136 -	1 1/2"	
5.6	1.08	-3.73	U 1 x 1 1/8 x 0.118		z 77	0.84	do	.118 -	1 1/2"	
5.7	0.36	-3.73	U 1 x 1 1/8 x 0.118		z 77	0.84	do	.118 -	1 1/2"	
5.8	0.66	-4.45	U 1 x 1 1/4 x 0.136		z 71	0.82	do	.136 -	1 1/2"	
5.9	0.96	-5.71	d U 1 3/8 x 1 1/4 x 0.118		z 66	0.83	do	.118 -	1 5/8"	
5.10	2.29	-8.59	d U 1 3/8 x 0.157		z 61	0.82	do	.158 -	1 7/8"	
5.11	4.61	-10.98	d U 1 3/8 x 0.176		z 60	0.93	3'-0 7/8"	.176 -	2 1/8"	
5.12	4.32	-11.36	d U 1 3/8 x 0.157		z 52	1.00	2'-8 1/4"	.158 -	2 1/2"	
Secondary Web Member										
7.1	0.23	-0.93	U 1 x 3/4 x 0.091		z 89	0.29	2'-6 1/2"	.091 -	1"	
7.2	0.21	-0.93	do		z 81	0.26	2'-4"		do	
7.3	0.17	-0.83	do		z 81	0.23	do		do	
7.4	0.17	-0.88	do		z 81	0.25	do		do	
7.5	0.14	-0.91	do		z 81	0.26	do		do	



Mark : J29

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
7.6	0.11	-0.94	do	z 81	0.26	do	do	
7.7	0.11	-0.95	do	z 81	0.27	do	do	
7.8	0.11	-0.95	do	z 81	0.27	do	do	
7.9	0.11	-0.94	do	z 81	0.26	do	do	
7.10	1.39	-2.50	do	z 81	0.70	do	do	
7.11	1.08	-2.03	do	z 81	0.57	do	do	
7.12	0.14	-0.95	do	z 81	0.27	2'-4"	do	
7.13	0.15	-0.93	U 1 x 3/4 x 0.091	z 89	0.29	2'-6 1/2"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 21'-2" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 32'-4 1/8" ==> 5 Row(s) Minimum Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 18'-8" 3'-8 1/2"
 37'-5" 13'-11 3/4"
 28'-0 1/2"
 42'-1 1/4"
 52'-4 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Chord: 1 = Top, 2 = Bottom
 Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

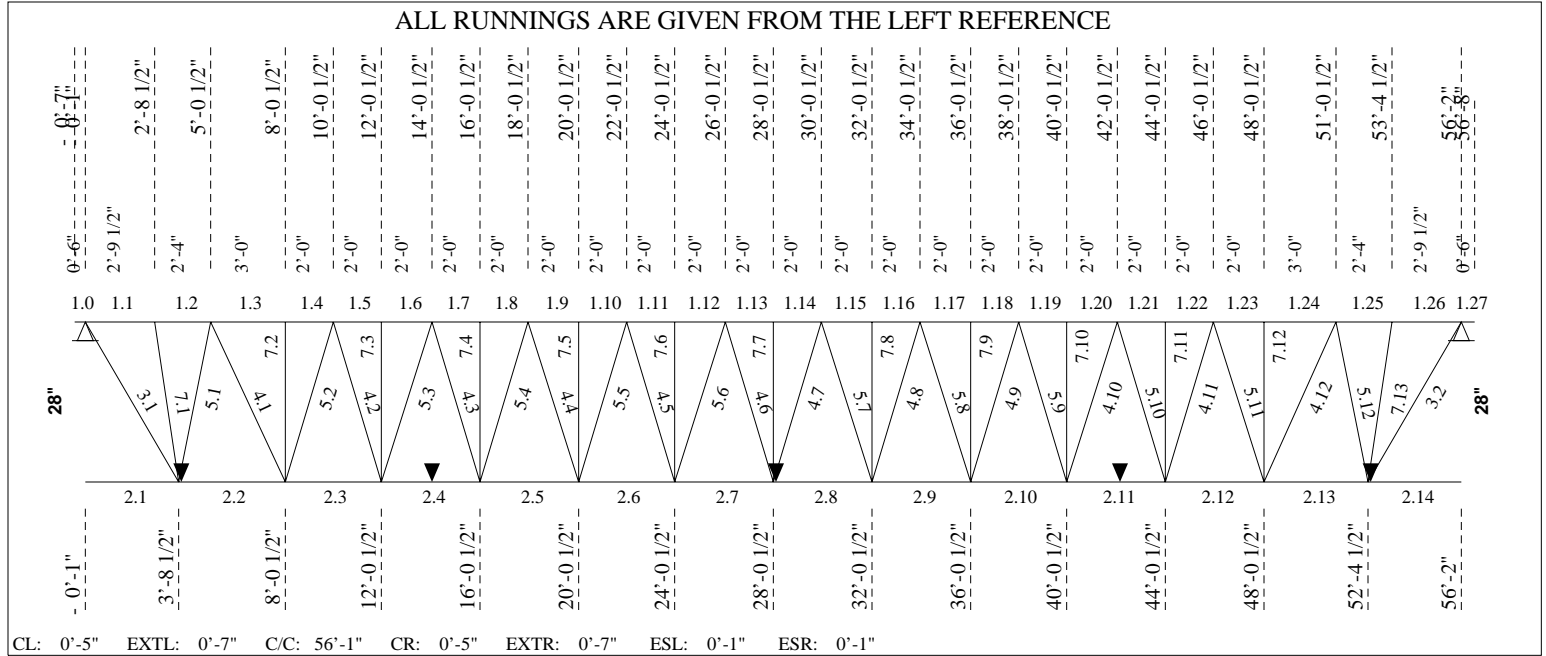
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 1172 / 1221 Area to Paint : 283.45 ft2 Material Sort : Cost

781(813)-781(813)-25-26/14-1172(1221) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J31 (LS, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.189)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	2.76 in ⁴				Cal.D. LL = L/	485 =	0.01 TL = L/	-159 = -0.04

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.179)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	2.76 in ⁴				Cal.D. LL = L/	513 =	0.01 TL = L/	-159 = -0.04

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	1.50	1.50	25'-7"*	25'-7"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	30'-7"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 1055.23 in⁴
 Required camber..... = 1.31 in

===== LOAD NO 2 (J31#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	0.00	0.00	25'-7"*	25'-7"	1	1	0	0
2	1	Both	No	1.90	1.90	0.00	25'-7"*	0'-0"	1	1	90	0
3	1	Both	No	1.50	0.00	0.00	30'-7"*	5'-0"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	30'-7"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.67 in (L/ 403)

===== LOAD NO 3 (J31#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.50	-1.50	0.00	25'-7"*	25'-7"	1	1	0	0



-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.90	-1.90	0.00	25'-7"*	0'-0"	1	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	30'-7"*	5'-0"	1	1	0	0
4	1	Both	No	1.90	1.90	0.00	30'-7"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.67 in (L/ 403)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.30 in)

Left Reaction = 10.26/ -3.89 kips Right Reaction = 10.27/ -3.89 kips

REQUIRED MATERIAL
 x = tied at mid-length

REQUIRED WELD
 Weld-Ea.Side

No	Tension	Compres.	REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
Top Chord							
1.0	0.00	0.00	LL 3 X .281	z 10 0.19	0'-6"		
1.1	6.18	-17.04	do	z 53 0.24	2'-9 1/2"		
1.2	6.08	-16.70	do	z 47 0.39	2'-4"		
1.3	12.75	-32.25	do	z 46 0.41	3'-0"		
1.4	12.75	-32.25	do	z 30 0.49	2'-0"		
1.5	18.24	-45.10	do	z 30 0.51	do		
1.6	18.24	-45.10	do	z 30 0.61	do		
1.7	23.12	-55.70	do	z 30 0.62	do		
1.8	23.12	-55.70	do	z 30 0.70	do		
1.9	27.39	-64.05	do	z 30 0.72	do		
1.10	27.39	-64.05	do	z 30 0.75	do		
1.11	31.04	-70.15	do	z 30 0.79	do		
1.12	31.04	-70.15	do	z 30 0.86	do		
1.13	32.40	-72.33	do	z 30 0.86	do		
1.14	32.40	-72.33	do	z 30 0.86	do		
1.15	31.09	-70.20	do	z 30 0.86	do		
1.16	31.09	-70.20	do	z 30 0.80	do		
1.17	27.43	-64.09	do	z 30 0.75	do		
1.18	27.43	-64.09	do	z 30 0.72	do		
1.19	23.15	-55.73	do	z 30 0.70	do		
1.20	23.15	-55.73	do	z 30 0.62	do		
1.21	18.27	-45.12	do	z 30 0.61	do		
1.22	18.27	-45.12	do	z 30 0.51	do		
1.23	12.77	-32.26	do	z 30 0.49	2'-0"		
1.24	12.77	-32.26	do	z 46 0.41	3'-0"		
1.25	6.09	-15.71	do	z 47 0.39	2'-4"		
1.26	6.19	-16.05	do	z 53 0.23	2'-9 1/2"		
1.27	0.00	0.00	LL 3 X .281	z 10 0.18	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 3 X .25	z 73 0.23	3'-9 1/2"		
2.2	21.14	-8.23	do	z 79 0.42	4'-4"		
2.3	38.95	-15.57	do	z 73 0.54	4'-0"		
2.4	50.68	-20.76	do	yy 97 0.64	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
2.5	60.15	-25.33	do		yy 98 0.72	do			
2.6	67.38	-29.29	do		yy 98 0.78	do			
2.7	72.05	-32.32	do		yy 98 0.84	do			
2.8	72.05	-32.32	do		yy 98 0.84	do			
2.9	67.43	-29.33	do		yy 98 0.78	do			
2.10	60.19	-25.37	do		yy 98 0.72	do			
2.11	50.71	-20.79	do		yy 97 0.64	do			
2.12	38.97	-15.59	do		z 73 0.54	4'-0"			
2.13	21.15	-8.24	do		z 79 0.42	4'-4"			
2.14	0.00	0.00	LL 3 X .25		z 73 0.23	3'-9 1/2"			
End Diagonal									
3.1	18.75	-7.22	1" SQUARE BAR		yy141 0.95	4'-3 3/4"	.250 -	2 1/2"	
3.2	18.76	-7.23	1" SQUARE BAR		yy141 0.95	4'-3 3/4"	.250 -	2 1/2"	
Diagonal Towards End									
4.1	13.76	-5.60	d U 1 3/8 x 0.136		z 77 0.92	3'-9 5/8"	.136 -	3 3/8"	
4.2	9.11	-3.96	U 1 x 1 1/8 x 0.118		z 77 0.92	3'-0 7/8"	.118 -	2 5/8"	
4.3	7.45	-3.51	U 1 x 1 1/8 x 0.118		z 77 0.79	do	.118 -	2 1/8"	
4.4	5.78	-3.05	U 1 x 0.091		z 80 0.97	do	.090 -	2 1/8"	
4.5	4.11	-2.60	do		z 80 0.83	do	.090 -	1 1/2"	
4.6	3.47	-3.02	do		z 80 0.96	do		do	
4.7	3.47	-3.02	do		z 80 0.96	do		do	
4.8	4.12	-2.60	do		z 80 0.83	do	.090 -	1 1/2"	
4.9	5.79	-3.06	U 1 x 0.091		z 80 0.97	do	.090 -	2 1/8"	
4.10	7.45	-3.51	U 1 x 1 1/8 x 0.118		z 77 0.79	do	.118 -	2 1/8"	
4.11	9.12	-3.97	U 1 x 1 1/8 x 0.118		z 77 0.92	3'-0 7/8"	.118 -	2 5/8"	
4.12	13.77	-5.61	d U 1 3/8 x 0.136		z 77 0.92	3'-9 5/8"	.136 -	3 3/8"	
Diagonal Towards Center									
5.1	4.13	-10.47	d U 1 3/8 x 0.157		z 52 0.92	2'-8 1/4"	.158 -	2 1/4"	
5.2	4.19	-9.95	d U 1 3/8 x 0.157		z 60 0.95	3'-0 7/8"	.158 -	2 1/8"	
5.3	3.73	-8.28	d U 1 3/8 x 0.136		z 62 0.97	do	.136 -	2"	
5.4	3.28	-6.61	d U 1 3/8 x 1 1/4 x 0.118		z 66 0.97	do	.118 -	1 7/8"	
5.5	2.82	-4.95	U 1 x 1 1/4 x 0.136		z 71 0.92	do	.136 -	1 1/2"	
5.6	1.90	-3.47	U 1 x 1 1/8 x 0.118		z 77 0.78	do	.118 -	1 1/2"	
5.7	1.82	-3.47	U 1 x 1 1/8 x 0.118		z 77 0.78	do	.118 -	1 1/2"	
5.8	2.83	-4.95	U 1 x 1 1/4 x 0.136		z 71 0.92	do	.136 -	1 1/2"	
5.9	3.28	-6.62	d U 1 3/8 x 1 1/4 x 0.118		z 66 0.97	do	.118 -	1 7/8"	
5.10	3.74	-8.29	d U 1 3/8 x 0.136		z 62 0.97	do	.136 -	2"	
5.11	4.19	-9.96	d U 1 3/8 x 0.157		z 60 0.95	3'-0 7/8"	.158 -	2 1/8"	
5.12	4.14	-10.48	d U 1 3/8 x 0.157		z 52 0.92	2'-8 1/4"	.158 -	2 1/4"	
Secondary Web Member									
7.1	0.23	-0.93	U 1 x 3/4 x 0.091		z 89 0.29	2'-6 1/2"	.091 -	1"	
7.2	0.21	-0.94	do		z 81 0.26	2'-4"		do	
7.3	0.17	-0.85	do		z 81 0.24	do		do	
7.4	0.17	-0.90	do		z 81 0.25	do		do	
7.5	0.17	-0.95	do		z 81 0.27	do		do	
7.6	0.51	-1.36	do		z 81 0.38	do		do	
7.7	0.17	-0.99	do		z 81 0.28	do		do	
7.8	0.57	-1.42	do		z 81 0.40	do		do	
7.9	0.17	-0.95	do		z 81 0.27	do		do	
7.10	0.17	-0.90	do		z 81 0.25	do		do	
7.11	0.17	-0.85	do		z 81 0.24	do		do	
7.12	0.21	-0.94	do		z 81 0.26	2'-4"		do	
7.13	0.23	-0.92	U 1 x 3/4 x 0.091		z 89 0.29	2'-6 1/2"	.091 -	1"	



Mark : J31

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:52

BRIDGING

Maximum spacing between rows of bridging
@ Top Chord: 21'-3 1/8" ==> 2 Row(s) Minimum
@ Bottom Chord: 32'-5 1/2" ==> 5 Row(s) Minimum
Lateral Supports Deck (36")
Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
18'-8" 3'-8 1/2"
37'-5" 13'-11 3/4"
28'-0 1/2"
42'-1 1/4"
52'-4 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

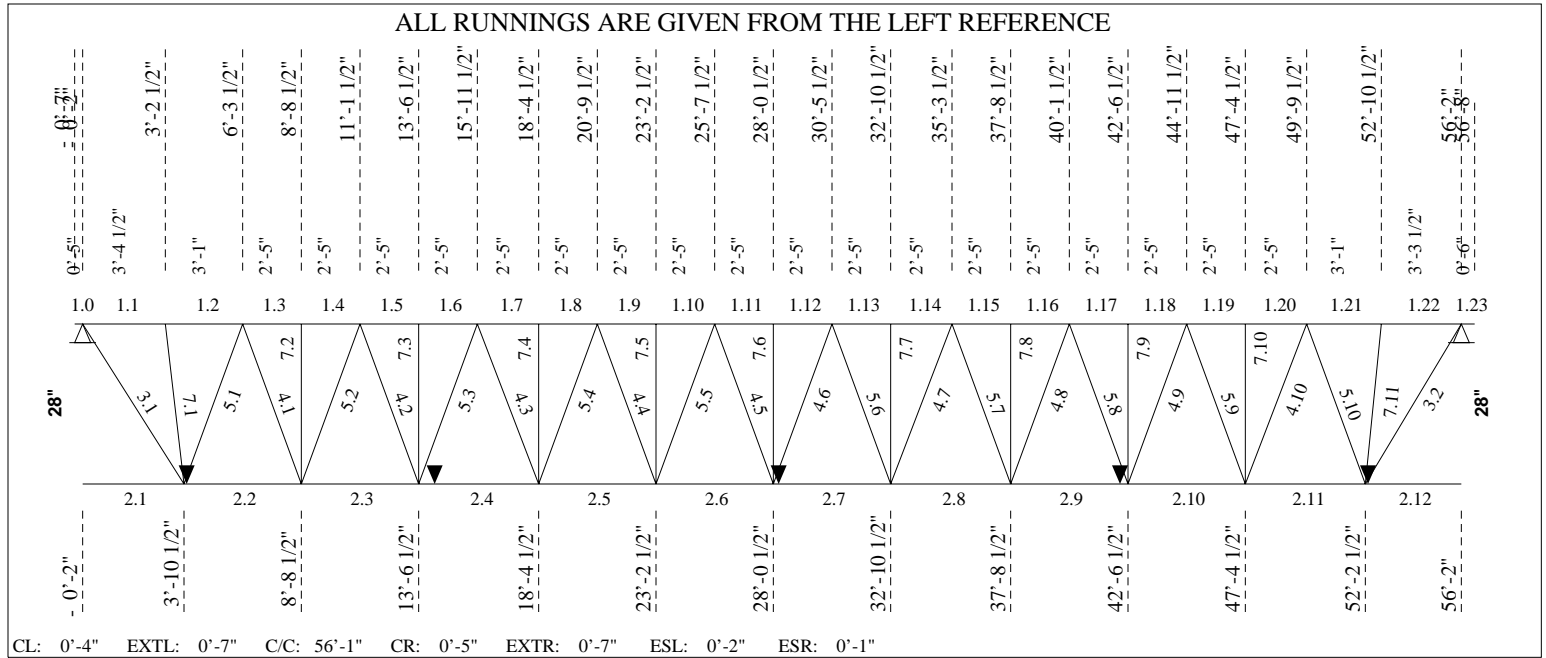
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1287 / 1342 Area to Paint : 285.08 ft2 Material Sort : Cost

857(893)-857(893)-25-26/14-1287(1342) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J32 (LS, Asymmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 278.00 lb/ft 28LHSP278/139 LIVE LOAD...: 139.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-5"	Type	F[S]	Shoe =	5.00	Mf =	-0.024 ft-kip	(0.205)
TL =	278	LL =	139 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.06
I =	4.55 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -97 = -0.05

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.035 ft-kip	(0.204)
TL =	278	LL =	139 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	4.55 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -97 = -0.06

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	3	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.87 in (L/ 360)
 Calculated deflection under service live load..... = 1.01 in (L/ 666)
 Joist inertia..... = 1207.02 in⁴
 Required camber..... = 1.32 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 26.17 in)

Left Reaction = 13.90/ -2.39 kips Right Reaction = 13.92/ -2.39 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00	LL 3.5 X .287	z 7	0.21	0'-5"			
1.1	3.94	-23.09	do	z 56	0.52	3'-4 1/2"			
1.2	3.86	-22.24	do	z 54	0.63	3'-1"			
1.3	7.93	-46.49	do	z 31	0.63	2'-5"			
1.4	7.93	-46.49	do	z 31	0.72	do			
1.5	11.07	-64.90	do	z 31	0.74	do			
1.6	11.07	-64.90	do	z 31	0.83	do			
1.7	13.31	-78.04	do	z 31	0.87	do			
1.8	13.31	-78.04	do	z 31	0.90	do			
1.9	14.66	-85.90	do	z 31	0.94	do			
1.10	14.66	-85.90	do	z 31	0.94	do			
1.11	15.10	-88.49	do	z 31	0.97	do			
1.12	15.10	-88.49	do	z 31	0.97	do			
1.13	14.64	-85.81	do	z 31	0.94	do			
1.14	14.64	-85.81	do	z 31	0.94	do			
1.15	13.28	-77.86	do	z 31	0.90	do			
1.16	13.28	-77.86	do	z 31	0.86	do			
1.17	11.03	-64.63	do	z 31	0.83	do			
1.18	11.03	-64.63	do	z 31	0.73	do			
1.19	7.87	-46.12	do	z 31	0.72	do			
1.20	7.87	-46.12	do	z 31	0.63	2'-5"			
1.21	3.78	-21.79	do	z 54	0.63	3'-1"			
1.22	3.86	-22.63	do	z 54	0.50	3'-3 1/2"			
1.23	0.00	0.00	LL 3.5 X .287	z 9	0.20	0'-6"			
Bottom Chord									
2.1	0.00	0.00	LL 3 X .281	z 79	0.34	4'-0 1/2"			
2.2	35.30	-6.02	do	z 88	0.54	4'-10"			
2.3	56.35	-9.61	do	z 88	0.69	do			
2.4	72.13	-12.31	do	z 88	0.79	do			
2.5	82.63	-14.10	do	z 88	0.86	do			
2.6	87.86	-14.99	do	z 88	0.91	do			
2.7	87.81	-14.98	do	z 88	0.91	do			
2.8	82.49	-14.07	do	z 88	0.86	do			
2.9	71.90	-12.27	do	z 88	0.79	do			
2.10	56.03	-9.56	do	z 88	0.69	do			
2.11	34.89	-5.95	do	z 88	0.54	4'-10"			
2.12	0.00	0.00	LL 3 X .281	z 77	0.33	3'-11 1/2"			
End Diagonal									
3.1	26.49	-4.52	x LL 2 X .156	zz 67	0.74	4'-6 1/4"	.156	- 5 3/4"	
3.2	26.10	-4.45	x LL 1.5 X .155	zz 89	0.99	4'-5 3/8"	.155	- 5 3/4"	

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Diagonal Towards End									
4.1	16.07	-2.57		U 1 3/8 x 0.157	z 66 0.92	3'-4 1/4"	.158 -	3 1/2"	
4.2	13.29	-1.96		U 1 3/8 x 0.136	z 68 0.89	do	.136 -	3 1/4"	
4.3	10.51	-1.36		U 1 3/8 x 1 1/4 x 0.118	z 73 0.84	do	.118 -	3"	
4.4	7.73	-2.08		do	z 73 0.62	do	.118 -	2 1/4"	
4.5	5.20	-3.86		do	z 73 0.60	do	.118 -	1 1/2"	
4.6	5.20	-3.83		do	z 73 0.59	do	.118 -	1 1/2"	
4.7	7.78	-2.05		do	z 73 0.62	do	.118 -	2 1/4"	
4.8	10.56	-1.37		U 1 3/8 x 1 1/4 x 0.118	z 73 0.85	do	.118 -	3"	
4.9	13.34	-1.97		U 1 3/8 x 0.136	z 68 0.89	do	.136 -	3 1/4"	
4.10	16.12	-2.58		U 1 3/8 x 0.157	z 66 0.93	3'-4 1/4"	.158 -	3 1/2"	
Diagonal Towards Center									
5.1	2.92	-17.60	d	U 1 3/4 x 0.197	z 53 0.97	3'-4 1/4"	.197 -	3"	
5.2	2.27	-14.68	d	U 1 3/4 x 0.197	z 53 0.81	do	.197 -	2 1/2"	
5.3	1.66	-11.90	d	U 1 3/4 x 1 1/2 x 0.157	z 60 0.91	do	.158 -	2 1/2"	
5.4	1.19	-9.12		U 1 3/8 x 0.157	z 66 0.93	do	.158 -	2"	
5.5	2.97	-6.35		U 1 3/8 x 1 1/4 x 0.118	z 73 0.98	do	.118 -	1 3/4"	
5.6	2.94	-6.39		U 1 3/8 x 1 1/4 x 0.118	z 73 0.99	do	.118 -	1 7/8"	
5.7	1.16	-9.17		U 1 3/8 x 0.157	z 66 0.93	do	.158 -	2"	
5.8	1.67	-11.95	d	U 1 3/4 x 1 1/2 x 0.157	z 60 0.91	do	.158 -	2 1/2"	
5.9	2.28	-14.73	d	U 1 3/4 x 0.197	z 53 0.81	do	.197 -	2 1/2"	
5.10	2.93	-17.65	d	U 1 3/4 x 0.197	z 53 0.97	3'-4 1/4"	.197 -	3"	
Secondary Web Member									
7.1	0.28	-7.31		U 1 3/8 x 1 1/4 x 0.118	z 51 0.93	2'-5 1/8"	.118 -	2 1/8"	
7.2	0.20	-6.91		do	z 49 0.86	2'-4"	.118 -	2"	
7.3	0.20	-7.00		do	z 49 0.87	do		do	
7.4	0.20	-7.07		do	z 49 0.88	do		do	
7.5	0.20	-7.11		do	z 49 0.89	do		do	
7.6	0.20	-7.13		do	z 49 0.89	do		do	
7.7	0.20	-7.11		do	z 49 0.89	do		do	
7.8	0.20	-7.07		do	z 49 0.88	do		do	
7.9	0.20	-7.00		do	z 49 0.87	do		do	
7.10	0.20	-6.91		do	z 49 0.86	2'-4"	.118 -	2"	
7.11	0.27	-7.29		U 1 3/8 x 1 1/4 x 0.118	z 51 0.93	2'-5 1/8"	.118 -	2 1/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 25'-10 1/4" ==> 2 Row(s) Minimum
 @ Bottom Chord: 35'-9 7/8" ==> 5 Row(s) Minimum
 Lateral Supports Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord
 18'-7 3/8"
 37'-4 5/8"
 @ Bottom Chord
 Add 3'-10 1/2"
 14'-0 1/4"
 28'-0 1/2"
 42'-0 3/4"
 Add 52'-2 1/2"

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back,
- U = 1 U profile,
- BL = 2 angles welded in box,
- UU = 2 U profiles one inside the other,
- BR = Round bar
- CL = Crimped angle



Mark : J32

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:52

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

3 = at any panel point along the joist

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1553 / 1620 Area to Paint : 326.38 ft2 Material Sort : Cost

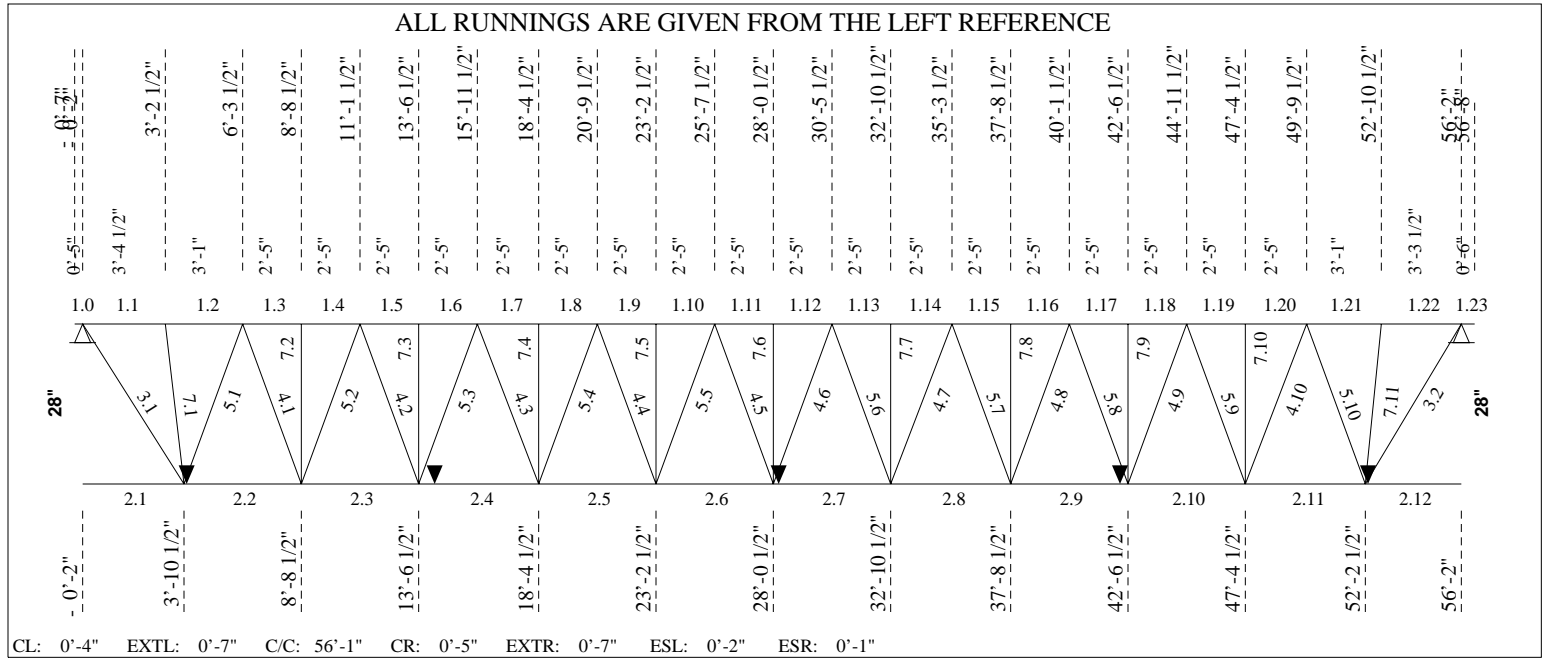
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1041(1084)-1041(1084)-25-22/12-1553(1620) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J32A (LS, Asymmetrical,, Free ends) aligned on J32



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 278.00 lb/ft 28LHSP278/139 LIVE LOAD...: 139.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-5"	Type	F[S]	Shoe =	5.00	Mf =	-0.024 ft-kip	(0.193)	
TL =	278	LL =	139 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 =	0.06
I =	5.73 in ⁴				Cal.D. LL = L/	653 =	0.01	TL = L/ -114 =	-0.04

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.035 ft-kip	(0.176)	
TL =	278	LL =	139 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 =	0.07
I =	5.73 in ⁴				Cal.D. LL = L/	691 =	0.01	TL = L/ -114 =	-0.05

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	3	1	90	0
3	1	Both	No	1.50	1.50	1.50	25'-7"*	25'-7"	1	1	90	0
4	1	Both	No	1.50	1.50	1.50	30'-7"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



Mark : J32A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:52

----- DEFLECTION -----

Allowed deflection under live load..... = 1.87 in (L/ 360)
 Calculated deflection under service live load..... = 1.38 in (L/ 488)
 Joist inertia..... = 1423.97 in⁴
 Required camber..... = 1.32 in

===== LOAD NO 2 (J32A#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-5" Type F[S] Shoe = 5.00 Mf = -0.027 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.06

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat.	Chord 1/2	Incl. Cmp [deg]
1	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	4	1	90 0
2	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	3	1	90 0
3	1	Both	No	1.50	0.00	0.00	25'-7"*	25'-7"	1	1	0 0
4	1	Both	No	1.90	1.90	0.00	25'-7"*	0'-0"	1	1	90 0
5	1	Both	No	1.50	0.00	0.00	30'-7"*	5'-0"	1	1	0 0
6	1	Both	No	-1.90	-1.90	0.00	30'-7"*	0'-0"	1	1	90 0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.87 in (L/ 360)
 Calculated deflection under service live load..... = 1.24 in (L/ 541)

===== LOAD NO 3 (J32A#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-5" Type F[S] Shoe = 5.00 Mf = -0.027 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.06

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07



Mark : J32A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:52

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	3	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	25'-7"*	25'-7"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	25'-7"*	0'-0"	1	1	90	0
5	1	Both	No	-1.50	-1.50	0.00	30'-7"*	5'-0"	1	1	0	0
6	1	Both	No	1.90	1.90	0.00	30'-7"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.87 in (L/ 360)
 Calculated deflection under service live load..... = 1.24 in (L/ 542)

===== End of multiple loads =====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 26.12 in)

Left Reaction = 15.40/ -3.88 kips Right Reaction = 15.42/ -3.90 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 3.5 X .375	z	7 0.19	0'-5"		
1.1	6.61	-28.05	do	z	56 0.42	3'-4 1/2"		
1.2	6.53	-27.16	do	z	54 0.54	3'-1"		
1.3	13.94	-53.27	do	z	32 0.54	2'-5"		
1.4	13.94	-53.27	do	z	32 0.62	do		
1.5	20.41	-74.32	do	z	32 0.62	do		
1.6	20.41	-74.32	do	z	32 0.73	do		
1.7	25.98	-90.81	do	z	32 0.74	do		
1.8	25.98	-90.81	do	z	32 0.81	do		
1.9	30.65	-102.01	do	z	32 0.82	do		
1.10	30.65	-102.01	do	z	32 0.84	do		
1.11	32.75	-106.27	do	z	32 0.85	do		
1.12	32.75	-106.27	do	z	32 0.86	do		
1.13	30.62	-101.91	do	z	32 0.86	do		
1.14	30.62	-101.91	do	z	32 0.82	do		
1.15	25.93	-90.61	do	z	32 0.81	do		
1.16	25.93	-90.61	do	z	32 0.74	do		
1.17	20.33	-74.02	do	z	32 0.73	do		
1.18	20.33	-74.02	do	z	32 0.62	do		
1.19	13.83	-52.15	do	z	32 0.62	do		
1.20	13.83	-52.15	do	z	32 0.53	2'-5"		
1.21	6.40	-24.44	do	z	54 0.53	3'-1"		
1.22	6.48	-25.28	do	z	55 0.41	3'-3 1/2"		
1.23	0.00	0.00	LL 3.5 X .375	z	9 0.18	0'-6"		
Bottom Chord								
2.1	0.00	0.00	LL 3 X .313	z	79 0.34	4'-0 1/2"		
2.2	39.69	-10.36	do	z	89 0.55	4'-10"		
2.3	64.10	-17.29	do	z	89 0.72	do		
2.4	83.23	-23.31	do	z	89 0.84	do		
2.5	97.07	-28.43	do	z	89 0.91	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
2.6	105.63	-32.65	do	z 89	0.99	do		
2.7	105.58	-32.63	do	z 89	0.99	do		
2.8	96.92	-28.39	do	z 89	0.91	do		
2.9	82.97	-23.24	do	z 89	0.84	do		
2.10	63.75	-17.20	do	z 89	0.72	do		
2.11	39.23	-10.25	do	z 89	0.55	4'-10"		
2.12	0.00	0.00	LL 3 X .313	z 77	0.34	3'-11 1/2"		
End Diagonal								
3.1	29.59	-7.58	x LL 2 X .156	zz 67	0.82	4'-6 1/4"	.156 - 6 3/8"	
3.2	29.15	-7.48	x LL 2 X .156	zz 66	0.81	4'-5 3/8"	.156 - 6 1/4"	
Diagonal Towards End								
4.1	18.32	-4.81	U 1 3/8 X 0.176	z 66	0.95	3'-4 1/4"	.176 - 3 1/2"	
4.2	15.54	-4.20	U 1 3/8 x 0.157	z 66	0.89	do	.158 - 3 3/8"	
4.3	12.76	-3.60	U 1 3/8 x 0.136	z 68	0.85	do	.136 - 3 1/4"	
4.4	9.98	-2.99	U 1 3/8 x 1 1/4 x 0.118	z 73	0.80	do	.118 - 2 7/8"	
4.5	7.61	-6.16	do	z 73	0.95	do	.118 - 2 1/8"	
4.6	7.66	-6.11	do	z 73	0.95	do	.118 - 2 1/4"	
4.7	10.03	-3.01	U 1 3/8 x 1 1/4 x 0.118	z 73	0.80	do	.118 - 2 7/8"	
4.8	12.82	-3.61	U 1 3/8 x 0.136	z 68	0.86	do	.136 - 3 1/4"	
4.9	15.60	-4.22	U 1 3/8 x 0.157	z 66	0.90	do	.158 - 3 3/8"	
4.10	18.38	-4.83	U 1 3/8 X 0.176	z 66	0.95	3'-4 1/4"	.176 - 3 1/2"	
Diagonal Towards Center								
5.1	5.16	-19.86	x LL 2 X .156	zz 49	0.70	3'-4 1/4"	.156 - 4 1/4"	
5.2	4.51	-16.93	d U 1 3/4 x 0.197	z 53	0.93	do	.197 - 2 7/8"	
5.3	3.90	-14.15	d U 1 3/4 x 0.197	z 53	0.78	do	.197 - 2 1/2"	
5.4	3.29	-11.37	d U 1 3/4 x 1 1/2 x 0.157	z 60	0.87	do	.158 - 2 1/2"	
5.5	2.97	-8.59	U 1 3/8 x 0.157	z 66	0.87	do	.158 - 1 7/8"	
5.6	2.94	-8.64	U 1 3/8 x 0.157	z 66	0.88	do	.158 - 1 7/8"	
5.7	3.31	-11.43	d U 1 3/4 x 1 1/2 x 0.157	z 60	0.87	do	.158 - 2 1/2"	
5.8	3.92	-14.21	d U 1 3/4 x 0.197	z 53	0.78	do	.197 - 2 1/2"	
5.9	4.52	-16.99	d U 1 3/4 x 0.197	z 53	0.93	do	.197 - 2 7/8"	
5.10	5.17	-19.91	x LL 2 X .156	zz 49	0.70	3'-4 1/4"	.156 - 4 3/8"	
Secondary Web Member								
7.1	0.28	-7.43	U 1 3/8 x 1 1/4 x 0.118	z 51	0.95	2'-5 1/8"	.118 - 2 1/8"	
7.2	0.20	-7.02	do	z 49	0.88	2'-4"	.118 - 2"	
7.3	0.20	-7.12	do	z 49	0.89	do	do	
7.4	0.20	-7.19	do	z 49	0.90	do	.118 - 2"	
7.5	0.20	-7.24	do	z 49	0.90	do	.118 - 2 1/8"	
7.6	0.20	-7.23	do	z 49	0.90	do	do	
7.7	0.20	-7.22	do	z 49	0.90	do	.118 - 2 1/8"	
7.8	0.20	-7.18	do	z 49	0.90	do	.118 - 2"	
7.9	0.20	-7.10	do	z 49	0.89	do	do	
7.10	0.20	-7.00	do	z 49	0.87	2'-4"	.118 - 2"	
7.11	0.27	-7.40	U 1 3/8 x 1 1/4 x 0.118	z 51	0.94	2'-5 1/8"	.118 - 2 1/8"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	26'-1 1/2" ==>	2 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	35'-11 5/8" ==>	5 Row(s) Minimum	Deck (36")
			Imposed and conc. load 5 or

POSITION	@ Top Chord	@ Bottom Chord
	18'-7 3/8"	Add 3'-10 1/2"
	37'-4 5/8"	14'-0 1/4"
		28'-0 1/2"
		42'-0 3/4"



Mark : J32A

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

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Add 52'-2 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

3 = at any panel point along the joist

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal

Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994
1870 / 1944

Designer: Qingfang Wu
Area to Paint

Shop: Buckeye Arizona [Production]
: 332.95 ft2

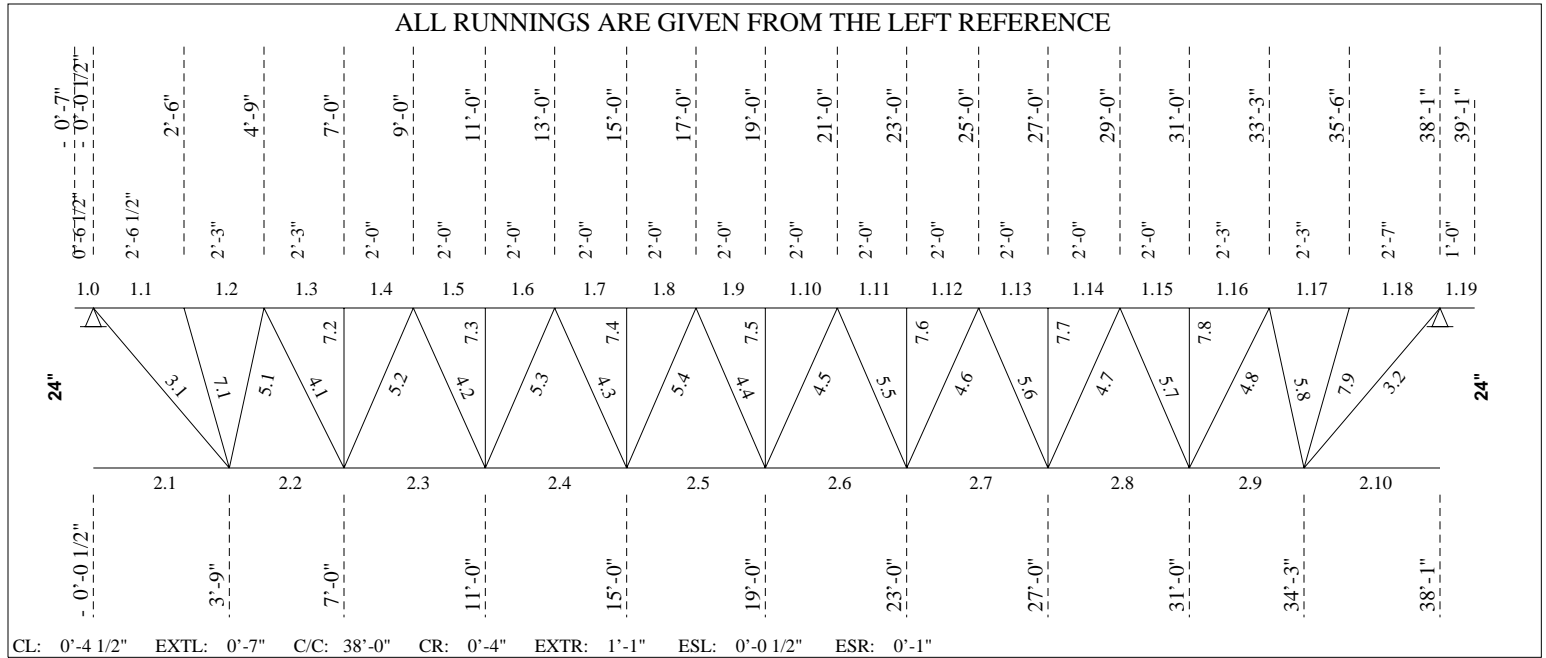
Material Sort : Cost

1238(1286)-1238(1286)-25-22/12-1870(1944) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J34 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 330.23 lb/ft 24KCS3 LIVE LOAD...: 165.12 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.048 ft-kip	(0.313)		
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.04	TL = L/	90 =	0.07
I =	0.54 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/	-164 =	-0.04

Tcx-R	1'-0"	Type	F[S]	Shoe =	2.50	Mf =	-0.165 ft-kip	(0.439)		
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.07	TL = L/	90 =	0.13
I =	0.54 in ⁴				Cal.D. LL = L/	4205 =	0.00	TL = L/	-174 =	-0.07

----- **UPLIFT** -----

Net uplift uniform load : 64.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.26 in (L/ 360)
Calculated deflection under service live load..... =	0.88 in (L/ 515)
Joist inertia..... =	341.05 in ⁴
Required camber..... =	0.58 in



Mark : J34

Project: PROJECT EVELER FREEZER PUYALL

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----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 22.87 in)

Left Reaction = 7.20/ -1.24 kips Right Reaction = 7.20/ -1.27 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend.	Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .186	z 17	0.31	0'-6 1/2"		
1.1	2.15	-11.12	do	z 72	0.66	2'-6 1/2"		
1.2	2.06	-10.62	do	z 69	0.60	2'-3"		
1.3	3.57	-31.48	do	z 51	0.97	2'-3"		
1.4	3.57	-31.48	do	z 46	0.97	2'-0"		
1.5	4.91	-31.48	do	z 46	0.94	do		
1.6	4.91	-31.48	do	z 46	0.94	do		
1.7	5.72	-31.48	do	z 46	0.93	do		
1.8	5.72	-31.48	do	z 46	0.93	do		
1.9	5.99	-31.48	do	z 46	0.93	do		
1.10	5.99	-31.48	do	z 46	0.93	do		
1.11	5.73	-31.48	do	z 46	0.93	do		
1.12	5.73	-31.48	do	z 46	0.93	do		
1.13	4.92	-31.48	do	z 46	0.94	do		
1.14	4.92	-31.48	do	z 46	0.94	do		
1.15	3.58	-31.48	do	z 46	0.97	2'-0"		
1.16	3.58	-31.48	do	z 51	0.97	2'-3"		
1.17	2.08	-10.73	do	z 69	0.61	2'-3"		
1.18	2.18	-11.24	do	z 74	0.67	2'-7"		
1.19	0.00	0.00	LL 2 X .186	z 30	0.44	1'-0"		
Bottom Chord								
2.1	31.48	0.00	LL 2 X .156	z 110	0.87	3'-9 1/2"		
2.2	31.48	-2.57	do	z 99	0.87	3'-3"		
2.3	31.48	-4.31	do	z 121	0.87	4'-0"		
2.4	31.48	-5.38	do	z 121	0.87	do		
2.5	31.48	-5.92	do	z 121	0.87	do		
2.6	31.48	-5.93	do	z 121	0.87	do		
2.7	31.48	-5.39	do	z 121	0.87	do		
2.8	31.48	-4.32	do	z 121	0.87	4'-0"		
2.9	31.48	-2.59	do	z 99	0.87	3'-3"		
2.10	31.48	0.00	LL 2 X .156	z 111	0.87	3'-10"		
End Diagonal								
3.1	15.47	-2.43	BR 1"	yy157	0.73	4'-1 5/8"	.230 - 1 5/8"	
3.2	15.61	-2.45	BR 1"	yy159	0.74	4'-2 1/8"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.14	-11.14	U 1 3/8 X 0.176	z 60	0.94	3'-0 1/8"	.176 - 2 1/8"	
4.2	10.44	-10.44	U 1 3/8 x 0.157	z 56	0.95	2'-10"	.158 - 2 1/4"	
4.3	10.44	-10.44	do	z 56	0.95	do	do	
4.4	10.44	-10.44	do	z 56	0.95	do	do	
4.5	10.44	-10.44	do	z 56	0.95	do	do	
4.6	10.44	-10.44	do	z 56	0.95	do	do	
4.7	10.44	-10.44	U 1 3/8 x 0.157	z 56	0.95	2'-10"	.158 - 2 1/4"	
4.8	11.14	-11.14	U 1 3/8 X 0.176	z 60	0.94	3'-0 1/8"	.176 - 2 1/8"	
Diagonal Towards Center								
5.1	1.11	-8.13	i U 1 3/8 x 0.136	z 45	0.81	2'-2 7/8"	.136 - 2"	
5.2	1.02	-10.44	U 1 3/8 x 0.157	z 56	0.95	2'-10"	.158 - 2 1/4"	
5.3	0.65	-10.44	do	z 56	0.95	do	do	
5.4	0.28	-10.44	do	z 56	0.95	do	do	
5.5	0.28	-10.44	do	z 56	0.95	do	do	



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
5.6	0.65	-10.44	do	z 56 0.95	do	do		
5.7	1.02	-10.44	U 1 3/8 x 0.157	z 56 0.95	2'-10"	.158 - 2 1/4"		
5.8	1.12	-8.13 i	U 1 3/8 x 0.136	z 45 0.81	2'-2 7/8"	.136 - 2"		
Secondary Web Member								
7.1	0.18	-8.61 i	U 1 3/8 x 0.136	z 47 0.88	2'-4 1/4"	.136 - 2 1/8"		
7.2	0.14	-7.20	U 1 3/8 x 1 1/4 x 0.118	z 43 0.85	2'-0"	.118 - 2"		
7.3	0.13	-7.20	do	z 43 0.85	do	do		
7.4	0.13	-7.20	do	z 43 0.85	do	do		
7.5	0.13	-7.20	do	z 43 0.85	do	do		
7.6	0.13	-7.20	do	z 43 0.85	do	do		
7.7	0.13	-7.20	do	z 43 0.85	do	do		
7.8	0.14	-7.20	U 1 3/8 x 1 1/4 x 0.118	z 43 0.85	2'-0"	.118 - 2"		
7.9	0.18	-8.61 i	U 1 3/8 x 0.136	z 47 0.88	2'-4 1/4"	.136 - 2 1/8"		

----- **BRIDGING** -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-2 3/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-6" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-5 7/8" 3'-9"
 19'-0 1/4" 9'-5 7/8"
 28'-6 5/8" 19'-0 1/4"
 34'-3"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

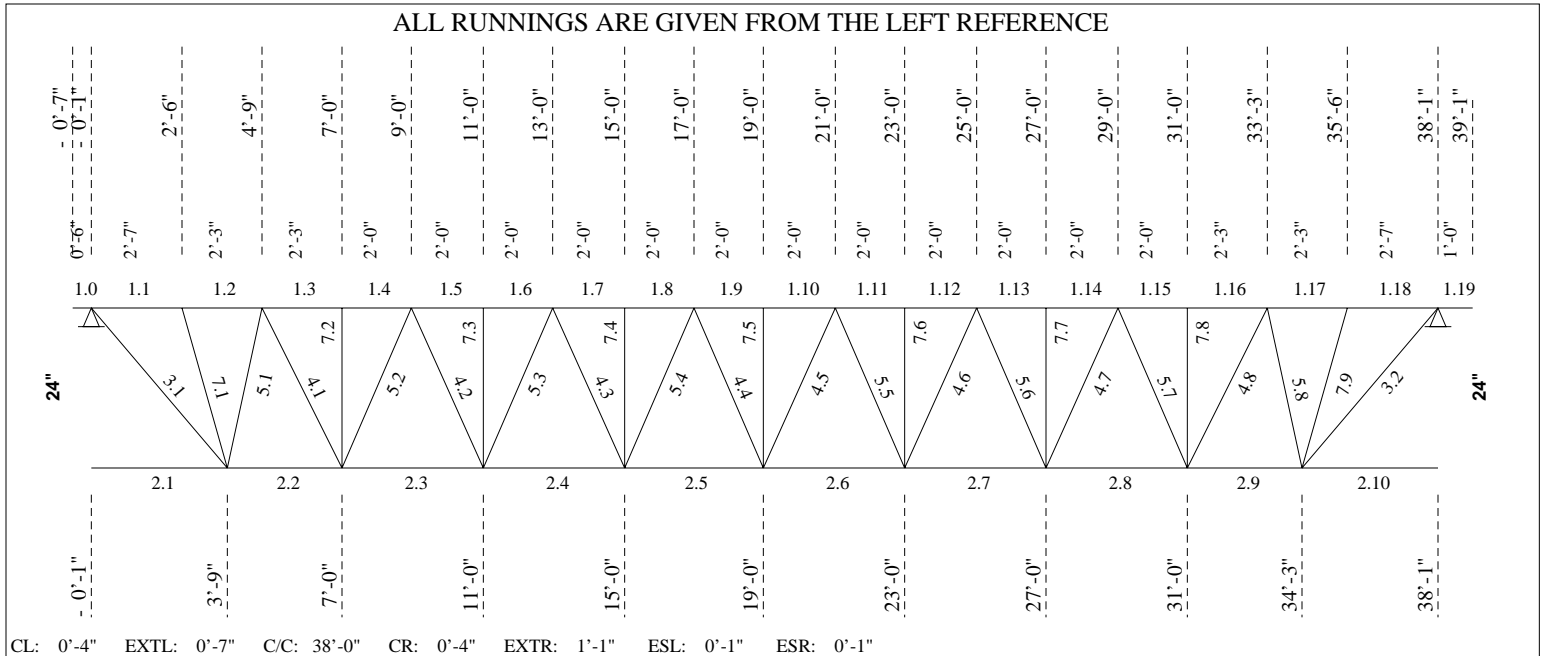
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 471 / 497 Area to Paint : 151.27 ft2 Material Sort : Cost

321(338)-321(338)-25-18/10-471(497) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : J34A (MS 1" KCS, Symmetrical, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 329.51 lb/ft 24KCS3 LIVE LOAD...: 164.76 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.041 ft-kip	(0.287)
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	0.62 in ⁴				Cal.D. LL = L/	9999 =	0.00 TL = L/	-131 = -0.05
Tcx-R	1'-0"	Type	F[S]	Shoe =	2.50	Mf =	-0.165 ft-kip	(0.436)
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.07 TL = L/	90 = 0.13
I =	0.62 in ⁴				Cal.D. LL = L/	4784 =	0.00 TL = L/	-137 = -0.09

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Start	End	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	0.75	0.00	0.00	26'-0"	38'-0"	8	1	90	0
2	1	Both	No	0.75	0.00	0.00	26'-0"	38'-0"	8	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 64.00 lb/ft



Mark : J34A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:53

----- DEFLECTION -----

Allowed deflection under live load..... = 1.26 in (L/ 360)
 Calculated deflection under service live load..... = 0.80 in (L/ 566)
 Joist inertia..... = 375.06 in⁴
 Required camber..... = 0.58 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 22.86 in)

Left Reaction = 7.20/ -1.24 kips Right Reaction = 8.07/ -1.28 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2 X .216	z 15 0.29	0'-6"		
1.1	2.18	-12.22	do	z 74 0.59	2'-7"		
1.2	2.08	-11.71	do	z 69 0.53	2'-3"		
1.3	3.59	-31.50	do	z 52 0.84	2'-3"		
1.4	3.59	-31.50	do	z 46 0.84	2'-0"		
1.5	4.94	-31.50	do	z 46 0.81	do		
1.6	4.94	-31.50	do	z 46 0.81	do		
1.7	5.74	-33.57	do	z 46 0.82	do		
1.8	5.74	-33.57	do	z 46 0.84	do		
1.9	6.01	-36.03	do	z 46 0.88	do		
1.10	6.01	-36.03	do	z 46 0.88	do		
1.11	5.74	-35.72	do	z 46 0.87	do		
1.12	5.74	-35.72	do	z 46 0.94	do		
1.13	4.94	-31.53	do	z 46 0.94	do		
1.14	4.94	-31.53	do	z 46 0.92	do		
1.15	3.59	-31.50	do	z 46 0.97	2'-0"		
1.16	3.59	-31.50	do	z 52 0.97	2'-3"		
1.17	2.08	-13.26	do	z 69 0.70	2'-3"		
1.18	2.18	-13.93	do	z 74 0.78	2'-7"		
1.19	0.00	0.00	LL 2 X .216	z 31 0.44	1'-0"		
Bottom Chord							
2.1	31.50	0.00	LL 2 X .166	z 111 0.82	3'-10"		
2.2	31.50	-2.60	do	z 99 0.82	3'-3"		
2.3	31.50	-4.33	do	z 122 0.82	4'-0"		
2.4	31.50	-5.41	do	z 122 0.85	do		
2.5	35.15	-5.94	do	z 122 0.92	do		
2.6	36.22	-5.94	do	z 122 0.95	do		
2.7	34.53	-5.41	do	z 122 0.90	do		
2.8	31.50	-4.33	do	z 122 0.83	4'-0"		
2.9	31.50	-2.60	do	z 99 0.82	3'-3"		
2.10	31.50	0.00	LL 2 X .166	z 111 0.82	3'-10"		
End Diagonal							
3.1	15.62	-2.46	BR 1"	yy159 0.74	4'-2 1/8"	.230 - 1 5/8"	
3.2	15.70	-2.46	BR 1"	yy159 0.74	4'-2 1/8"	.230 - 1 5/8"	
Diagonal Towards End							
4.1	11.14	-11.14	U 1 3/8 X 0.176	z 60 0.94	3'-0 1/8"	.176 - 2 1/8"	
4.2	10.44	-10.44	U 1 3/8 x 0.157	z 56 0.95	2'-10"	.158 - 2 1/4"	
4.3	10.44	-10.44	do	z 56 0.95	do	do	
4.4	10.44	-10.44	do	z 56 0.95	do	do	
4.5	10.44	-10.44	do	z 56 0.95	do	do	
4.6	10.44	-10.44	do	z 56 0.95	do	do	
4.7	10.44	-10.44	U 1 3/8 x 0.157	z 56 0.95	2'-10"	.158 - 2 1/4"	
4.8	11.14	-11.14	U 1 3/8 X 0.176	z 60 0.94	3'-0 1/8"	.176 - 2 1/8"	



Mark : J34A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:53

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension		Compres.	i	REQUIRED MATERIAL			Slend. Util.	Length	REQUIRED WELD		Remarks
	x	y			x = tied at mid-length	z	t			Weld-Ea.Side		
Diagonal Towards Center												
5.1	1.11	-8.13			U 1 3/8 x 0.136		z 45 0.81	2'-2 7/8"		.136 - 2"		
5.2	1.02	-10.44			U 1 3/8 x 0.157		z 56 0.95	2'-10"		.158 - 2 1/4"		
5.3	0.65	-10.44			do		z 56 0.95	do		do		
5.4	0.28	-10.44			do		z 56 0.95	do		do		
5.5	0.28	-10.44			do		z 56 0.95	do		do		
5.6	0.65	-10.44			do		z 56 0.95	do		do		
5.7	1.02	-10.44			U 1 3/8 x 0.157		z 56 0.95	2'-10"		.158 - 2 1/4"		
5.8	1.12	-8.13		i	U 1 3/8 x 0.136		z 45 0.81	2'-2 7/8"		.136 - 2"		
Secondary Web Member												
7.1	0.18	-8.61		i	U 1 3/8 x 0.136		z 47 0.88	2'-4 1/4"		.136 - 2 1/8"		
7.2	0.14	-7.20			U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"		.118 - 2"		
7.3	0.13	-7.20			do		z 43 0.85	do		do		
7.4	0.13	-7.20			do		z 43 0.85	do		do		
7.5	0.13	-7.20			do		z 43 0.85	do		do		
7.6	0.13	-7.20			do		z 43 0.85	do		do		
7.7	0.13	-7.20			do		z 43 0.85	do		do		
7.8	0.14	-7.20			U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"		.118 - 2"		
7.9	0.18	-8.61		i	U 1 3/8 x 0.136		z 47 0.88	2'-4 1/4"		.136 - 2 1/8"		

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	16'-3" ==>	3 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	24'-6" ==>	5 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-5 1/2"	3'-9"
	19'-0"	9'-5 1/2"
	28'-6 1/2"	19'-0"
		28'-6 1/2"
		34'-3"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Side, Near Side, Far Side
 Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 8 = anywhere along the joist for an interval

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
509 / 536	Area to Paint	: 151.23 ft2
		Material Sort : Cost

346(364)-346(364)-25-18/10-509(536) NNN,NNN



Mark : TJ1

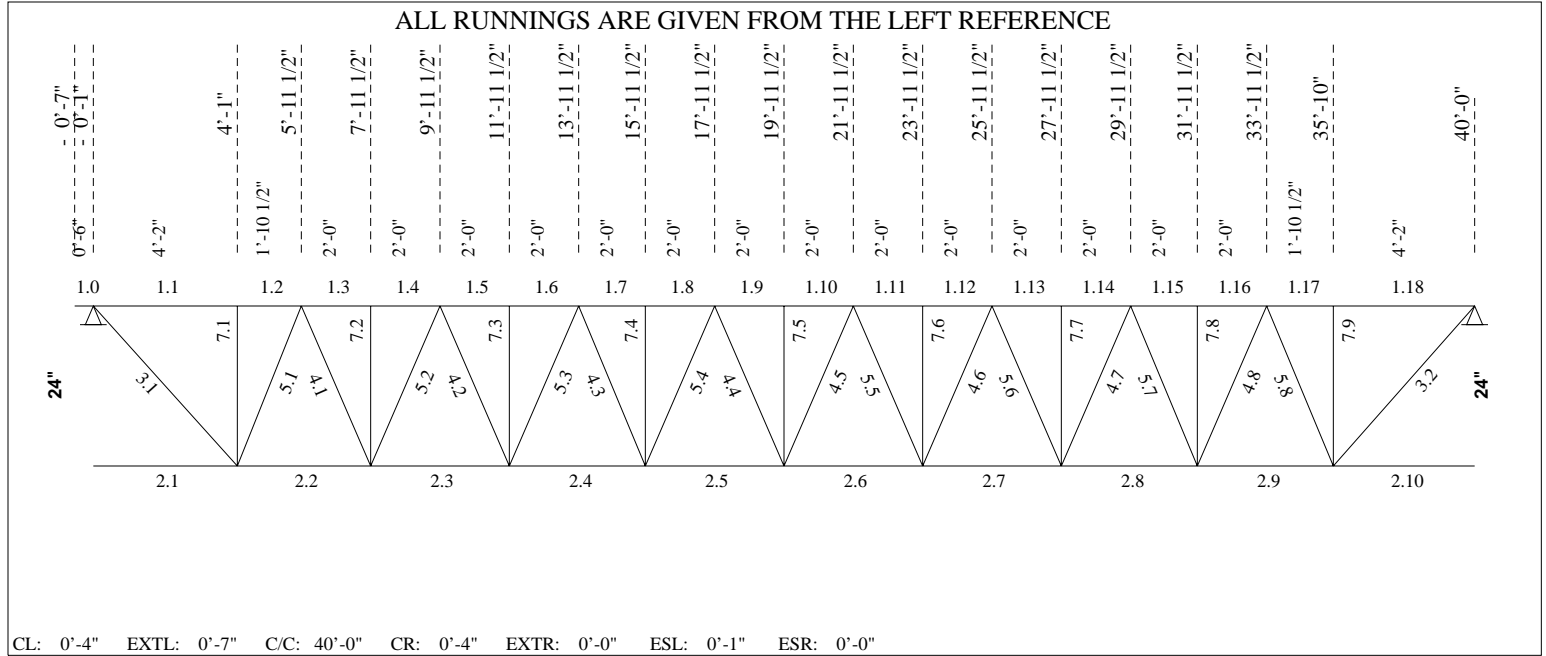
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:53

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ1 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 298.75 lb/ft 24KCS3 LIVE LOAD...: 149.38 lb/ft

----- **EXTENSION** -----

Tcx-L 0'-6" Type F[S] Shoe = 2.50 Mf = -0.037 ft-kip (0.232)
 TL = 299 LL = 149 ntQL = 64 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07
 I = 0.69 in⁴ Cal.D. LL = L/ 9999 = 0.00 TL = L/ -172 = -0.03

----- **UPLIFT** -----

Net uplift uniform load : 64.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.33 in (L/ 360)
 Calculated deflection under service live load..... = 0.87 in (L/ 547)
 Joist inertia..... = 381.44 in⁴
 Required camber..... = 0.63 in



Mark : TJ1

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:53

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 22.85 in)

Left Reaction = 7.20/ -1.30 kips Right Reaction = 7.20/ -1.27 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00		LL 2 X .247	z 15 0.23	0'-6"		
1.1	2.40	-11.22	x	do	xx 79 0.98	4'-2"		
1.2	2.40	-11.22		do	z 58 0.88	1'-10 1/2"		
1.3	4.22	-31.51		do	z 46 0.76	2'-0"		
1.4	4.22	-31.51		do	z 46 0.76	do		
1.5	5.56	-31.51		do	z 46 0.72	do		
1.6	5.56	-31.51		do	z 46 0.72	do		
1.7	6.37	-31.51		do	z 46 0.72	do		
1.8	6.37	-31.51		do	z 46 0.72	do		
1.9	6.64	-31.51		do	z 46 0.72	do		
1.10	6.64	-31.51		do	z 46 0.72	do		
1.11	6.37	-31.51		do	z 46 0.72	do		
1.12	6.37	-31.51		do	z 46 0.72	do		
1.13	5.56	-31.51		do	z 46 0.72	do		
1.14	5.56	-31.51		do	z 46 0.72	do		
1.15	4.22	-31.51		do	z 46 0.76	do		
1.16	4.22	-31.51		do	z 46 0.76	2'-0"		
1.17	2.40	-11.22		do	z 58 0.88	1'-10 1/2"		
1.18	2.40	-11.22	x	LL 2 X .247	xx 79 0.98	4'-2"		
Bottom Chord								
2.1	31.51	0.00		LL 2 X .156	z 121 0.88	4'-2"		
2.2	31.51	-3.34		do	z 118 0.88	3'-10 1/2"		
2.3	31.51	-4.96		do	z 121 0.88	4'-0"		
2.4	31.51	-6.03		do	z 121 0.88	do		
2.5	31.51	-6.57		do	z 121 0.88	do		
2.6	31.51	-6.57		do	z 121 0.88	do		
2.7	31.51	-6.03		do	z 121 0.88	do		
2.8	31.51	-4.96		do	z 121 0.88	4'-0"		
2.9	31.51	-3.34		do	z 118 0.88	3'-10 1/2"		
2.10	31.51	0.00		LL 2 X .156	z 121 0.88	4'-2"		
End Diagonal								
3.1	16.75	-2.66		BR 1"	yy170 0.79	4'-5 5/8"	.230 - 1 3/4"	
3.2	16.75	-2.66		BR 1"	yy170 0.79	4'-5 5/8"	.230 - 1 3/4"	
Diagonal Towards End								
4.1	10.44	-10.44		U 1 3/8 x 0.157	z 56 0.96	2'-10"	.158 - 2 1/4"	
4.2	10.44	-10.44		do	z 56 0.96	do	do	
4.3	10.44	-10.44		do	z 56 0.96	do	do	
4.4	10.44	-10.44		do	z 56 0.96	do	do	
4.5	10.44	-10.44		do	z 56 0.96	do	do	
4.6	10.44	-10.44		do	z 56 0.96	do	do	
4.7	10.44	-10.44		do	z 56 0.96	do	do	
4.8	10.44	-10.44		U 1 3/8 x 0.157	z 56 0.96	2'-10"	.158 - 2 1/4"	
Diagonal Towards Center								
5.1	1.34	-10.10	i	U 1 3/8 x 0.157	z 54 0.91	2'-8 7/8"	.158 - 2 1/8"	
5.2	1.02	-10.44		do	z 56 0.96	2'-10"	.158 - 2 1/4"	
5.3	0.65	-10.44		do	z 56 0.96	do	do	
5.4	0.28	-10.44		do	z 56 0.96	do	do	
5.5	0.28	-10.44		do	z 56 0.96	do	do	
5.6	0.65	-10.44		do	z 56 0.96	do	do	



Mark : TJ1

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
5.7	1.02	-10.44		do		z 56 0.96	2'-10"	.158 -	2 1/4"	
5.8	1.34	-10.10	i	U 1 3/8 x 0.157		z 54 0.91	2'-8 7/8"	.158 -	2 1/8"	
Secondary Web Member										
7.1	0.19	-7.20	i	U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"	.118 -	2"	
7.2	0.13	-7.20		do		z 43 0.85	do		do	
7.3	0.13	-7.20		do		z 43 0.85	do		do	
7.4	0.13	-7.20		do		z 43 0.85	do		do	
7.5	0.13	-7.20		do		z 43 0.85	do		do	
7.6	0.13	-7.20		do		z 43 0.85	do		do	
7.7	0.13	-7.20		do		z 43 0.85	do		do	
7.8	0.13	-7.20		do		z 43 0.85	do		do	
7.9	0.19	-7.20	i	U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"	.118 -	2"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	16'-3 1/8" ==>	3 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	24'-5 1/2" ==>	5 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-11 1/4"	4'-1"
	19'-11 1/2"	9'-11 1/4"
	29'-11 3/4"	19'-11 1/2"
		29'-11 3/4"
		35'-10"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

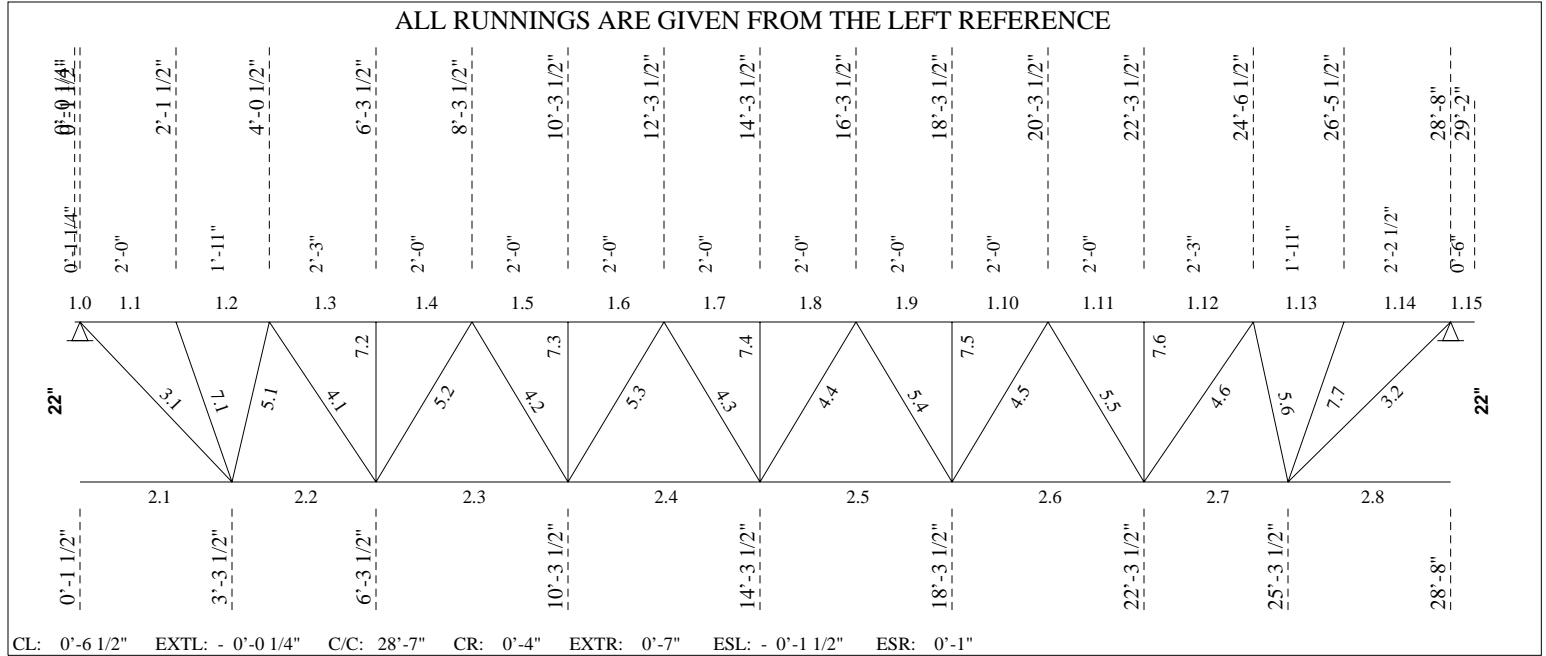
Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
537 / 566	Area to Paint : 152.39 ft2	Material Sort : Cost

363(382)-363(382)-25-18/10-537(566) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ3 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 335.00 lb/ft 22K4 LIVE LOAD...: 254.83 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-1 1/4"	Type	F[S]	Shoe =	2.50	Mf =	-0.002 ft-kip	(0.289)
TL =	335	LL =	255 ntQL =	84	Req.D. LL = L/	180 =	0.01	TL = L/ 90 = 0.01
I =	0.19 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -463 = 0.00
Tcx-R	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.042 ft-kip	(0.397)
TL =	335	LL =	255 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	0.19 in ⁴				Cal.D. LL = L/	7682 =	0.00	TL = L/ -501 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	0.94 in (L/ 360)
Calculated deflection under service live load..... =	0.73 in (L/ 465)
Joist inertia..... =	197.37 in ⁴
Required camber..... =	0.36 in



Mark : TJ3

Project: PROJECT EVELER FREEZER PUYALL

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----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 21.14 in)

Left Reaction = 4.76/ -1.19 kips Right Reaction = 4.89/ -1.23 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 1.5 X .155	z	4	0.29	0'-1 1/4"	
1.1	1.89	-7.52	do	z	75	0.61	2'-0"	
1.2	1.78	-7.11	do	z	78	0.76	1'-11"	
1.3	3.18	-12.67	do	z	69	0.78	2'-3"	
1.4	3.18	-12.67	do	z	61	0.90	2'-0"	
1.5	4.34	-17.31	do	z	61	0.91	do	
1.6	4.34	-17.31	do	z	61	0.97	do	
1.7	4.74	-18.91	do	z	61	0.99	do	
1.8	4.74	-18.91	do	z	61	0.99	do	
1.9	4.38	-17.47	do	z	61	0.97	do	
1.10	4.38	-17.47	do	z	61	0.92	do	
1.11	3.26	-12.99	do	z	61	0.90	2'-0"	
1.12	3.26	-12.99	do	z	69	0.80	2'-3"	
1.13	1.89	-7.54	do	z	78	0.76	1'-11"	
1.14	2.00	-7.98	do	z	83	0.68	2'-2 1/2"	
1.15	0.00	0.00	LL 1.5 X .155	z	20	0.40	0'-6"	
Bottom Chord								
2.1	0.00	0.00	LL 1.5 X .155	z	122	0.30	3'-2"	
2.2	8.72	-2.19	do	z	110	0.54	3'-0"	
2.3	15.37	-3.85	do	z	147	0.65	4'-0"	
2.4	18.49	-4.64	do	z	147	0.75	do	
2.5	18.57	-4.66	do	z	147	0.75	do	
2.6	15.61	-3.91	do	z	147	0.65	4'-0"	
2.7	9.13	-2.29	do	z	110	0.54	3'-0"	
2.8	0.00	0.00	LL 1.5 X .155	z	131	0.32	3'-4 1/2"	
End Diagonal								
3.1	8.72	-2.19	BR 1"	yy134	0.41	3'-6 1/4"	.230 - 0 7/8"	
3.2	9.11	-2.28	BR 1"	yy141	0.43	3'-8 3/8"	.230 - 1"	
Diagonal Towards End								
4.1	5.73	-1.26	U 1 x 1 1/8 x 0.118	z	74	0.58	2'-10 7/8"	.118 - 1 5/8"
4.2	3.52	-0.65	U 1 x 3/4 x 0.091	z	99	0.58	2'-8 1/2"	.091 - 1 1/2"
4.3	2.04	-1.31	do	z	99	0.46	do	do
4.4	1.96	-1.31	do	z	99	0.46	do	do
4.5	3.44	-0.62	U 1 x 3/4 x 0.091	z	99	0.57	2'-8 1/2"	.091 - 1 1/2"
4.6	5.63	-1.23	U 1 x 1 1/8 x 0.118	z	74	0.57	2'-10 7/8"	.118 - 1 5/8"
Diagonal Towards Center								
5.1	1.03	-4.12	U 1 x 0.091	z	52	0.90	1'-11 3/4"	.090 - 1 1/2"
5.2	0.90	-4.35	U 1 x 1 1/8 x 0.118	z	69	0.88	2'-8 1/2"	.118 - 1 1/2"
5.3	0.39	-2.75	U 1 x 3/4 x 0.091	z	99	0.97	do	.091 - 1 1/2"
5.4	0.37	-2.68	U 1 x 3/4 x 0.091	z	99	0.95	do	.091 - 1 1/2"
5.5	0.88	-4.26	U 1 x 1 1/8 x 0.118	z	69	0.86	2'-8 1/2"	.118 - 1 1/2"
5.6	1.02	-4.05	U 1 x 0.091	z	52	0.89	1'-11 3/4"	.090 - 1 1/2"
Secondary Web Member								
7.1	0.19	-0.79	U 1 x 3/4 x 0.091	z	78	0.22	2'-2 1/8"	.091 - 1"
7.2	0.18	-0.78	do	z	65	0.19	1'-10"	do
7.3	0.17	-0.76	do	z	65	0.19	do	do
7.4	0.17	-0.77	do	z	65	0.19	do	do
7.5	0.17	-0.76	do	z	65	0.19	do	do



Mark : TJ3

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:53

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
7.6	0.18	-0.78	do	z 65 0.19	1'-10"	do		
7.7	0.20	-0.84	U 1 x 3/4 x 0.091	z 78 0.23	2'-2 1/8"	.091 - 1"		

----- **BRIDGING** -----

Maximum spacing between rows of bridging
 @ Top Chord: 13'-11 3/8" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 20'-9 3/8" ==> 4 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-7 5/8" 3'-3 1/2"
 19'-1 7/8" 9'-7 5/8"
 19'-1 7/8" 19'-1 7/8"
 25'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

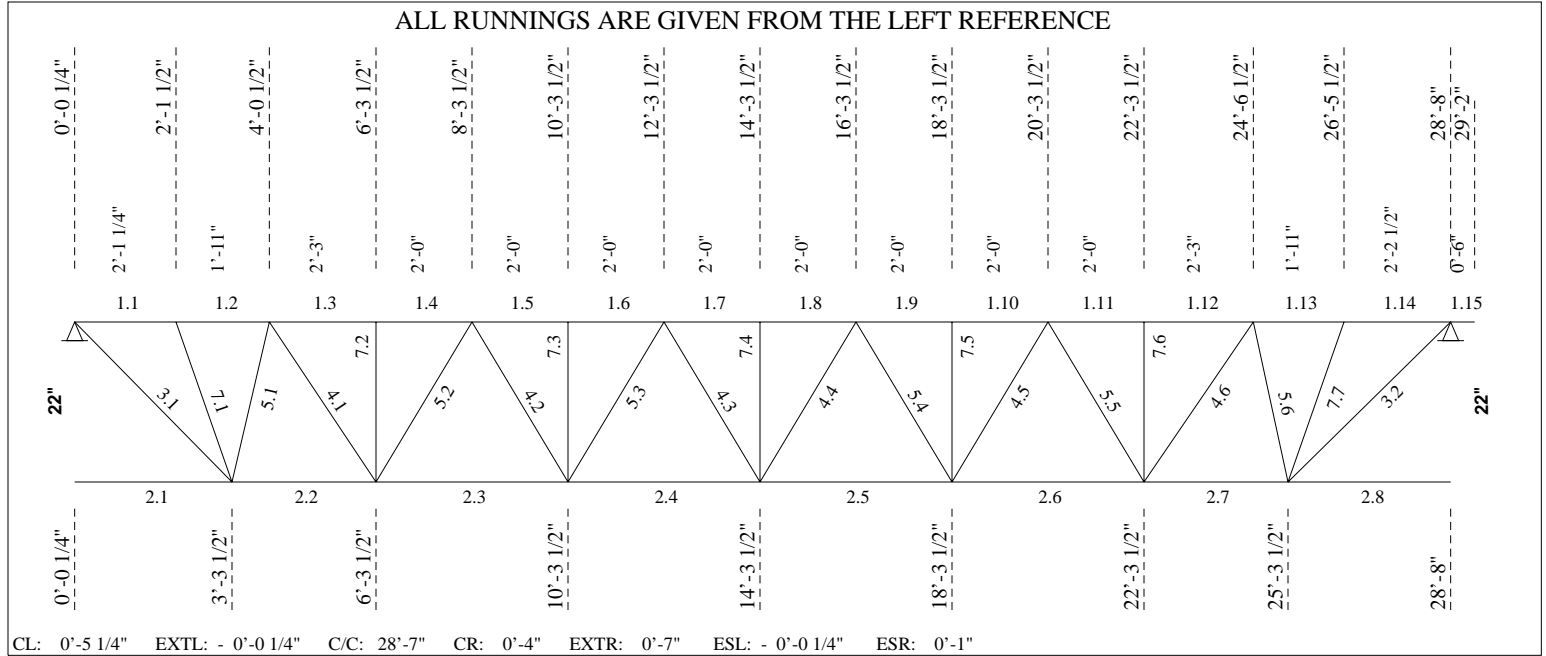
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 214 / 244 Area to Paint : 81.71 ft2 Material Sort : Cost

150(171)-150(171)-25-14/8-214(244) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ3A (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 332.50 lb/ft 22K4 LIVE LOAD...: 251.92 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-6" Type F[S] Shoe = 2.50 Mf = -0.042 ft-kip (0.395)
 TL = 332 LL = 252 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07
 I = 0.19 in^4 Cal.D. LL = L/ 7780 = 0.00 TL = L/ -492 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.94 in (L/ 360)
 Calculated deflection under service live load..... = 0.73 in (L/ 465)
 Joist inertia..... = 197.37 in^4
 Required camber..... = 0.36 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 21.14 in)

Left Reaction = 4.71/ -1.19 kips Right Reaction = 4.87/ -1.23 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	1.95	-7.73	LL 1.5 X .155	z 79 0.64	2'-1 1/4"		
1.2	1.84	-7.30	do	z 78 0.75	1'-11"		
1.3	3.23	-12.79	do	z 69 0.79	2'-3"		
1.4	3.23	-12.79	do	z 61 0.89	2'-0"		
1.5	4.39	-17.36	do	z 61 0.92	do		
1.6	4.39	-17.36	do	z 61 0.97	do		
1.7	4.78	-18.91	do	z 61 0.99	do		
1.8	4.78	-18.91	do	z 61 0.99	do		
1.9	4.41	-17.44	do	z 61 0.97	do		
1.10	4.41	-17.44	do	z 61 0.92	do		
1.11	3.27	-12.95	do	z 61 0.90	2'-0"		
1.12	3.27	-12.95	do	z 69 0.80	2'-3"		
1.13	1.90	-7.52	do	z 78 0.76	1'-11"		
1.14	2.01	-7.95	do	z 83 0.68	2'-2 1/2"		
1.15	0.00	0.00	LL 1.5 X .155	z 20 0.40	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 1.5 X .155	z 126 0.31	3'-3 1/4"		
2.2	8.90	-2.25	do	z 110 0.54	3'-0"		
2.3	15.46	-3.90	do	z 147 0.65	4'-0"		
2.4	18.51	-4.68	do	z 147 0.76	do		
2.5	18.55	-4.69	do	z 147 0.76	do		
2.6	15.57	-3.93	do	z 147 0.65	4'-0"		
2.7	9.10	-2.30	do	z 110 0.54	3'-0"		
2.8	0.00	0.00	LL 1.5 X .155	z 131 0.32	3'-4 1/2"		
End Diagonal							
3.1	8.88	-2.24	BR 1"	yy137 0.42	3'-7 1/4"	.230 - 0 7/8"	
3.2	9.07	-2.29	BR 1"	yy141 0.43	3'-8 3/8"	.230 - 1"	
Diagonal Towards End							
4.1	5.66	-1.25	U 1 x 0.091	z 77 0.75	2'-10 7/8"	.090 - 2 1/8"	
4.2	3.48	-0.64	U 1 x 3/4 x 0.091	z 99 0.57	2'-8 1/2"	.091 - 1 1/2"	
4.3	2.01	-1.32	do	z 99 0.47	do	do	
4.4	1.97	-1.32	do	z 99 0.47	do	do	
4.5	3.44	-0.63	U 1 x 3/4 x 0.091	z 99 0.57	2'-8 1/2"	.091 - 1 1/2"	
4.6	5.61	-1.24	U 1 x 0.091	z 77 0.75	2'-10 7/8"	.090 - 2 1/8"	
Diagonal Towards Center							
5.1	1.03	-4.07	U 1 x 0.091	z 52 0.89	1'-11 3/4"	.090 - 1 1/2"	
5.2	0.90	-4.30	U 1 x 1 1/8 x 0.118	z 69 0.87	2'-8 1/2"	.118 - 1 1/2"	
5.3	0.39	-2.72	U 1 x 3/4 x 0.091	z 99 0.96	do	.091 - 1 1/2"	
5.4	0.38	-2.68	U 1 x 3/4 x 0.091	z 99 0.95	do	.091 - 1 1/2"	
5.5	0.88	-4.25	U 1 x 1 1/8 x 0.118	z 69 0.86	2'-8 1/2"	.118 - 1 1/2"	
5.6	1.02	-4.04	U 1 x 0.091	z 52 0.88	1'-11 3/4"	.090 - 1 1/2"	
Secondary Web Member							
7.1	0.19	-0.81	U 1 x 3/4 x 0.091	z 78 0.22	2'-2 1/8"	.091 - 1"	
7.2	0.18	-0.77	do	z 65 0.19	1'-10"	do	
7.3	0.17	-0.76	do	z 65 0.18	do	do	
7.4	0.17	-0.76	do	z 65 0.19	do	do	
7.5	0.17	-0.76	do	z 65 0.18	do	do	
7.6	0.18	-0.77	do	z 65 0.19	1'-10"	do	



Mark : TJ3A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:53

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
7.7	0.20	-0.83	U 1 x 3/4 x 0.091		z 78 0.23	2'-2 1/8"	.091 - 1"		

----- BRIDGING -----

Maximum spacing between rows of bridging

@ Top Chord:	13'-10" ==>	2 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	20'-8 1/8" ==>	4 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-6 7/8"	3'-3 1/2"
	19'-1 3/8"	9'-6 7/8"
		19'-1 3/8"
		25'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

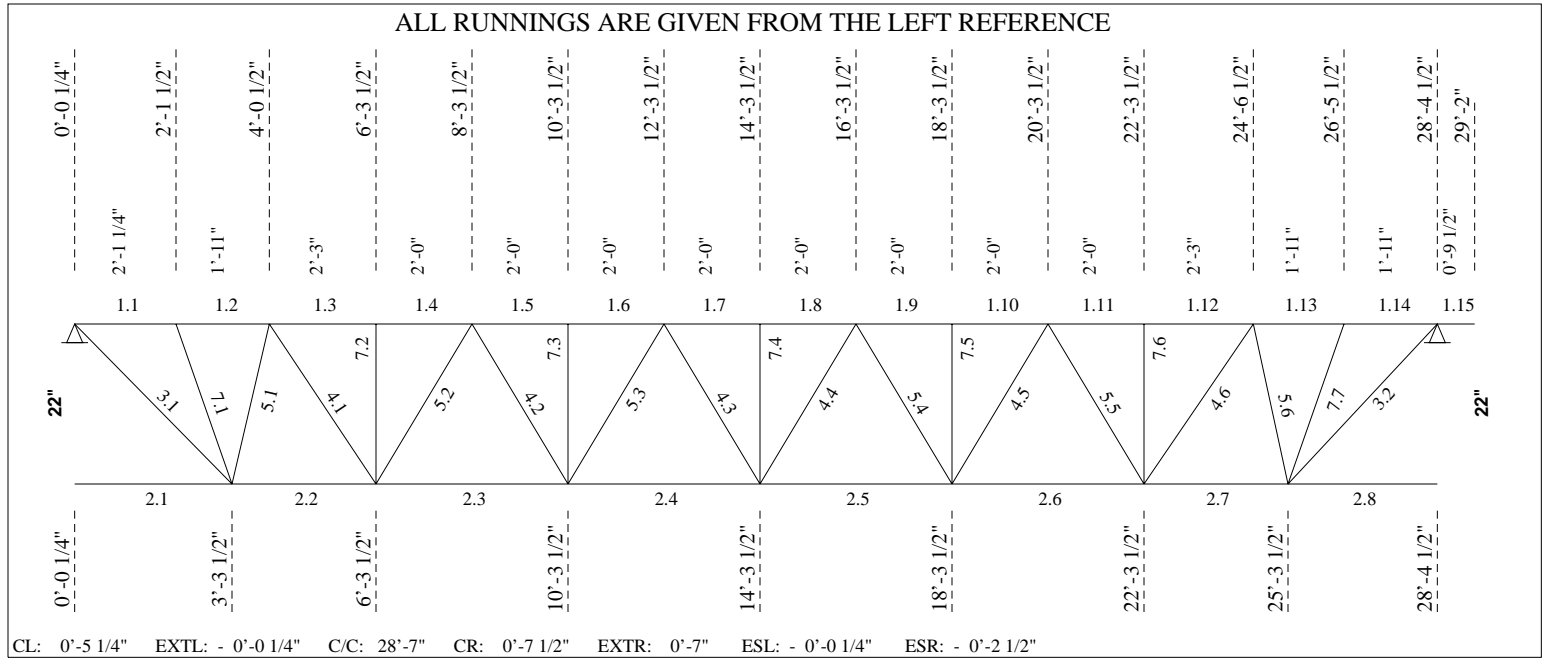
Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
212	/	242	Area to Paint	:	81.50 ft2
					Material Sort : Cost

149(169)-149(169)-25-14/8-212(242) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ3B (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 339.50 lb/ft 22K4 LIVE LOAD...: 260.08 lb/ft

----- **EXTENSION** -----

Tcx-R	0'-9 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.106 ft-kip	(0.521)
TL =	340	LL =	260	ntQL =	84	Req.D. LL = L/	180 =	0.05
I =	0.19 in ⁴			Cal.D. LL = L/	1947 =	0.00	TL = L/	-698 =
							90 =	0.11
								-0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load.....	=	0.93 in (L/ 360)
Calculated deflection under service live load.....	=	0.72 in (L/ 464)
Joist inertia.....	=	197.37 in ⁴
Required camber.....	=	0.35 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 21.14 in)

Left Reaction = 4.76/ -1.18 kips Right Reaction = 5.03/ -1.24 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	1.93	-7.80	LL 1.5 X .155	z 79	0.65	2'-1 1/4"		
1.2	1.82	-7.37	do	z 78	0.76	1'-11"		
1.3	3.19	-12.89	do	z 69	0.80	2'-3"		
1.4	3.19	-12.89	do	z 61	0.90	2'-0"		
1.5	4.32	-17.44	do	z 61	0.92	do		
1.6	4.32	-17.44	do	z 61	0.97	do		
1.7	4.68	-18.91	do	z 61	0.99	do		
1.8	4.68	-18.91	do	z 61	0.99	do		
1.9	4.28	-17.30	do	z 61	0.97	do		
1.10	4.28	-17.30	do	z 61	0.92	do		
1.11	3.12	-12.60	do	z 61	0.90	2'-0"		
1.12	3.12	-12.60	do	z 69	0.78	2'-3"		
1.13	1.72	-6.97	do	z 78	0.78	1'-11"		
1.14	1.83	-7.38	do	z 71	0.59	1'-11"		
1.15	0.00	0.00	LL 1.5 X .155	z 32	0.52	0'-9 1/2"		
Bottom Chord								
2.1	0.00	0.00	LL 1.5 X .155	z 126	0.31	3'-3 1/4"		
2.2	8.98	-2.22	do	z 110	0.54	3'-0"		
2.3	15.55	-3.85	do	z 147	0.65	4'-0"		
2.4	18.56	-4.59	do	z 147	0.74	do		
2.5	18.49	-4.58	do	z 147	0.74	do		
2.6	15.34	-3.79	do	z 147	0.65	4'-0"		
2.7	8.60	-2.13	do	z 110	0.54	3'-0"		
2.8	0.00	0.00	LL 1.5 X .155	z 119	0.30	3'-1"		
End Diagonal								
3.1	8.97	-2.22	BR 1"	yy137	0.42	3'-7 1/4"	.230 - 1"	
3.2	8.62	-2.13	BR 1"	yy131	0.41	3'-5 3/8"	.230 - 0 7/8"	
Diagonal Towards End								
4.1	5.70	-1.23	U 1 x 1 1/8 x 0.118	z 74	0.57	2'-10 7/8"	.118 - 1 5/8"	
4.2	3.48	-0.62	U 1 x 3/4 x 0.091	z 99	0.57	2'-8 1/2"	.091 - 1 1/2"	
4.3	1.99	-1.32	do	z 99	0.47	do	do	
4.4	2.05	-1.32	do	z 99	0.47	do	do	
4.5	3.56	-0.65	U 1 x 3/4 x 0.091	z 99	0.59	2'-8 1/2"	.091 - 1 1/2"	
4.6	5.80	-1.26	U 1 x 1 1/8 x 0.118	z 74	0.58	2'-10 7/8"	.118 - 1 5/8"	
Diagonal Towards Center								
5.1	1.01	-4.10	U 1 x 0.091	z 52	0.90	1'-11 3/4"	.090 - 1 1/2"	
5.2	0.88	-4.32	U 1 x 1 1/8 x 0.118	z 69	0.87	2'-8 1/2"	.118 - 1 1/2"	
5.3	0.37	-2.71	U 1 x 3/4 x 0.091	z 99	0.96	do	.091 - 1 1/2"	
5.4	0.39	-2.78	U 1 x 3/4 x 0.091	z 99	0.98	do	.091 - 1 1/2"	
5.5	0.90	-4.40	U 1 x 1 1/8 x 0.118	z 69	0.89	2'-8 1/2"	.118 - 1 1/2"	
5.6	1.04	-4.19	U 1 x 0.091	z 52	0.92	1'-11 3/4"	.090 - 1 5/8"	
Secondary Web Member								
7.1	0.19	-0.83	U 1 x 3/4 x 0.091	z 78	0.23	2'-2 1/8"	.091 - 1"	
7.2	0.18	-0.79	do	z 65	0.19	1'-10"	do	
7.3	0.17	-0.77	do	z 65	0.19	do	do	
7.4	0.17	-0.78	do	z 65	0.19	do	do	
7.5	0.17	-0.77	do	z 65	0.19	do	do	
7.6	0.18	-0.79	do	z 65	0.19	1'-10"	do	



Mark : TJ3B

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:54

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
7.7	0.18	-0.79	U 1 x 3/4 x 0.091	z 78 0.21	2'-2 1/8"	.091 - 1"		

----- **BRIDGING** -----

Maximum spacing between rows of bridging

@ Top Chord:	13'-10 1/4" ==>	2 Row(s) Minimum	Lateral Supports Deck (36")
@ Bottom Chord:	20'-8 1/8" ==>	4 Row(s) Minimum	Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-5 5/8"	3'-3 1/2"
	18'-11 1/8"	9'-5 5/8"
		18'-11 1/8"
		25'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	213 / 245		Area to Paint	:	81.98 ft2
					Material Sort : Cost

150(171)-150(171)-25-14/8-213(245) NNN,NNN



Mark : TJ6

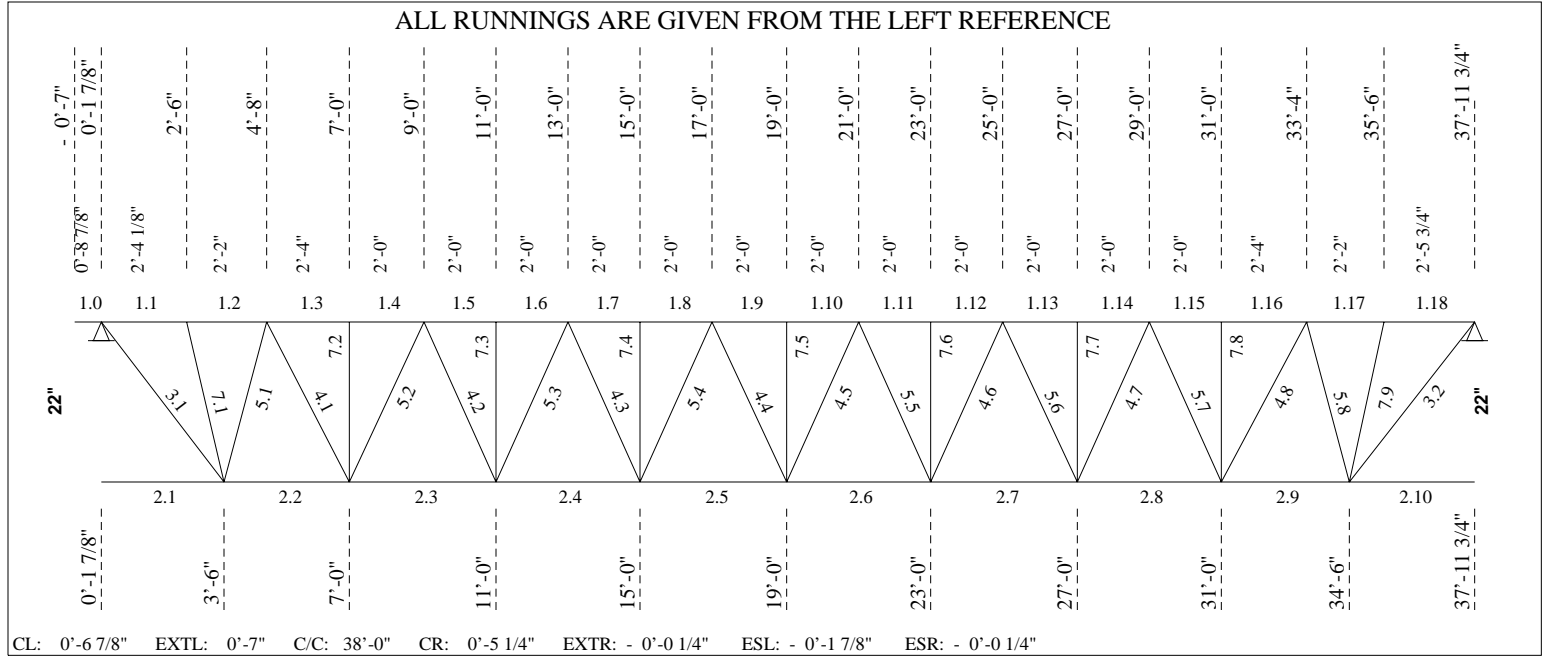
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:54

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ6 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 311.01 lb/ft 22K9 LIVE LOAD...: 172.66 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-8 7/8"	Type	F[S]	Shoe =	2.50	Mf =	-0.085 ft-kip	(0.362)
TL =	311	LL =	173 ntQL =	84	Req.D. LL = L/	180 =	0.05 TL = L/	90 = 0.10
I =	0.49 in^4				Cal.D. LL = L/	8751 =	0.00 TL = L/	-161 = -0.06

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.25 in (L/ 360)
Calculated deflection under service live load..... =	1.12 in (L/ 400)
Joist inertia..... =	270.19 in^4
Required camber..... =	0.57 in



Mark : TJ6

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:54

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.88 in)

Left Reaction = 6.06/ -1.64 kips Right Reaction = 5.83/ -1.57 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .166	z 22	0.36	0'-8 7/8"		
1.1	2.71	-10.02	do	z 66	0.49	2'-4 1/8"		
1.2	2.60	-9.64	do	z 66	0.64	2'-2"		
1.3	4.96	-18.38	do	z 53	0.65	2'-4"		
1.4	4.96	-18.38	do	z 46	0.78	2'-0"		
1.5	6.91	-25.58	do	z 46	0.83	do		
1.6	6.91	-25.58	do	z 46	0.90	do		
1.7	8.08	-29.92	do	z 46	0.97	do		
1.8	8.08	-29.92	do	z 46	0.97	do		
1.9	8.48	-31.39	x do	zz 30	0.94	do		
1.10	8.48	-31.39	x do	zz 30	0.94	do		
1.11	8.11	-30.01	do	z 46	0.97	do		
1.12	8.11	-30.01	do	z 46	0.97	do		
1.13	6.96	-25.77	do	z 46	0.91	do		
1.14	6.96	-25.77	do	z 46	0.84	do		
1.15	5.04	-18.67	do	z 46	0.79	2'-0"		
1.16	5.04	-18.67	do	z 53	0.66	2'-4"		
1.17	2.70	-10.01	do	z 66	0.63	2'-2"		
1.18	2.81	-10.41	LL 2 X .166	z 70	0.52	2'-5 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 96	0.33	3'-4 1/8"		
2.2	12.86	-3.47	do	z 96	0.57	3'-6"		
2.3	22.34	-6.03	do	z 109	0.72	4'-0"		
2.4	28.11	-7.59	do	z 109	0.80	do		
2.5	31.01	-8.38	do	z 109	0.86	do		
2.6	31.06	-8.39	do	z 109	0.86	do		
2.7	28.25	-7.63	do	z 109	0.80	do		
2.8	22.58	-6.10	do	z 109	0.72	4'-0"		
2.9	13.21	-3.57	do	z 96	0.58	3'-6"		
2.10	0.00	0.00	LL 2 X .156	z 100	0.34	3'-5 3/4"		
End Diagonal								
3.1	11.43	-3.09	BR 1"	yy139	0.56	3'-8"	.230 - 1 1/8"	
3.2	11.76	-3.18	BR 1"	yy144	0.62	3'-9 3/8"	.230 - 1 1/4"	
Diagonal Towards End								
4.1	7.59	-1.86	U 1 x 1 1/8 x 0.118	z 76	0.76	2'-11 5/8"	.118 - 2 1/8"	
4.2	5.13	-1.16	U 1 x 3/4 x 0.091	z 98	0.84	2'-8 1/2"	.091 - 1 7/8"	
4.3	3.64	-0.65	do	z 98	0.60	do	.091 - 1 1/2"	
4.4	2.31	-1.65	do	z 98	0.58	do	do	
4.5	2.31	-1.65	do	z 98	0.58	do	do	
4.6	3.59	-0.63	do	z 98	0.59	do	.091 - 1 1/2"	
4.7	5.07	-1.14	U 1 x 3/4 x 0.091	z 98	0.84	2'-8 1/2"	.091 - 1 7/8"	
4.8	7.52	-1.84	U 1 x 1 1/8 x 0.118	z 76	0.76	2'-11 5/8"	.118 - 2 1/8"	
Diagonal Towards Center								
5.1	1.57	-5.87	U 1 x 1 1/8 x 0.118	z 54	0.99	2'-2 1/8"	.118 - 1 3/4"	
5.2	1.42	-5.93	U 1 x 1 1/4 x 0.136	z 63	0.98	2'-8 1/2"	.136 - 1 1/2"	
5.3	0.91	-4.36	U 1 x 1 1/8 x 0.118	z 69	0.88	do	.118 - 1 1/2"	
5.4	0.39	-2.95	U 1 x 0.091	z 72	0.83	do	.090 - 1 1/2"	
5.5	0.38	-2.90	U 1 x 0.091	z 72	0.82	do	.090 - 1 1/2"	
5.6	0.89	-4.31	U 1 x 1 1/8 x 0.118	z 69	0.87	do	.118 - 1 1/2"	



Mark : TJ6

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:54

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
5.7	1.40	-5.87	U 1 x 1 1/4 x 0.136	z 63 0.97	2'-8 1/2"	.136 - 1 1/2"		
5.8	1.55	-5.82	U 1 x 1 1/8 x 0.118	z 54 0.98	2'-2 1/8"	.118 - 1 5/8"		
Secondary Web Member								
7.1	0.21	-0.83	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		
7.2	0.18	-0.77	do	z 65 0.19	1'-10"	do		
7.3	0.17	-0.76	do	z 65 0.18	do	do		
7.4	0.17	-0.78	do	z 65 0.19	do	do		
7.5	0.17	-0.79	do	z 65 0.19	do	do		
7.6	0.17	-0.78	do	z 65 0.19	do	do		
7.7	0.17	-0.76	do	z 65 0.18	do	do		
7.8	0.18	-0.77	do	z 65 0.19	1'-10"	do		
7.9	0.22	-0.86	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-11 1/2" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-6 3/4" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-7 3/8" 3'-6"
 19'-0 3/4" 9'-7 3/8"
 28'-6 1/4" 19'-0 3/4"
 28'-6 1/4" 28'-6 1/4"
 34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 374 / 411 Area to Paint : 133.13 ft2 Material Sort : Cost

253(278)-253(278)-25-18/10-374(411) NNN,NNN



Mark : TJ6B

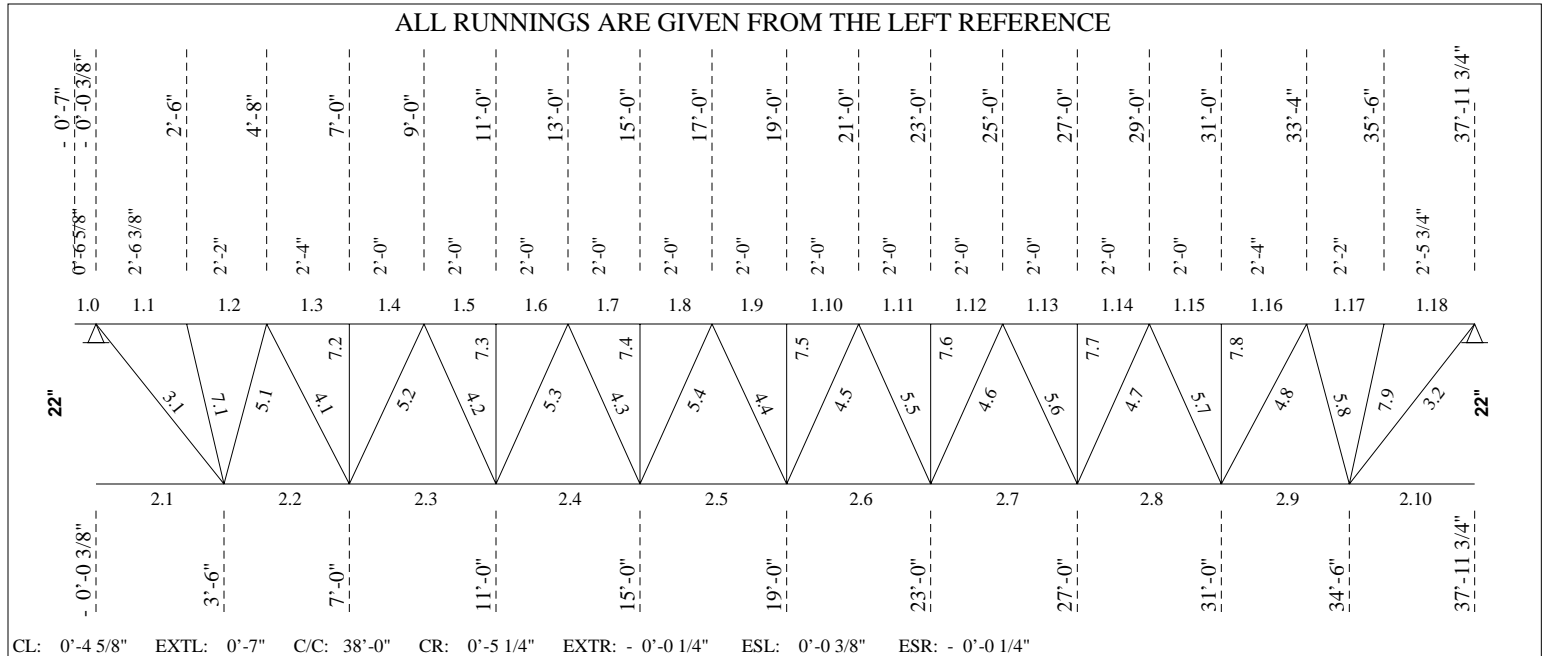
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:54

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ6B (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 307.83 lb/ft 22K9 LIVE LOAD...: 169.86 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6 5/8"	Type	F[S]	Shoe =	2.50	Mf =	-0.047 ft-kip	(0.330)
TL =	308	LL =	170 ntQL =	84	Req.D. LL = L/	180 =	0.04 TL = L/	90 = 0.07
I =	0.49 in ⁴				Cal.D. LL = L/	9999 =	0.00 TL = L/	-156 = -0.04

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.26 in (L/ 360)
Calculated deflection under service live load..... =	1.13 in (L/ 400)
Joist inertia..... =	270.19 in ⁴
Required camber..... =	0.58 in



Mark : TJ6B

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:54

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.88 in)

Left Reaction = 5.97/ -1.63 kips Right Reaction = 5.80/ -1.58 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .166	z 17	0.33	0'-6 5/8"		
1.1	2.87	-10.51	do	z 72	0.53	2'-6 3/8"		
1.2	2.76	-10.11	do	z 66	0.64	2'-2"		
1.3	5.10	-18.71	do	z 53	0.66	2'-4"		
1.4	5.10	-18.71	do	z 46	0.79	2'-0"		
1.5	7.03	-25.76	do	z 46	0.84	do		
1.6	7.03	-25.76	do	z 46	0.91	do		
1.7	8.18	-29.99	do	z 46	0.97	do		
1.8	8.18	-29.99	do	z 46	0.97	do		
1.9	8.56	-31.39	x do	zz 30	0.94	do		
1.10	8.56	-31.39	x do	zz 30	0.94	do		
1.11	8.17	-29.95	do	z 46	0.97	do		
1.12	8.17	-29.95	do	z 46	0.97	do		
1.13	7.01	-25.69	do	z 46	0.90	do		
1.14	7.01	-25.69	do	z 46	0.84	do		
1.15	5.07	-18.60	do	z 46	0.79	2'-0"		
1.16	5.07	-18.60	do	z 53	0.66	2'-4"		
1.17	2.72	-9.96	do	z 66	0.63	2'-2"		
1.18	2.83	-10.36	LL 2 X .166	z 70	0.52	2'-5 3/4"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 102	0.34	3'-6 3/8"		
2.2	13.28	-3.62	do	z 96	0.58	3'-6"		
2.3	22.59	-6.16	do	z 109	0.72	4'-0"		
2.4	28.23	-7.70	do	z 109	0.80	do		
2.5	31.04	-8.47	do	z 109	0.86	do		
2.6	31.02	-8.47	do	z 109	0.86	do		
2.7	28.17	-7.69	do	z 109	0.80	do		
2.8	22.50	-6.14	do	z 109	0.72	4'-0"		
2.9	13.15	-3.59	do	z 96	0.58	3'-6"		
2.10	0.00	0.00	LL 2 X .156	z 100	0.34	3'-5 3/4"		
End Diagonal								
3.1	11.83	-3.23	BR 1"	yy145	0.64	3'-10"	.230 - 1 1/4"	
3.2	11.70	-3.19	BR 1"	yy144	0.62	3'-9 3/8"	.230 - 1 1/4"	
Diagonal Towards End								
4.1	7.47	-1.85	U 1 x 0.091	z 79	0.99	2'-11 5/8"	.090 - 2 3/4"	
4.2	5.04	-1.15	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.3	3.57	-0.64	do	z 98	0.59	do	.091 - 1 1/2"	
4.4	2.27	-1.65	do	z 98	0.58	do	do	
4.5	2.27	-1.65	do	z 98	0.58	do	do	
4.6	3.59	-0.64	do	z 98	0.59	do	.091 - 1 1/2"	
4.7	5.06	-1.15	U 1 x 3/4 x 0.091	z 98	0.83	2'-8 1/2"	.091 - 1 7/8"	
4.8	7.50	-1.85	U 1 x 0.091	z 79	1.00	2'-11 5/8"	.090 - 2 3/4"	
Diagonal Towards Center								
5.1	1.56	-5.78	U 1 x 1 1/8 x 0.118	z 54	0.97	2'-2 1/8"	.118 - 1 5/8"	
5.2	1.40	-5.83	U 1 x 1 1/4 x 0.136	z 63	0.97	2'-8 1/2"	.136 - 1 1/2"	
5.3	0.89	-4.29	U 1 x 1 1/8 x 0.118	z 69	0.86	do	.118 - 1 1/2"	
5.4	0.38	-2.89	U 1 x 0.091	z 72	0.82	do	.090 - 1 1/2"	
5.5	0.39	-2.91	U 1 x 0.091	z 72	0.82	do	.090 - 1 1/2"	
5.6	0.90	-4.31	U 1 x 1 1/8 x 0.118	z 69	0.87	do	.118 - 1 1/2"	



Mark : TJ6B

Project: PROJECT EVELER FREEZER PUYALL

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F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
5.7	1.41	-5.86	U 1 x 1 1/4 x 0.136	z 63 0.97	2'-8 1/2"	.136 - 1 1/2"		
5.8	1.56	-5.79	U 1 x 1 1/8 x 0.118	z 54 0.98	2'-2 1/8"	.118 - 1 5/8"		
Secondary Web Member								
7.1	0.22	-0.86	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		
7.2	0.18	-0.76	do	z 65 0.19	1'-10"	do		
7.3	0.17	-0.75	do	z 65 0.18	do	do		
7.4	0.17	-0.77	do	z 65 0.19	do	do		
7.5	0.17	-0.78	do	z 65 0.19	do	do		
7.6	0.17	-0.77	do	z 65 0.19	do	do		
7.7	0.17	-0.75	do	z 65 0.18	do	do		
7.8	0.18	-0.76	do	z 65 0.19	1'-10"	do		
7.9	0.22	-0.85	U 1 x 3/4 x 0.091	z 74 0.22	2'-1"	.091 - 1"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-9 1/4" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-4 1/2" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-5 5/8" 3'-6"
 18'-11 5/8" 9'-5 5/8"
 28'-5 3/4" 18'-11 5/8"
 28'-5 3/4" 28'-5 3/4"
 34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 373 / 409 Area to Paint : 132.87 ft2 Material Sort : Cost

252(276)-252(276)-25-18/10-373(409) NNN,NNN



Mark : TJ7

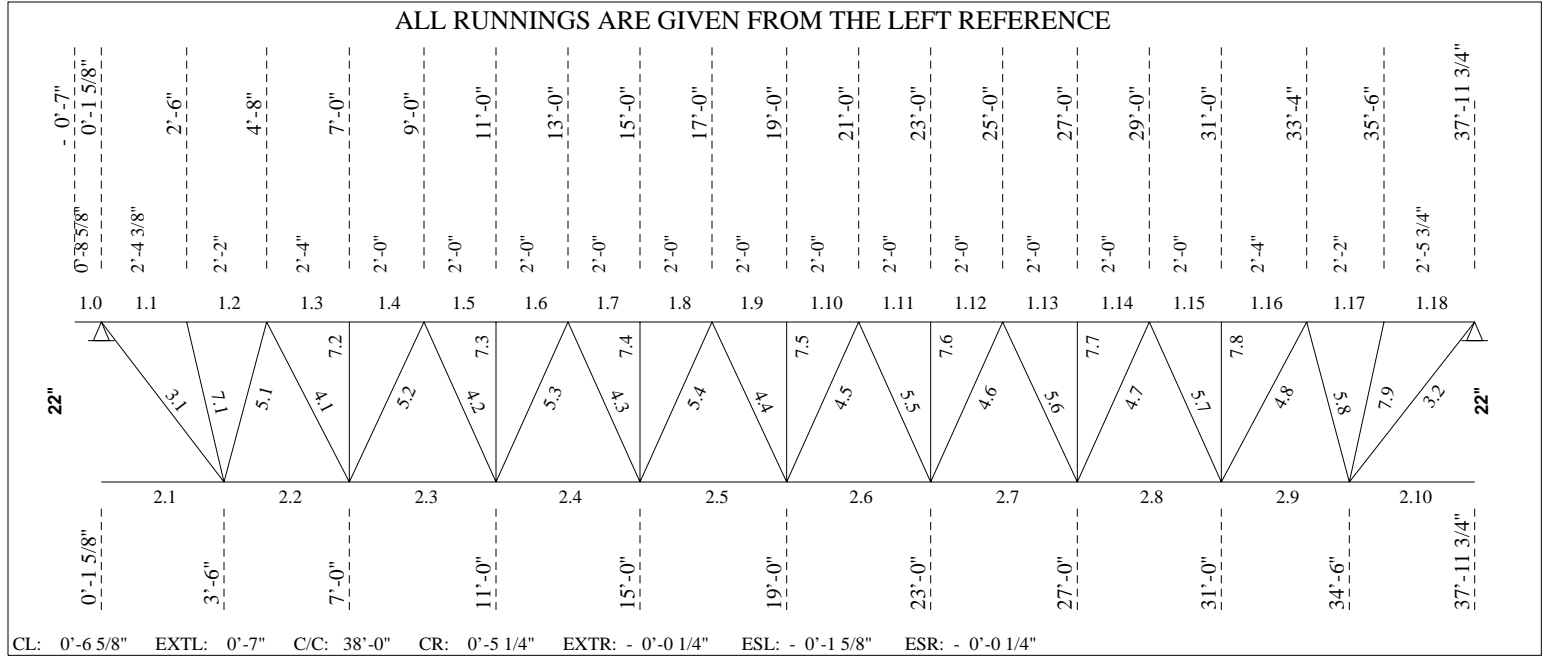
Project: PROJECT EVELER FREEZER PUYALL

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Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ7 (MS1, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 310.66 lb/ft 22K9 LIVE LOAD...: 172.34 lb/ft

----- **EXTENSION** -----

Tcx-L 0'-8 5/8" Type F[S] Shoe = 2.50 Mf = -0.080 ft-kip (0.290)
 TL = 311 LL = 172 ntQL = 84 Req.D. LL = L/ 180 = 0.05 TL = L/ 90 = 0.10
 I = 1.21 in⁴ Cal.D. LL = L/ 390 = 0.02 TL = L/ -228 = -0.04

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.00	1.00	0.00	1'-4"*	1'-4"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	11'-4"*	10'-0"	1	1	90	0
3	1	Both	No	1.50	1.50	1.50	16'-4"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.25 in (L/ 360)
 Joist inertia..... = 388.94 in⁴
 Required camber..... = 0.57 in



Mark : TJ7

Project: PROJECT EVELER FREEZER PUYALL

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===== LOAD NO 2 (TJ7#02) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 310.66 lb/ft 22K9 LIVE LOAD...: 172.34 lb/ft

----- EXTENSION -----

Tcx-L 0'-8 5/8" Type F[S] Shoe = 2.50 Mf = -0.080 ft-kip 0.000
 TL = 311 LL = 172 ntQL = 84 Req.D. LL = L/ 180 = 0.05 TL = L/ 90 = 0.10

----- CONCENTRATED LOADS (From Axis)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.00	1.00	0.00	1'-4"*	1'-4"	1	1	90	0
2	1	Both	No	1.50	0.00	0.00	11'-4"*	10'-0"	1	1	0	0
3	1	Both	No	1.90	1.90	0.00	11'-4"*	0'-0"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	16'-4"*	5'-0"	1	1	0	0
5	1	Both	No	-1.90	-1.90	0.00	16'-4"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 83.50 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.09 in (L/ 413)

===== LOAD NO 3 (TJ7#03) =====

----- LOADING CONDITIONS -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 310.66 lb/ft 22K9 LIVE LOAD...: 172.34 lb/ft

----- EXTENSION -----

Tcx-L 0'-8 5/8" Type F[S] Shoe = 2.50 Mf = -0.080 ft-kip 0.000
 TL = 311 LL = 172 ntQL = 84 Req.D. LL = L/ 180 = 0.05 TL = L/ 90 = 0.10

----- CONCENTRATED LOADS (From Axis)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.00	1.00	0.00	1'-4"*	1'-4"	1	1	90	0
2	1	Both	No	-1.50	-1.50	0.00	11'-4"*	10'-0"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	11'-4"*	0'-0"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	16'-4"*	5'-0"	1	1	0	0
5	1	Both	No	1.90	1.90	0.00	16'-4"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 83.50 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.25 in (L/ 360)
 Calculated deflection under service live load..... = 1.16 in (L/ 388)



===== End of multiple loads =====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)
 Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.72 in)

Left Reaction = 8.94/ -3.55 kips Right Reaction = 6.94/ -2.66 kips

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 17 0.29	0'-8 5/8"		
1.1	6.30	-14.63	do	z 53 0.51	2'-4 3/8"		
1.2	6.19	-13.97	do	z 53 0.48	2'-2"		
1.3	12.46	-26.49	do	z 43 0.54	2'-4"		
1.4	12.46	-26.49	do	z 36 0.66	2'-0"		
1.5	18.86	-38.11	do	z 36 0.81	do		
1.6	18.86	-38.11	do	z 36 0.81	do		
1.7	21.30	-43.66	do	z 36 0.87	do		
1.8	21.30	-43.66	do	z 36 0.95	do		
1.9	20.35	-43.73	do	z 36 0.95	do		
1.10	20.35	-43.73	do	z 36 0.84	do		
1.11	17.46	-39.76	do	z 36 0.80	do		
1.12	17.46	-39.76	do	z 36 0.76	do		
1.13	13.80	-32.92	do	z 36 0.72	do		
1.14	13.80	-32.92	do	z 36 0.63	do		
1.15	9.36	-23.19	do	z 36 0.60	2'-0"		
1.16	9.36	-23.19	do	z 43 0.47	2'-4"		
1.17	4.80	-12.21	do	z 53 0.46	2'-2"		
1.18	4.91	-12.62	LL 2.5 X .210	z 56 0.34	2'-5 3/4"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .216	z 98 0.35	3'-4 3/8"		
2.2	18.39	-8.37	do	z 96 0.61	3'-6"		
2.3	32.66	-15.76	do	z 110 0.78	4'-0"		
2.4	41.39	-20.32	x do	yy 86 0.84	do		
2.5	44.64	-21.50	x do	yy 86 0.91	do		
2.6	42.11	-19.00	do	z 110 0.94	do		
2.7	36.70	-15.73	do	z 110 0.79	do		
2.8	28.41	-11.67	do	z 110 0.69	4'-0"		
2.9	16.19	-6.41	do	z 96 0.53	3'-6"		
2.10	0.00	0.00	LL 2 X .216	z 101 0.30	3'-5 3/4"		
End Diagonal							
3.1	16.51	-7.16	1" SQUARE BAR	yy121 0.77	3'-8 1/4"	.250 - 2 1/4"	
3.2	14.23	-5.54	1" SQUARE BAR	yy124 0.63	3'-9 3/8"	.250 - 1 7/8"	



Project: PROJECT EVELER FREEZER PUYALL

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Diagonal Towards End

4.1	10.08	-5.09	U 1 x 1 1/4 x 0.136	z 69	0.92	2'-11 5/8"	.136 - 2 1/2"
4.2	7.20	-4.10	U 1 x 1 1/8 x 0.118	z 69	0.82	2'-8 1/2"	.118 - 2"
4.3	4.89	-1.29	U 1 x 3/4 x 0.091	z 98	0.80	do	.091 - 1 3/4"
4.4	3.42	-1.65	do	z 98	0.58	do	.091 - 1 1/2"
4.5	3.42	-1.78	do	z 98	0.62	do	do
4.6	4.05	-2.29	U 1 x 3/4 x 0.091	z 98	0.80	do	.091 - 1 1/2"
4.7	5.95	-2.81	U 1 x 1 1/8 x 0.118	z 69	0.60	2'-8 1/2"	.118 - 1 3/4"
4.8	8.71	-3.67	U 1 x 1 1/4 x 0.136	z 69	0.72	2'-11 5/8"	.136 - 2 1/8"

Diagonal Towards Center

5.1	3.89	-8.10	d U 1 3/8 x 0.136	z 43	0.79	2'-2 1/8"	.136 - 2"
5.2	4.36	-8.15	d U 1 3/8 x 0.136	z 55	0.89	2'-8 1/2"	.136 - 2"
5.3	1.93	-5.35	U 1 x 1 1/4 x 0.136	z 63	0.88	do	.136 - 1 1/2"
5.4	0.39	-3.42	U 1 x 0.091	z 71	0.96	do	.090 - 1 1/2"
5.5	2.03	-3.42	U 1 x 0.091	z 71	0.96	do	.090 - 1 1/2"
5.6	2.55	-5.00	U 1 x 1 1/4 x 0.136	z 63	0.82	do	.136 - 1 1/2"

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend.	Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
5.7	3.06	-6.90	d	U 1 3/8 x 0.136	z 55	0.76	2'-8 1/2"	.136 - 1 3/4"		
5.8	2.86	-7.10	d	U 1 3/8 x 0.136	z 43	0.70	2'-2 1/8"	.136 - 1 3/4"		

Secondary Web Member

7.1	0.21	-1.40	U 1 x 3/4 x 0.091	z 74	0.36	2'-1"	.091 - 1"
7.2	0.18	-0.81	do	z 64	0.20	1'-10"	do
7.3	1.42	-2.36	do	z 64	0.57	do	do
7.4	0.67	-1.42	do	z 64	0.34	do	do
7.5	0.17	-0.85	do	z 64	0.20	do	do
7.6	0.17	-0.83	do	z 64	0.20	do	do
7.7	0.17	-0.79	do	z 64	0.19	do	do
7.8	0.18	-0.79	do	z 64	0.19	1'-10"	do
7.9	0.22	-0.87	U 1 x 3/4 x 0.091	z 74	0.23	2'-1"	.091 - 1"

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-6 5/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-10" ==> 5 Row(s) Minimum Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-7 1/8"	3'-6"
	19'-0 5/8"	9'-7 1/8"
	28'-6 1/4"	19'-0 5/8"
		28'-6 1/4"
		34'-6"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension



Mark : TJ7

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:54

Side: Both Sides, Near Side, Far Side

Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

540 / 574

Area to Paint

: 149.02 ft2

Material Sort : Cost

365(387)-365(387)-25-18/10-540(574) NNN,NNN



----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 14.87 in)

Left Reaction = 4.97/ -0.81 kips Right Reaction = 4.80/ -0.77 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .186	z 15	0.25	0'-6"		
1.1	1.26	-7.74	do	z 71	0.53	2'-6"		
1.2	1.26	-7.74	do	z 24	0.48	0'-9 5/8"		
1.3	2.28	-31.60	do	z 46	0.96	2'-0"		
1.4	2.28	-31.60	do	z 46	0.96	do		
1.5	2.82	-31.60	do	z 46	0.94	do		
1.6	2.82	-31.60	do	z 46	0.94	do		
1.7	2.28	-31.60	do	z 46	0.96	do		
1.8	2.28	-31.60	do	z 46	0.96	2'-0"		
1.9	1.26	-7.74	do	z 24	0.48	0'-9 5/8"		
1.10	1.26	-7.74	LL 2 X .186	z 71	0.53	2'-6"		
Bottom Chord								
2.1	31.60	0.00	LL 2 X .156	z 71	0.88	2'-6"		
2.2	31.60	-1.60	do	z 85	0.88	2'-9 5/8"		
2.3	31.60	-2.69	do	z 121	0.88	4'-0"		
2.4	31.60	-2.69	do	z 121	0.88	4'-0"		
2.5	31.60	-1.60	do	z 85	0.88	2'-9 5/8"		
2.6	31.60	0.00	LL 2 X .156	z 71	0.88	2'-6"		
End Diagonal								
3.1	10.23	-1.43	BR 1"	yy101	0.48	2'-8 1/4"	.230 - 1 1/8"	
3.2	10.23	-1.43	BR 1"	yy101	0.48	2'-8 1/4"	.230 - 1 1/8"	
Diagonal Towards End								
4.1	9.11	-9.11	d U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
4.2	9.11	-9.11	d do	z 49	0.94	do	do	
4.3	9.11	-9.11	d do	z 49	0.94	do	do	
4.4	9.11	-9.11	d U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
Diagonal Towards Center								
5.1	0.65	-5.71	U 1 x 1 1/8 x 0.118	z 38	0.80	1'-6 5/8"	.118 - 1 5/8"	
5.2	0.48	-9.11	d U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.3	0.48	-9.11	d U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.4	0.64	-5.71	U 1 x 1 1/8 x 0.118	z 38	0.80	1'-6 5/8"	.118 - 1 5/8"	
Secondary Web Member								
7.1	0.13	-4.80	U 1 x 1 1/8 x 0.118	z 32	0.63	1'-4"	.118 - 1 3/8"	
7.2	0.17	-4.80	do	z 32	0.63	do	do	
7.3	0.17	-4.80	do	z 32	0.63	do	do	
7.4	0.17	-4.80	do	z 32	0.63	do	do	
7.5	0.13	-4.80	U 1 x 1 1/8 x 0.118	z 32	0.63	1'-4"	.118 - 1 3/8"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-2 1/2" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-5 1/2" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord 9'-2 1/2"
 @ Bottom Chord 2'-5"
 9'-2 1/2"
 16'-0 1/8"



Mark : TJ12

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:54

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

210 / 225

Area to Paint

: 68.25 ft2

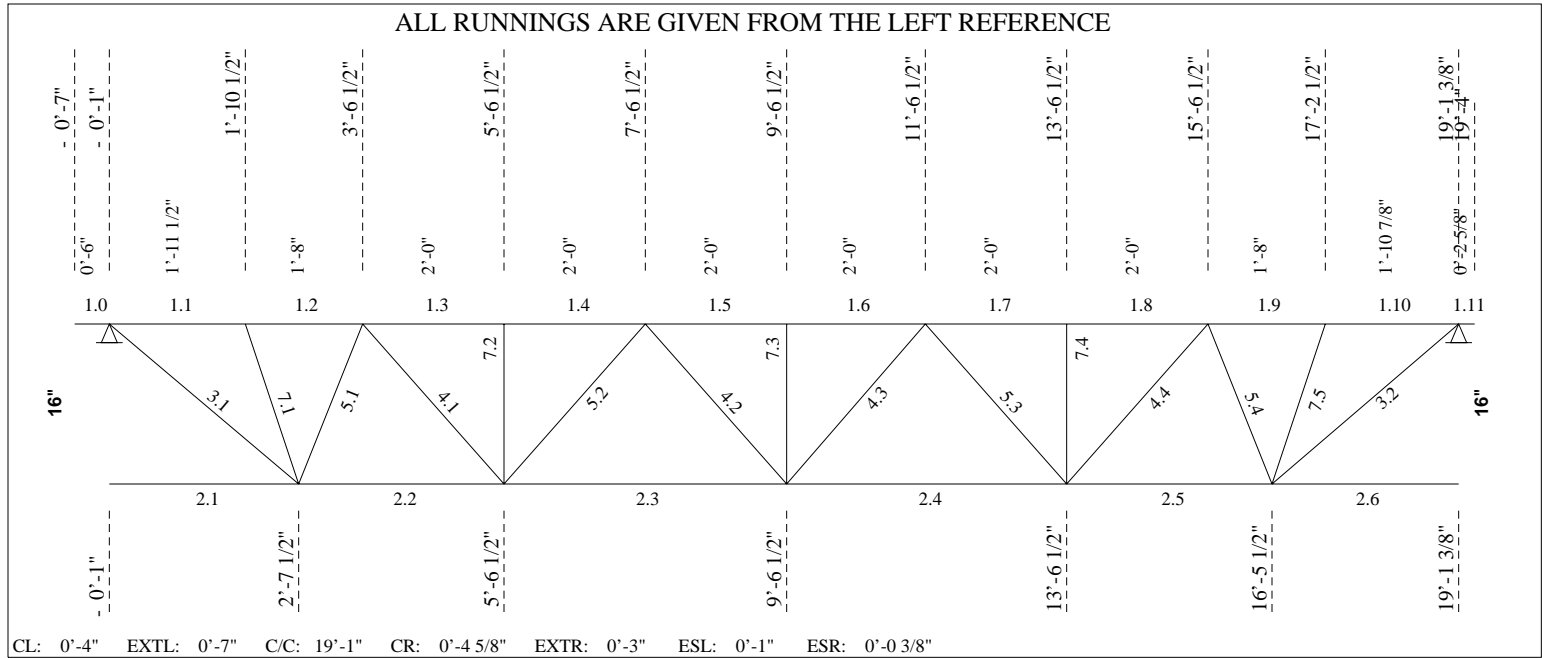
Material Sort : Cost

143(153)-143(153)-25-10/6-210(225) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ12B (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 500.05 lb/ft 16KCS3 LIVE LOAD...: 250.03 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type F[S]	Shoe = 2.50	Mf = -0.062 ft-kip	(0.272)
TL =	500	LL = 250 ntQL = 84	Req.D. LL = L/ 180 =	0.03	TL = L/ 90 = 0.07
I =	0.54 in ⁴		Cal.D. LL = L/ 9999 =	0.00	TL = L/ -377 = -0.02
Tcx-R	0'-2 5/8"	Type F[S]	Shoe = 2.50	Mf = -0.012 ft-kip	(0.215)
TL =	500	LL = 250 ntQL = 84	Req.D. LL = L/ 180 =	0.01	TL = L/ 90 = 0.03
I =	0.54 in ⁴		Cal.D. LL = L/ 9999 =	0.00	TL = L/ -365 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	0.63 in (L/ 360)
Calculated deflection under service live load..... =	0.19 in (L/ 1161)
Joist inertia..... =	144.79 in ⁴
Required camber..... =	0.24 in



Mark : TJ12B

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:55

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 14.87 in)

Left Reaction = 4.97/ -0.83 kips Right Reaction = 4.83/ -0.81 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .186	z 15	0.27	0'-6"		
1.1	1.47	-8.76	do	z 55	0.43	1'-11 1/2"		
1.2	1.38	-8.23	do	z 51	0.41	1'-8"		
1.3	2.48	-31.60	do	z 46	0.95	2'-0"		
1.4	2.48	-31.60	do	z 46	0.95	do		
1.5	3.01	-31.60	do	z 46	0.94	do		
1.6	3.01	-31.60	do	z 46	0.94	do		
1.7	2.46	-31.60	do	z 46	0.95	do		
1.8	2.46	-31.60	do	z 46	0.95	2'-0"		
1.9	1.36	-8.09	do	z 51	0.41	1'-8"		
1.10	1.44	-8.60	do	z 53	0.42	1'-10 7/8"		
1.11	0.00	0.00	LL 2 X .186	z 7	0.21	0'-2 5/8"		
Bottom Chord								
2.1	31.60	0.00	LL 2 X .156	z 77	0.88	2'-8 1/2"		
2.2	31.60	-1.81	do	z 88	0.88	2'-11"		
2.3	31.60	-2.88	do	z 121	0.88	4'-0"		
2.4	31.60	-2.88	do	z 121	0.88	4'-0"		
2.5	31.60	-1.78	do	z 88	0.88	2'-11"		
2.6	31.60	0.00	LL 2 X .156	z 76	0.88	2'-7 7/8"		
End Diagonal								
3.1	10.95	-1.64	BR 1"	yy109	0.52	2'-10 1/2"	.230 - 1 1/8"	
3.2	10.77	-1.61	BR 1"	yy107	0.51	2'-9 7/8"	.230 - 1 1/8"	
Diagonal Towards End								
4.1	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
4.2	9.11	-9.11	do	z 49	0.94	do	do	
4.3	9.11	-9.11	do	z 49	0.94	do	do	
4.4	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
Diagonal Towards Center								
5.1	0.71	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
5.2	0.48	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.3	0.48	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 - 2 1/4"	
5.4	0.72	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 - 1 3/4"	
Secondary Web Member								
7.1	0.17	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	
7.2	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.3	0.17	-4.80	do	z 28	0.51	do	do	
7.4	0.17	-4.80	do	z 28	0.51	1'-4"	.118 - 1 1/2"	
7.5	0.17	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 - 1 5/8"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-2 5/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-5 1/2" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-6 1/4" 2'-7 1/2"
 9'-6 1/4"



Mark : TJ12B

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:55

16'-5 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

219 / 236

Area to Paint

: 72.30 ft2

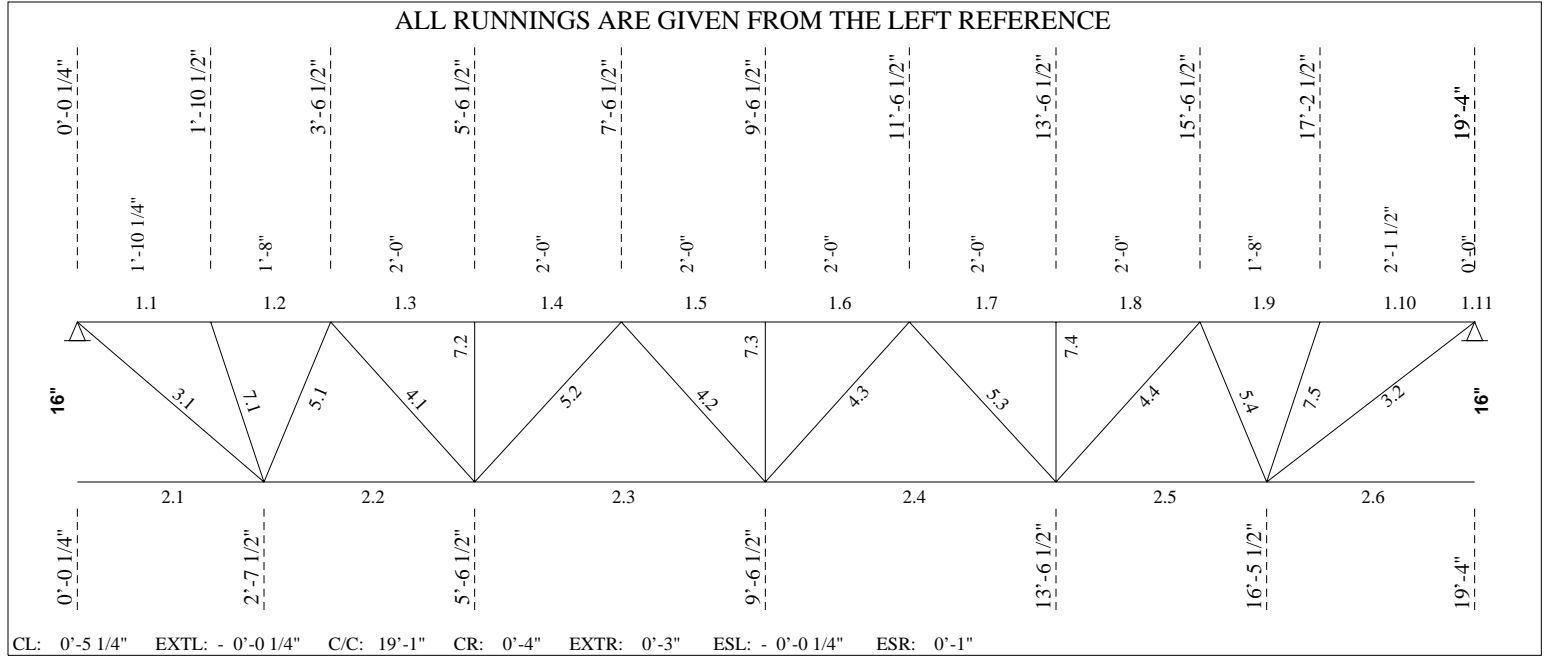
Material Sort : Cost

149(160)-149(160)-25-10/6-219(236) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ14 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 501.41 lb/ft 16KCS3 LIVE LOAD...: 250.71 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-2" Type F[S] Shoe = 2.50 Mf = -0.007 ft-kip (0.213)
 TL = 501 LL = 251 ntQL = 84 Req.D. LL = L/ 180 = 0.01 TL = L/ 90 = 0.02
 I = 0.54 in^4 Cal.D. LL = L/ 9999 = 0.00 TL = L/ -366 = -0.01

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.63 in (L/ 360)
 Calculated deflection under service live load..... = 0.19 in (L/ 1168)
 Joist inertia..... = 144.79 in^4
 Required camber..... = 0.24 in



Mark : TJ14

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:55

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 14.87 in)

Left Reaction = 4.80/ -0.79 kips Right Reaction = 4.80/ -0.80 kips

REQUIRED MATERIAL

REQUIRED WELD

No Tension Compres. x = tied at mid-length Slend. Util. Length Weld-Ea.Side Remarks

Top Chord

1.1	1.41	-8.45	LL 2 X .186	z 51	0.40	1'-10 1/4"		
1.2	1.33	-7.94	do	z 51	0.40	1'-8"		
1.3	2.44	-31.60	do	z 46	0.95	2'-0"		
1.4	2.44	-31.60	do	z 46	0.95	do		
1.5	3.00	-31.60	do	z 46	0.94	do		
1.6	3.00	-31.60	do	z 46	0.94	do		
1.7	2.47	-31.60	do	z 46	0.95	do		
1.8	2.47	-31.60	do	z 46	0.95	2'-0"		
1.9	1.38	-8.23	do	z 51	0.41	1'-8"		
1.10	1.47	-8.75	do	z 55	0.43	1'-11 1/2"		
1.11	0.00	0.00	LL 2 X .186	z 5	0.21	0'-2"		

Bottom Chord

2.1	31.60	0.00	LL 2 X .156	z 74	0.88	2'-7 1/4"		
2.2	31.60	-1.76	do	z 88	0.88	2'-11"		
2.3	31.60	-2.85	do	z 121	0.88	4'-0"		
2.4	31.60	-2.87	do	z 121	0.88	4'-0"		
2.5	31.60	-1.80	do	z 88	0.88	2'-11"		
2.6	31.60	0.00	LL 2 X .156	z 77	0.88	2'-8 1/2"		

End Diagonal

3.1	10.59	-1.59	BR 1"	yy105	0.50	2'-9 3/8"	.230 -	1 1/8"
3.2	10.95	-1.63	BR 1"	yy109	0.52	2'-10 1/2"	.230 -	1 1/8"

Diagonal Towards End

4.1	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 -	2 1/4"
4.2	9.11	-9.11	do	z 49	0.94	do		do
4.3	9.11	-9.11	do	z 49	0.94	do		do
4.4	9.11	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 -	2 1/4"

Diagonal Towards Center

5.1	0.72	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 -	1 3/4"
5.2	0.49	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 -	2 1/4"
5.3	0.47	-9.11	U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 -	2 1/4"
5.4	0.71	-5.97	i U 1 3/8 x 1 1/4 x 0.118	z 34	0.66	1'-7 3/8"	.118 -	1 3/4"

Secondary Web Member

7.1	0.16	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 -	1 5/8"
7.2	0.17	-4.80	do	z 28	0.51	1'-4"	.118 -	1 1/2"
7.3	0.17	-4.80	do	z 28	0.51	do		do
7.4	0.17	-4.80	do	z 28	0.51	1'-4"	.118 -	1 1/2"
7.5	0.17	-5.61	i U 1 3/8 x 1 1/4 x 0.118	z 32	0.61	1'-6 3/8"	.118 -	1 5/8"

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-3 7/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-6 3/4" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-7 1/8" 2'-7 1/2"
 9'-7 1/8"
 16'-5 1/2"



Mark : TJ14

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:55

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

214 / 230

Area to Paint

: 69.94 ft2

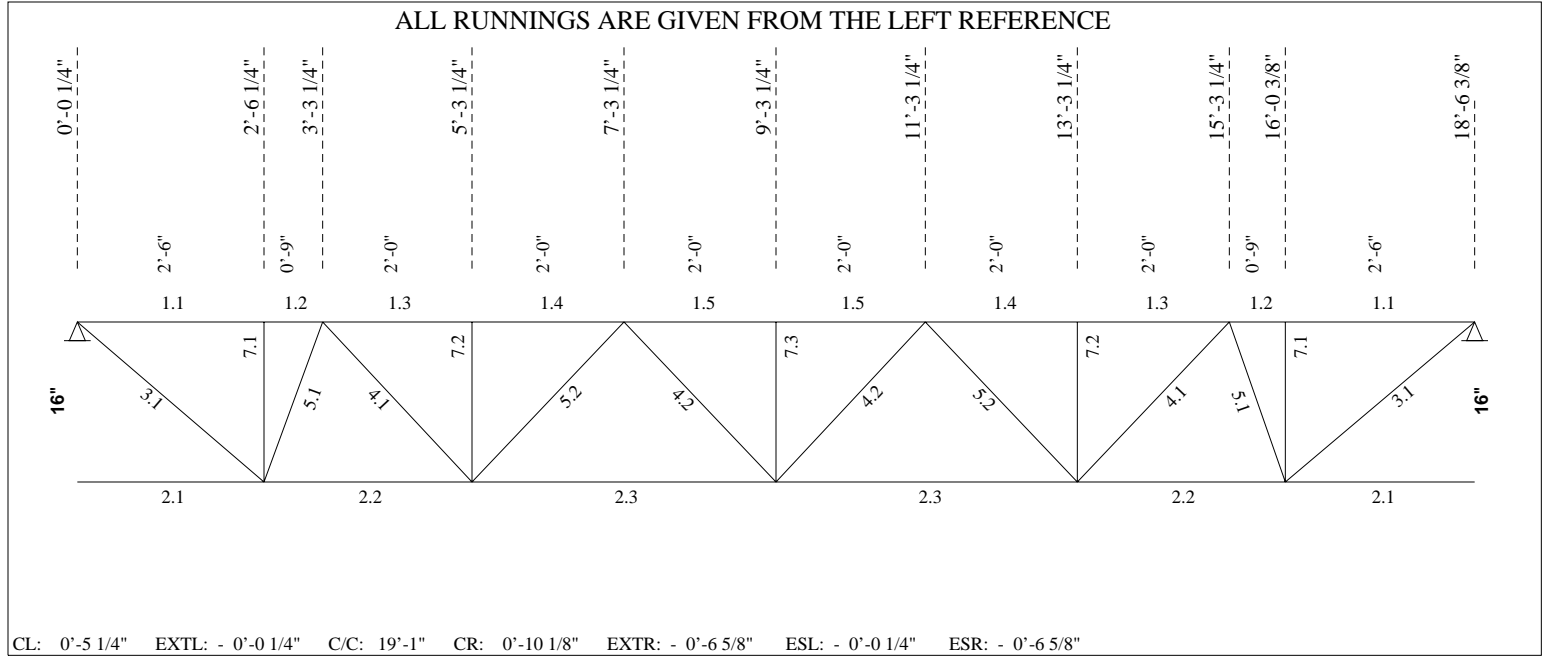
Material Sort : Cost

146(156)-146(156)-25-10/6-214(230) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ14A (LS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 518.63 lb/ft 16KCS3 LIVE LOAD...: 259.31 lb/ft

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.61 in (L/ 360)
 Calculated deflection under service live load..... = 0.17 in (L/ 1252)
 Joist inertia..... = 144.79 in⁴
 Required camber..... = 0.23 in

----- **F O R C E S I N M E M B E R S [kips]** -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 14.87 in)

Left Reaction = 4.80/ -0.76 kips Right Reaction = 4.80/ -0.76 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	1.25	-7.74	LL 2 X .186	z 71 0.53	2'-6"		
1.2	1.25	-7.74	do	z 23 0.48	0'-9"		
1.3	2.26	-31.60	do	z 46 0.96	2'-0"		
1.4	2.26	-31.60	do	z 46 0.96	do		



Mark : TJ14A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:55

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			Length	REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.		Weld-Ea.Side		
1.5	2.80	-31.60	LL 2 X .186	z 46	0.94	2'-0"			
Bottom Chord									
2.1	31.60	0.00	LL 2 X .156	z 71	0.88	2'-6"			
2.2	31.60	-1.58	do	z 84	0.88	2'-9"			
2.3	31.60	-2.66	LL 2 X .156	z 121	0.88	4'-0"			
End Diagonal									
3.1	10.23	-1.42	BR 1"	yy101	0.48	2'-8 1/4"	.230 -	1 1/8"	
Diagonal Towards End									
4.1	9.11	-9.11	d U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 -	2 1/4"	
4.2	9.11	-9.11	d U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 -	2 1/4"	
Diagonal Towards Center									
5.1	0.63	-5.62	U 1 x 1 1/8 x 0.118	z 38	0.79	1'-6 3/8"	.118 -	1 5/8"	
5.2	0.48	-9.11	d U 1 3/8 x 0.136	z 49	0.94	2'-4 7/8"	.136 -	2 1/4"	
Secondary Web Member									
7.1	0.13	-4.80	U 1 x 1 1/8 x 0.118	z 32	0.63	1'-4"	.118 -	1 3/8"	
7.2	0.17	-4.80	do	z 32	0.63	do		do	
7.3	0.17	-4.80	U 1 x 1 1/8 x 0.118	z 32	0.63	1'-4"	.118 -	1 3/8"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 16'-3 7/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-6 3/4" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-3 1/4" 2'-6 1/4"
 9'-3 1/4"
 16'-0 3/8"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

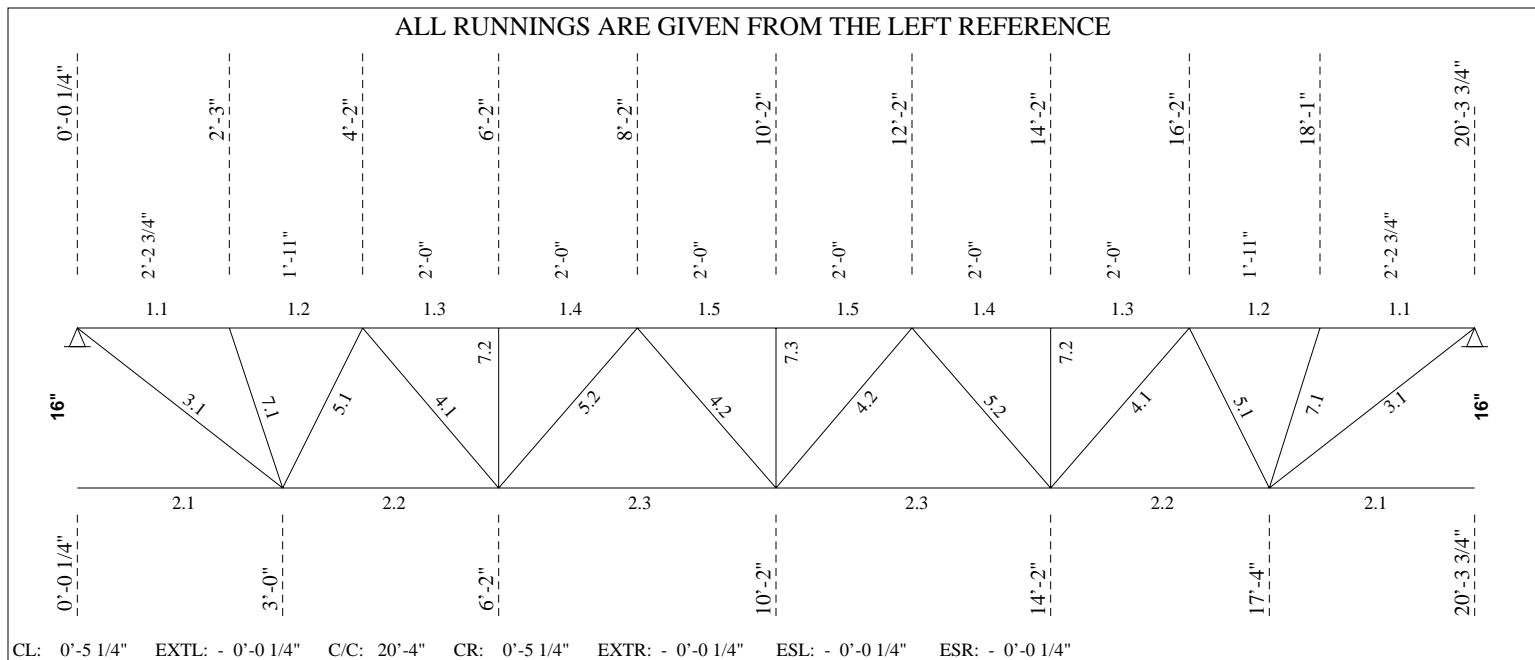
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 205 / 220 Area to Paint : 66.01 ft2 Material Sort : Cost

139(149)-139(149)-25-10/6-205(220) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ16 (MS1, Symmetrical, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 398.62 lb/ft 16K3 LIVE LOAD...: 316.87 lb/ft

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.67 in (L/ 360)
 Calculated deflection under service live load..... = 0.44 in (L/ 542)
 Joist inertia..... = 101.40 in⁴
 Required camber..... = 0.25 in

----- **F O R C E S I N M E M B E R S [kips]** -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 15.14 in)

Left Reaction = 3.98/ -0.84 kips Right Reaction = 3.98/ -0.84 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	1.68	-7.95	LL 1.5 X .155	z 84 0.77	2'-2 3/4"		
1.2	1.58	-7.48	do	z 78 0.76	1'-11"		
1.3	2.78	-13.21	do	z 61 0.81	2'-0"		
1.4	2.78	-13.21	do	z 61 0.89	do		



Mark : TJ16

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:55

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.5	3.32	-15.73	LL 1.5 X .155	z 61	0.90	2'-0"		
Bottom Chord								
2.1	0.00	0.00	LL 1.5 X .155	z 115	0.35	2'-11 3/4"		
2.2	10.05	-2.12	do	z 116	0.53	3'-2"		
2.3	15.10	-3.18	LL 1.5 X .155	z 147	0.57	4'-0"		
End Diagonal								
3.1	8.72	-1.84	BR 1"	yy118	0.41	3'-1 3/8"	.230 - 0 7/8"	
Diagonal Towards End								
4.1	4.71	-0.79	U 1 x 3/4 x 0.091	z 88	0.78	2'-4 7/8"	.091 - 1 3/4"	
4.2	2.39	-1.40	U 1 x 3/4 x 0.091	z 88	0.43	2'-4 7/8"	.091 - 1 1/2"	
Diagonal Towards Center								
5.1	0.80	-3.97	U 1 x 3/4 x 0.091	z 64	0.95	1'-9 1/4"	.091 - 1 1/2"	
5.2	0.47	-3.49	U 1 x 0.091	z 64	0.89	2'-4 7/8"	.090 - 1 1/2"	
Secondary Web Member								
7.1	0.19	-0.96	U 1 x 3/4 x 0.091	z 54	0.22	1'-6 3/8"	.091 - 1"	
7.2	0.17	-0.87	do	z 47	0.19	1'-4"	do	
7.3	0.17	-0.88	U 1 x 3/4 x 0.091	z 47	0.19	1'-4"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 13'-6 5/8" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 20'-8 1/8" ==> 4 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 6'-9 3/8" 3'-0"
 13'-6 5/8" 6'-9 3/8"
 13'-6 5/8" 13'-6 5/8"
 17'-4" 17'-4"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

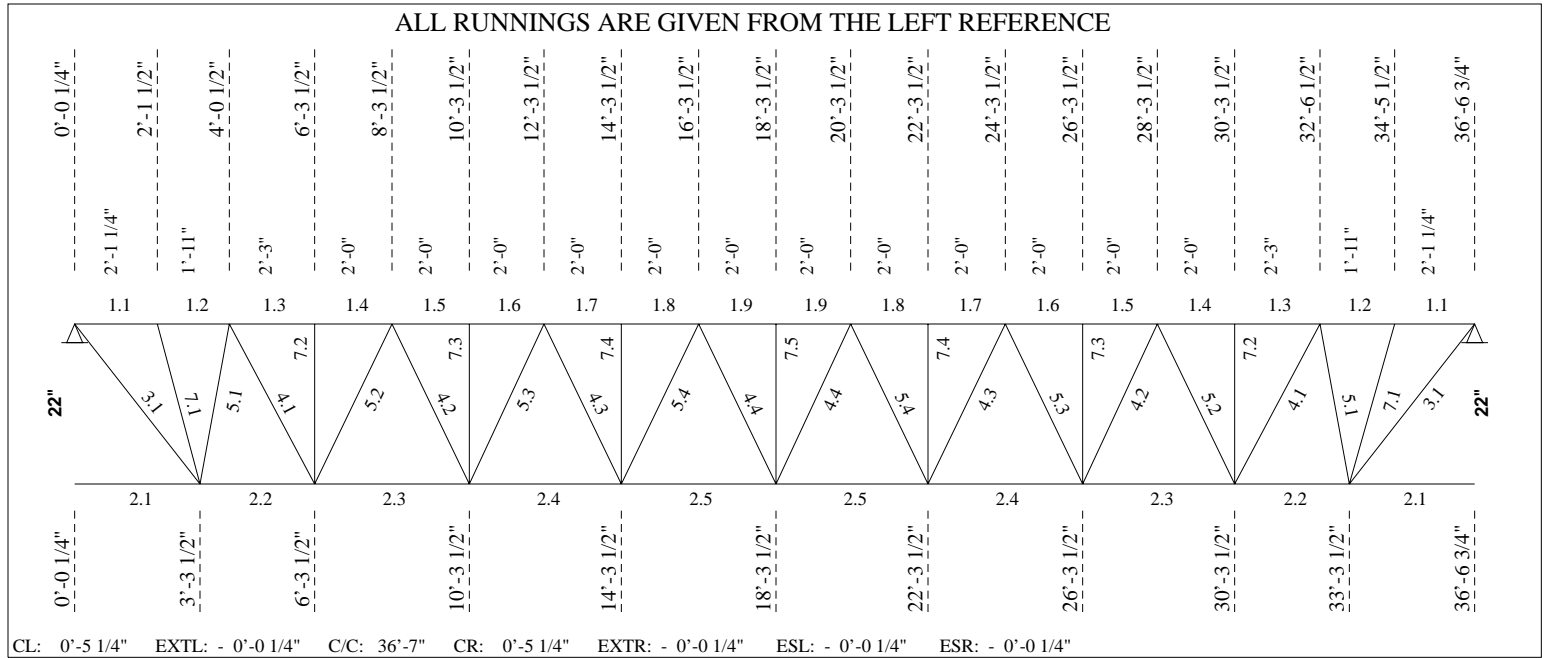
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 142 / 165 Area to Paint : 53.93 ft2 Material Sort : Cost

100(115)-100(115)-25-10/6-142(165) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ19 (MS1, Symmetrical,, Free ends) aligned on J18



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 333.71 lb/ft 22K9 LIVE LOAD...: 192.33 lb/ft

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.21 in (L/ 360)
 Calculated deflection under service live load..... = 1.09 in (L/ 398)
 Joist inertia..... = 270.19 in⁴
 Required camber..... = 0.54 in

----- **F O R C E S I N M E M B E R S [kips]** -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 20.88 in)

Left Reaction = 6.04/ -1.52 kips Right Reaction = 6.04/ -1.52 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side	Remarks
Top Chord							
1.1	2.57	-10.20	LL 2 X .166	z 59 0.46	2'-1 1/4"		
1.2	2.46	-9.77	do	z 58 0.60	1'-11"		
1.3	4.43	-17.62	do	z 51 0.62	2'-3"		
1.4	4.43	-17.62	do	z 46 0.79	2'-0"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.5	6.37	-25.29	do	z 46	0.82	do		
1.6	6.37	-25.29	do	z 46	0.91	do		
1.7	7.52	-29.89	do	z 46	0.97	do		
1.8	7.52	-29.89	do	z 46	0.97	do		
1.9	7.91	-31.42	x LL 2 X .166	zz 30	0.95	2'-0"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .156	z 94	0.31	3'-3 1/4"		
2.2	11.96	-3.01	do	z 82	0.56	3'-0"		
2.3	21.84	-5.50	do	z 109	0.72	4'-0"		
2.4	27.97	-7.04	do	z 109	0.80	do		
2.5	31.04	-7.81	LL 2 X .156	z 109	0.86	4'-0"		
End Diagonal								
3.1	11.69	-2.94	BR 1"	yy137	0.55	3'-7 1/4"	.230 - 1 1/4"	
Diagonal Towards End								
4.1	7.86	-1.80	U 1 x 1 1/8 x 0.118	z 74	0.79	2'-10 7/8"	.118 - 2 1/4"	
4.2	5.43	-1.15	U 1 x 3/4 x 0.091	z 98	0.89	2'-8 1/2"	.091 - 2"	
4.3	3.82	-0.64	do	z 98	0.63	do	.091 - 1 1/2"	
4.4	2.38	-1.73	U 1 x 3/4 x 0.091	z 98	0.61	2'-8 1/2"	.091 - 1 1/2"	
Diagonal Towards Center								
5.1	1.39	-5.53	U 1 x 1 1/8 x 0.118	z 49	0.88	1'-11 3/4"	.118 - 1 5/8"	
5.2	1.41	-6.30	d U 1 3/8 x 1 1/4 x 0.118	z 59	0.86	2'-8 1/2"	.118 - 1 3/4"	
5.3	0.90	-4.60	U 1 x 1 1/8 x 0.118	z 69	0.93	do	.118 - 1 1/2"	
5.4	0.38	-3.08	U 1 x 0.091	z 72	0.87	2'-8 1/2"	.090 - 1 1/2"	
Secondary Web Member								
7.1	0.19	-0.83	U 1 x 3/4 x 0.091	z 78	0.22	2'-2 1/8"	.091 - 1"	
7.2	0.18	-0.80	do	z 65	0.19	1'-10"	do	
7.3	0.17	-0.80	do	z 65	0.19	do	do	
7.4	0.17	-0.82	do	z 65	0.20	do	do	
7.5	0.17	-0.83	U 1 x 3/4 x 0.091	z 65	0.20	1'-10"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 15'-10 5/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-5 1/8" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-1 7/8" 3'-3 1/2"
 18'-3 1/2" 9'-1 7/8"
 27'-5 1/8" 18'-3 1/2"
 27'-5 1/8" 27'-5 1/8"
 33'-3 1/2" 33'-3 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
 -U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle



Mark : TJ19

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:55

244(263)-244(263)-25-18/10-360(389) NNN,NNN



Mark : TJ22

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:55

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 15.14 in)

Left Reaction = 4.64/ -0.82 kips Right Reaction = 4.36/ -0.77 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 1.5 X .155	z 24	0.48	0'-7"		
1.1	1.35	-7.70	do	z 70	0.67	1'-10 1/2"		
1.2	1.27	-7.23	do	z 64	0.73	1'-7"		
1.3	2.24	-12.73	do	z 56	0.83	1'-10"		
1.4	2.24	-12.73	do	z 61	0.96	2'-0"		
1.5	2.77	-15.74	do	z 61	0.96	do		
1.6	2.77	-15.74	do	z 61	0.96	do		
1.7	2.23	-12.70	do	z 61	0.96	2'-0"		
1.8	2.23	-12.70	do	z 56	0.83	1'-10"		
1.9	1.26	-7.18	do	z 64	0.72	1'-7"		
1.10	1.34	-7.64	LL 1.5 X .155	z 69	0.66	1'-10 1/4"		
Bottom Chord								
2.1	0.00	0.00	LL 1.5 X .155	z 100	0.33	2'-7 1/2"		
2.2	9.32	-1.64	do	z 98	0.52	2'-8"		
2.3	14.99	-2.63	do	z 147	0.57	4'-0"		
2.4	14.98	-2.63	do	z 147	0.57	4'-0"		
2.5	9.27	-1.63	do	z 98	0.52	2'-8"		
2.6	0.00	0.00	LL 1.5 X .155	z 99	0.32	2'-7 1/4"		
End Diagonal								
3.1	8.65	-1.52	BR 1"	yy106	0.41	2'-9 1/2"	.230 - 0 7/8"	
3.2	8.60	-1.51	BR 1"	yy105	0.41	2'-9 3/8"	.230 - 0 7/8"	
Diagonal Towards End								
4.1	5.10	-0.73	U 1 x 3/4 x 0.091	z 83	0.84	2'-3 1/4"	.091 - 1 7/8"	
4.2	2.72	-1.53	do	z 88	0.46	2'-4 7/8"	.091 - 1 1/2"	
4.3	2.73	-1.53	do	z 88	0.46	2'-4 7/8"	.091 - 1 1/2"	
4.4	5.11	-0.73	U 1 x 3/4 x 0.091	z 83	0.84	2'-3 1/4"	.091 - 1 7/8"	
Diagonal Towards Center								
5.1	0.67	-3.89	U 1 x 3/4 x 0.091	z 56	0.88	1'-6 7/8"	.091 - 1 1/2"	
5.2	0.47	-4.06	U 1 x 1 1/8 x 0.118	z 61	0.74	2'-4 7/8"	.118 - 1 1/2"	
5.3	0.47	-4.07	U 1 x 1 1/8 x 0.118	z 61	0.75	2'-4 7/8"	.118 - 1 1/2"	
5.4	0.67	-3.90	U 1 x 3/4 x 0.091	z 56	0.89	1'-6 7/8"	.091 - 1 1/2"	
Secondary Web Member								
7.1	0.16	-0.96	U 1 x 3/4 x 0.091	z 54	0.22	1'-6 3/8"	.091 - 1"	
7.2	0.16	-0.98	do	z 47	0.21	1'-4"	do	
7.3	0.17	-1.04	do	z 47	0.22	do	do	
7.4	0.16	-0.98	do	z 47	0.21	1'-4"	do	
7.5	0.16	-0.95	U 1 x 3/4 x 0.091	z 54	0.21	1'-6 3/8"	.091 - 1"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 13'-8 1/2" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 20'-7 7/8" ==> 4 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 6'-2 1/4" 2'-7 1/2"
 12'-4 1/2" 6'-2 1/4"
 12'-4 1/2" 12'-4 1/2"



Mark : TJ22

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:55

15' -11 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

135 / 162

Area to Paint

: 52.23 ft2

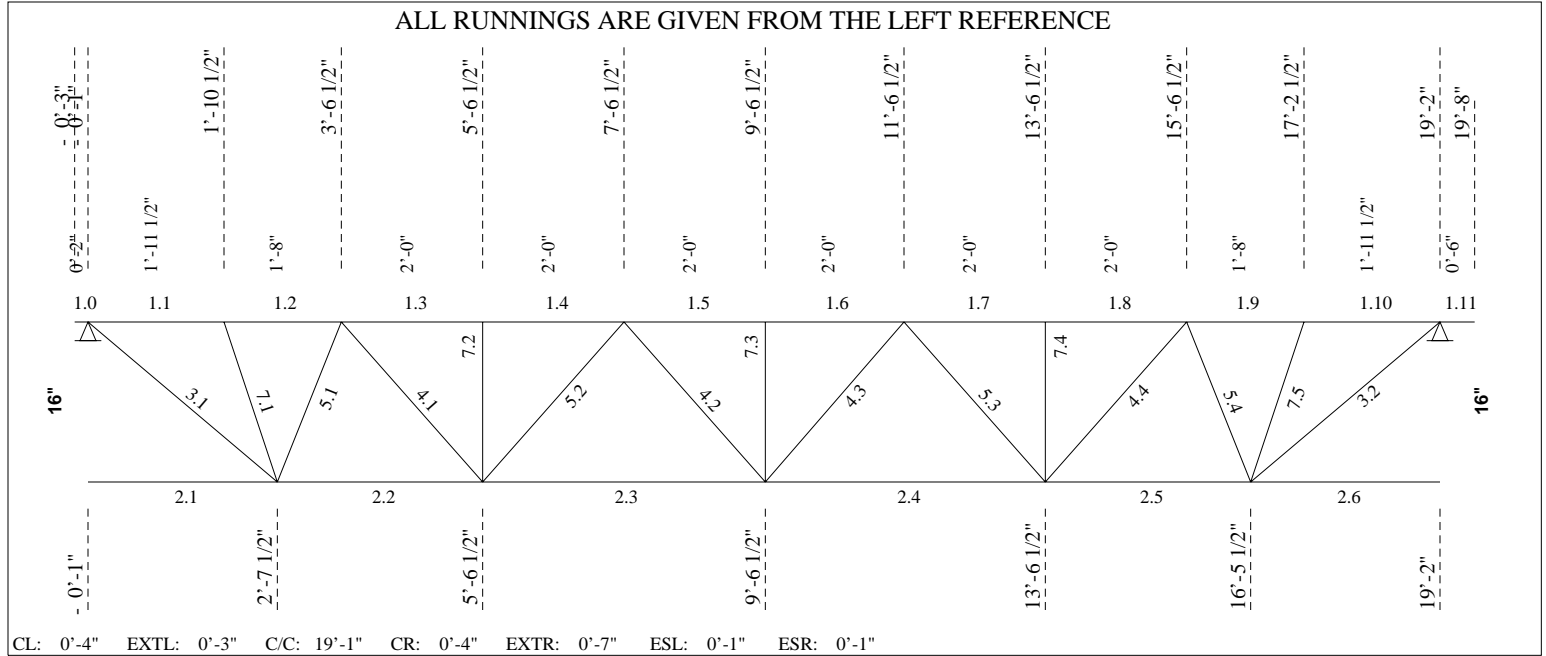
Material Sort : Cost

95(113)-95(113)-25-10/6-135(162) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ23B (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 415.58 lb/ft 16KCS2 LIVE LOAD...: 207.79 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-2"	Type	F[S]	Shoe =	2.50	Mf =	-0.006 ft-kip	(0.208)
TL =	416	LL =	208 ntQL =	84	Req.D. LL = L/	180 =	0.01	TL = L/ 90 = 0.02
I =	0.46 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -346 = -0.01
Tcx-R	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.052 ft-kip	(0.266)
TL =	416	LL =	208 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	0.46 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -356 = -0.02

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	0.63 in (L/ 360)
Calculated deflection under service live load..... =	0.21 in (L/ 1102)
Joist inertia..... =	115.16 in ⁴
Required camber..... =	0.24 in



Mark : TJ23B

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:55

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 15.01 in)

Left Reaction = 4.00/ -0.81 kips Right Reaction = 4.14/ -0.84 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .156	z 5	0.21	0'-2"		
1.1	1.46	-7.23	do	z 54	0.46	1'-11 1/2"		
1.2	1.37	-6.80	do	z 51	0.43	1'-8"		
1.3	2.47	-23.25	do	z 46	0.89	2'-0"		
1.4	2.47	-23.25	do	z 46	0.89	do		
1.5	3.00	-23.25	do	z 46	0.88	do		
1.6	3.00	-23.25	do	z 46	0.88	do		
1.7	2.47	-23.25	do	z 46	0.89	do		
1.8	2.47	-23.25	do	z 46	0.89	2'-0"		
1.9	1.37	-6.80	do	z 51	0.43	1'-8"		
1.10	1.46	-7.23	do	z 54	0.46	1'-11 1/2"		
1.11	0.00	0.00	LL 2 X .156	z 15	0.27	0'-6"		
Bottom Chord								
2.1	23.25	0.00	LL 1.5 X .155	z 104	0.88	2'-8 1/2"		
2.2	23.25	-1.79	do	z 119	0.88	2'-11"		
2.3	23.25	-2.87	do	z 163	0.88	4'-0"		
2.4	23.25	-2.87	do	z 163	0.88	4'-0"		
2.5	23.25	-1.79	do	z 119	0.88	2'-11"		
2.6	23.25	0.00	LL 1.5 X .155	z 104	0.88	2'-8 1/2"		
End Diagonal								
3.1	9.06	-1.63	BR 1"	yy109	0.43	2'-10 1/2"	.230 - 1"	
3.2	9.06	-1.63	BR 1"	yy109	0.43	2'-10 1/2"	.230 - 1"	
Diagonal Towards End								
4.1	7.54	-7.54	U 1 3/8 x 1 1/4 x 0.118	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
4.2	7.54	-7.54	do	z 53	0.97	do	do	
4.3	7.54	-7.54	do	z 53	0.97	do	do	
4.4	7.54	-7.54	U 1 3/8 x 1 1/4 x 0.118	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
Diagonal Towards Center								
5.1	0.71	-4.96 i	U 1 3/8 x 1 1/4 x 0.118	z 35	0.55	1'-7 3/8"	.118 - 1 1/2"	
5.2	0.48	-7.54	do	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
5.3	0.48	-7.54	do	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
5.4	0.71	-4.96 i	U 1 3/8 x 1 1/4 x 0.118	z 35	0.55	1'-7 3/8"	.118 - 1 1/2"	
Secondary Web Member								
7.1	0.17	-4.66 i	U 1 3/8 x 1 1/4 x 0.118	z 33	0.51	1'-6 3/8"	.118 - 1 1/2"	
7.2	0.17	-4.00	do	z 28	0.42	1'-4"	do	
7.3	0.17	-4.00	do	z 28	0.42	do	do	
7.4	0.17	-4.00	do	z 28	0.42	1'-4"	do	
7.5	0.17	-4.66 i	U 1 3/8 x 1 1/4 x 0.118	z 33	0.51	1'-6 3/8"	.118 - 1 1/2"	

----- BRIDGING -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-1 3/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 20'-8 5/8" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-6 1/2" 2'-7 1/2"
 9'-6 1/2"



Mark : TJ23B

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:55

16'-5 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

183 / 196

Area to Paint

: 65.55 ft2

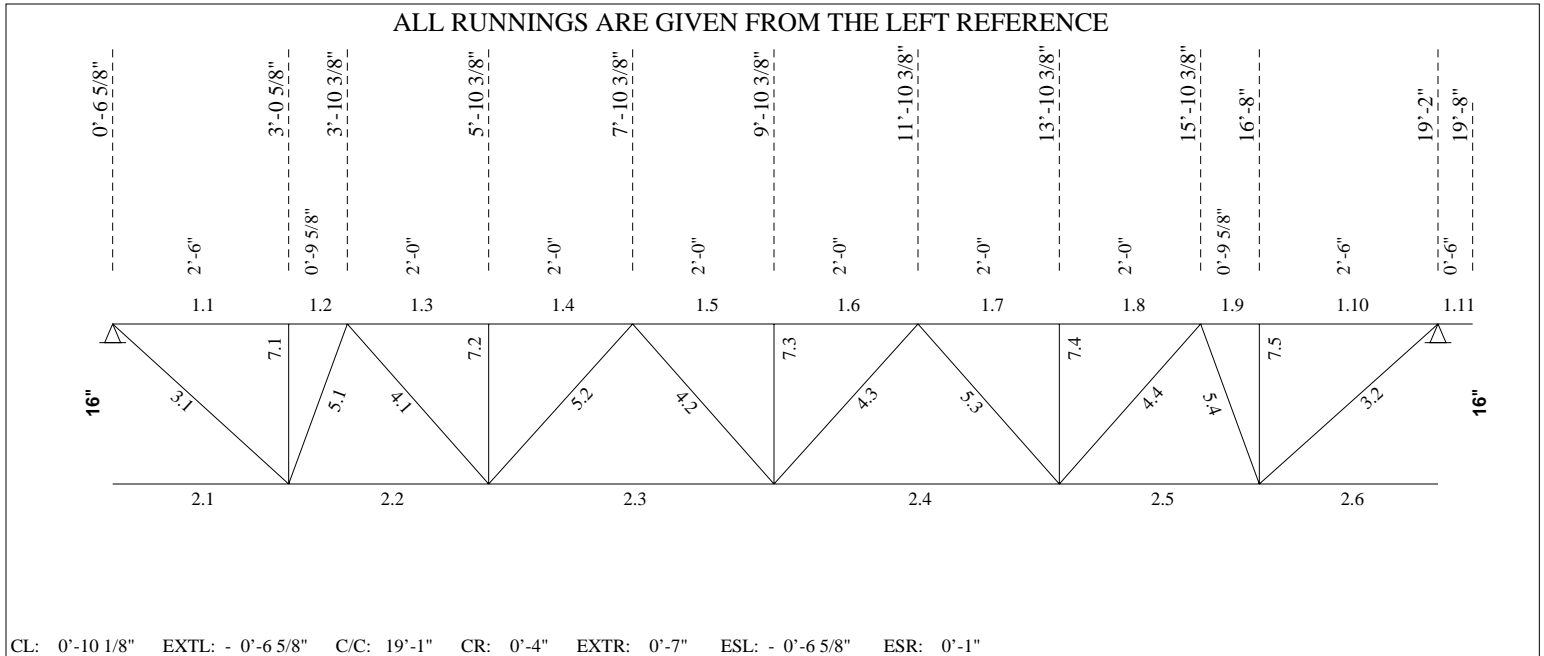
Material Sort : Cost

126(135)-126(135)-25-10/6-183(196) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ23C (LS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 429.77 lb/ft 16KCS2 LIVE LOAD...: 214.89 lb/ft

----- **EXTENSION** -----

Tcx-R 0'-6" Type F[S] Shoe = 2.50 Mf = -0.054 ft-kip (0.245)
 TL = 430 LL = 215 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07
 I = 0.46 in^4 Cal.D. LL = L/ 9999 = 0.00 TL = L/ -383 = -0.02

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 0.61 in (L/ 360)
 Calculated deflection under service live load..... = 0.19 in (L/ 1181)
 Joist inertia..... = 115.16 in^4
 Required camber..... = 0.23 in



Mark : TJ23C

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:56

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 15.01 in)

Left Reaction = 4.00/ -0.77 kips Right Reaction = 4.15/ -0.81 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.1	1.25	-6.39	LL 2 X .156	z 71	0.58	2'-6"		
1.2	1.25	-6.39	do	z 24	0.52	0'-9 5/8"		
1.3	2.27	-23.25	do	z 46	0.90	2'-0"		
1.4	2.27	-23.25	do	z 46	0.90	do		
1.5	2.80	-23.25	do	z 46	0.88	do		
1.6	2.80	-23.25	do	z 46	0.88	do		
1.7	2.27	-23.25	do	z 46	0.90	do		
1.8	2.27	-23.25	do	z 46	0.90	2'-0"		
1.9	1.25	-6.39	do	z 24	0.52	0'-9 5/8"		
1.10	1.25	-6.39	do	z 71	0.58	2'-6"		
1.11	0.00	0.00	LL 2 X .156	z 15	0.24	0'-6"		
Bottom Chord								
2.1	23.25	0.00	LL 1.5 X .155	z 95	0.88	2'-6"		
2.2	23.25	-1.60	do	z 114	0.88	2'-9 5/8"		
2.3	23.25	-2.67	do	z 163	0.88	4'-0"		
2.4	23.25	-2.67	do	z 163	0.88	4'-0"		
2.5	23.25	-1.60	do	z 114	0.88	2'-9 5/8"		
2.6	23.25	0.00	LL 1.5 X .155	z 95	0.88	2'-6"		
End Diagonal								
3.1	8.47	-1.42	BR 1"	yy102	0.40	2'-8 1/4"	.230 - 0 7/8"	
3.2	8.47	-1.42	BR 1"	yy102	0.40	2'-8 1/4"	.230 - 0 7/8"	
Diagonal Towards End								
4.1	7.54	-7.54	d U 1 3/8 x 1 1/4 x 0.118	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
4.2	7.54	-7.54	d do	z 53	0.97	do	do	
4.3	7.54	-7.54	d do	z 53	0.97	do	do	
4.4	7.54	-7.54	d U 1 3/8 x 1 1/4 x 0.118	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
Diagonal Towards Center								
5.1	0.64	-4.76	U 1 x 1 1/8 x 0.118	z 39	0.67	1'-6 3/4"	.118 - 1 1/2"	
5.2	0.48	-7.54	d U 1 3/8 x 1 1/4 x 0.118	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
5.3	0.48	-7.54	d U 1 3/8 x 1 1/4 x 0.118	z 53	0.97	2'-4 7/8"	.118 - 2 1/8"	
5.4	0.65	-4.76	U 1 x 1 1/8 x 0.118	z 39	0.67	1'-6 3/4"	.118 - 1 1/2"	
Secondary Web Member								
7.1	0.13	-4.00	U 1 x 3/4 x 0.091	z 46	0.85	1'-4"	.091 - 1 1/2"	
7.2	0.17	-4.00	do	z 46	0.85	do	do	
7.3	0.17	-4.00	do	z 46	0.85	do	do	
7.4	0.17	-4.00	do	z 46	0.85	do	do	
7.5	0.13	-4.00	U 1 x 3/4 x 0.091	z 46	0.85	1'-4"	.091 - 1 1/2"	

----- B R I D G I N G -----

Maximum spacing between rows of bridging
 @ Top Chord: 16'-8 7/8" ==> 1 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 21'-4 1/4" ==> 3 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-10 3/8" 3'-0 5/8"
 9'-10 3/8"
 16'-8"



Mark : TJ23C

Project: PROJECT EVELER FREEZER PUYALL

(501994)

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10:14:56

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

172 / 184

Area to Paint

: 61.16 ft2

Material Sort : Cost

118(126)-118(126)-25-10/6-172(184) NNN,NNN



Mark : TJ25

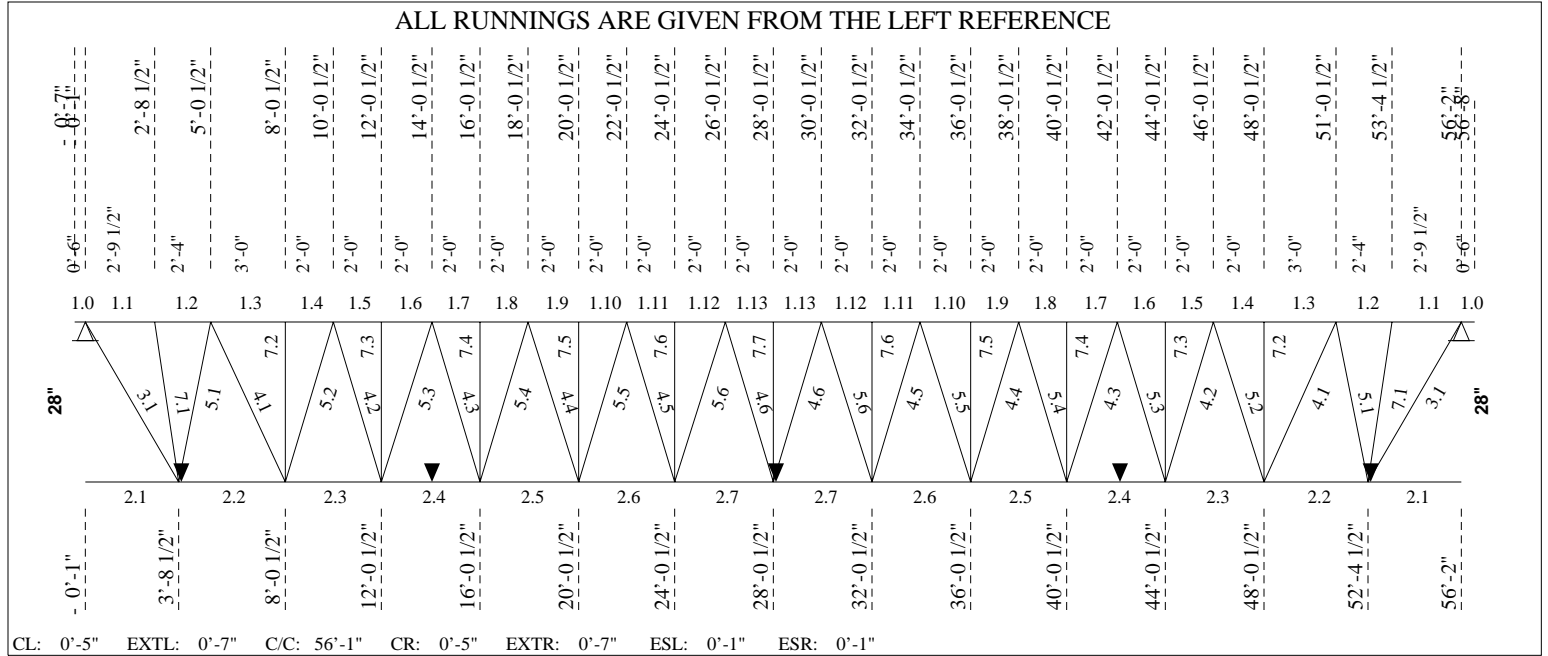
Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:56

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ25 (MS 1" LH, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 nt	Req.D. LL = L/	180 =	0.03	TL = L/	90 = 0.07
I =	1.21 in ⁴			Cal.D. LL = L/	9999 =	0.00	TL = L/	-104 = -0.06

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 nt	Req.D. LL = L/	180 =	0.03	TL = L/	90 = 0.07
I =	1.21 in ⁴			Cal.D. LL = L/	9999 =	0.00	TL = L/	-104 = -0.06

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.86 in (L/ 360)
Calculated deflection under service live load..... =	1.86 in (L/ 360)
Joist inertia..... =	690.07 in ⁴
Required camber..... =	1.31 in



Mark : TJ25

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:56

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.39 kips Right Reaction = 8.76/ -2.39 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2.5 X .210	z 12	0.24	0'-6"		
1.1	3.64	-13.36	do	z 64	0.35	2'-9 1/2"		
1.2	3.55	-13.02	do	z 57	0.55	2'-4"		
1.3	7.20	-26.41	do	z 55	0.60	3'-0"		
1.4	7.20	-26.41	do	z 36	0.65	2'-0"		
1.5	9.92	-36.37	do	z 36	0.70	do		
1.6	9.92	-36.37	do	z 36	0.79	do		
1.7	12.03	-44.12	do	z 36	0.84	do		
1.8	12.03	-44.12	do	z 36	0.88	do		
1.9	13.54	-49.65	do	z 36	0.95	do		
1.10	13.54	-49.65	do	z 36	0.95	do		
1.11	14.45	-52.97	x do	zz 24	0.96	do		
1.12	14.45	-52.97	x do	zz 24	0.96	do		
1.13	14.75	-54.08	x LL 2.5 X .210	zz 24	0.98	2'-0"		
Bottom Chord								
2.1	0.00	0.00	LL 2 X .247	z 111	0.29	3'-9 1/2"		
2.2	17.48	-4.77	do	z 120	0.53	4'-4"		
2.3	31.66	-8.64	do	z 110	0.67	4'-0"		
2.4	40.52	-11.05	do	yy127	0.78	do		
2.5	47.16	-12.86	do	yy128	0.86	do		
2.6	51.59	-14.07	do	yy128	0.93	do		
2.7	53.80	-14.67	LL 2 X .247	yy128	0.97	4'-0"		
End Diagonal								
3.1	15.68	-4.28	BR 1"	yy163	0.97	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-3.03	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.92	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.47	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-1.02	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	U 1 x 0.091	z 81	0.70	3'-0 7/8"	.090 - 1 1/2"	
Diagonal Towards Center								
5.1	2.37	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	2.15	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.69	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	1.24	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.79	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.34	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	3'-0 7/8"	.118 - 1 1/2"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.17	-0.88	do	z 83	0.25	do	do	
7.6	0.17	-0.89	do	z 83	0.26	do	do	
7.7	0.17	-0.90	U 1 x 3/4 x 0.091	z 83	0.26	2'-4"	.091 - 1"	



Mark : TJ25

Project: PROJECT EVELER FREEZER PUYALL

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----- BRIDGING -----

Maximum spacing between rows of bridging				Lateral Supports
@ Top Chord:	18'-6 1/4" ==>	3 Row(s) Minimum		Deck (36")
@ Bottom Chord:	24'-9 1/8" ==>	5 Row(s) Minimum		Imposed and conc. load 5 or

POSITION	@ Top Chord	@ Bottom Chord
	13'-11 3/4"	3'-8 1/2"
	28'-0 1/2"	13'-11 3/4"
	42'-1 1/4"	28'-0 1/2"
		42'-1 1/4"
		52'-4 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

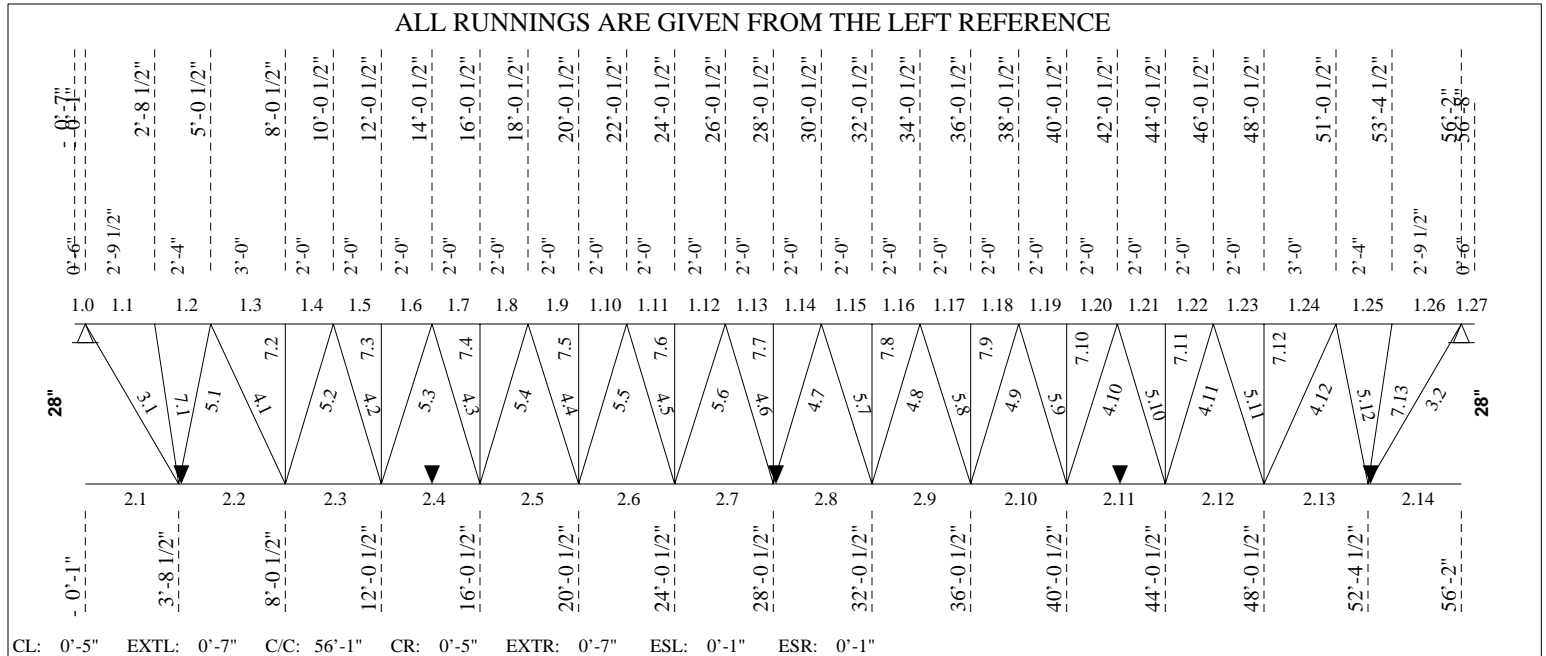
Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
856	/	896	Area to Paint	:	228.37 ft2
					Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ26 (LS, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.189)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	2.76	in ⁴			Cal.D. LL = L/	485 =	0.01	TL = L/ -159 = -0.04

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.179)
TL =	308	LL =	148 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	2.76	in ⁴			Cal.D. LL = L/	513 =	0.01	TL = L/ -159 = -0.04

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	1.50	1.50	25'-7"*	25'-7"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	30'-7"*	5'-0"	1	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 1055.23 in⁴
 Required camber..... = 1.31 in

===== LOAD NO 2 (TJ26#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	1.50	0.00	0.00	25'-7"*	25'-7"	1	1	0	0
2	1	Both	No	1.90	1.90	0.00	25'-7"*	0'-0"	1	1	90	0
3	1	Both	No	1.50	0.00	0.00	30'-7"*	5'-0"	1	1	0	0
4	1	Both	No	-1.90	-1.90	0.00	30'-7"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.67 in (L/ 403)

===== LOAD NO 3 (TJ26#03) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

Tcx-R 0'-6" Type F[S] Shoe = 5.00 Mf = -0.038 ft-kip 0.000
 TL = 308 LL = 148 ntQL = 84 Req.D. LL = L/ 180 = 0.03 TL = L/ 90 = 0.07

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
1	1	Both	No	-1.50	-1.50	0.00	25'-7"*	25'-7"	1	1	0	0



Mark : TJ26

Project: PROJECT EVELER FREEZER PUYALL

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-----CONCENTRATED LOADS (From Axis) (Cont.)-----

No	Sp	Side	Hole	Total Load [kips]	Live load [kips]	Net uplift [kips]	Position [ft]	Spacing [ft]	Cat. 0-9	Chord 1/2	Incl. [deg]	Cmp
2	1	Both	No	-1.90	-1.90	0.00	25'-7"*	0'-0"	1	1	90	0
3	1	Both	No	-1.50	-1.50	0.00	30'-7"*	5'-0"	1	1	0	0
4	1	Both	No	1.90	1.90	0.00	30'-7"*	0'-0"	1	1	90	0

----- UPLIFT -----

Net uplift uniform load : 84.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.67 in (L/ 403)

=====**End of multiple loads**=====

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.30 in)

Left Reaction = 10.26/ -3.89 kips Right Reaction = 10.27/ -3.89 kips

REQUIRED MATERIAL
x = tied at mid-length

REQUIRED WELD
Weld-Ea.Side

No	Tension	Compres.	REQUIRED MATERIAL x = tied at mid-length	Slend. Util.	Length	REQUIRED WELD Weld-Ea.Side	Remarks
Top Chord							
1.0	0.00	0.00	LL 3 X .281	z 10 0.19	0'-6"		
1.1	6.18	-17.04	do	z 53 0.24	2'-9 1/2"		
1.2	6.08	-16.70	do	z 47 0.39	2'-4"		
1.3	12.75	-32.25	do	z 46 0.41	3'-0"		
1.4	12.75	-32.25	do	z 30 0.49	2'-0"		
1.5	18.24	-45.10	do	z 30 0.51	do		
1.6	18.24	-45.10	do	z 30 0.61	do		
1.7	23.12	-55.70	do	z 30 0.62	do		
1.8	23.12	-55.70	do	z 30 0.70	do		
1.9	27.39	-64.05	do	z 30 0.72	do		
1.10	27.39	-64.05	do	z 30 0.75	do		
1.11	31.04	-70.15	do	z 30 0.79	do		
1.12	31.04	-70.15	do	z 30 0.86	do		
1.13	32.40	-72.33	do	z 30 0.86	do		
1.14	32.40	-72.33	do	z 30 0.86	do		
1.15	31.09	-70.20	do	z 30 0.86	do		
1.16	31.09	-70.20	do	z 30 0.80	do		
1.17	27.43	-64.09	do	z 30 0.75	do		
1.18	27.43	-64.09	do	z 30 0.72	do		
1.19	23.15	-55.73	do	z 30 0.70	do		
1.20	23.15	-55.73	do	z 30 0.62	do		
1.21	18.27	-45.12	do	z 30 0.61	do		
1.22	18.27	-45.12	do	z 30 0.51	do		
1.23	12.77	-32.26	do	z 30 0.49	2'-0"		
1.24	12.77	-32.26	do	z 46 0.41	3'-0"		
1.25	6.09	-15.71	do	z 47 0.39	2'-4"		
1.26	6.19	-16.05	do	z 53 0.23	2'-9 1/2"		
1.27	0.00	0.00	LL 3 X .281	z 10 0.18	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 3 X .25	z 73 0.23	3'-9 1/2"		
2.2	21.14	-8.23	do	z 79 0.42	4'-4"		
2.3	38.95	-15.57	do	z 73 0.54	4'-0"		
2.4	50.68	-20.76	do	yy 97 0.64	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL		Slend.	Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length					Weld-Ea.Side		
2.5	60.15	-25.33	do		yy 98	0.72	do			
2.6	67.38	-29.29	do		yy 98	0.78	do			
2.7	72.05	-32.32	do		yy 98	0.84	do			
2.8	72.05	-32.32	do		yy 98	0.84	do			
2.9	67.43	-29.33	do		yy 98	0.78	do			
2.10	60.19	-25.37	do		yy 98	0.72	do			
2.11	50.71	-20.79	do		yy 97	0.64	do			
2.12	38.97	-15.59	do		z 73	0.54	4'-0"			
2.13	21.15	-8.24	do		z 79	0.42	4'-4"			
2.14	0.00	0.00	LL 3 X .25		z 73	0.23	3'-9 1/2"			
End Diagonal										
3.1	18.75	-7.22	1" SQUARE BAR		yy141	0.95	4'-3 3/4"	.250 -	2 1/2"	
3.2	18.76	-7.23	1" SQUARE BAR		yy141	0.95	4'-3 3/4"	.250 -	2 1/2"	
Diagonal Towards End										
4.1	13.76	-5.60	d U 1 3/8 x 0.136		z 77	0.92	3'-9 5/8"	.136 -	3 3/8"	
4.2	9.11	-3.96	U 1 x 1 1/8 x 0.118		z 77	0.92	3'-0 7/8"	.118 -	2 5/8"	
4.3	7.45	-3.51	U 1 x 1 1/8 x 0.118		z 77	0.79	do	.118 -	2 1/8"	
4.4	5.78	-3.05	U 1 x 0.091		z 80	0.97	do	.090 -	2 1/8"	
4.5	4.11	-2.60	do		z 80	0.83	do	.090 -	1 1/2"	
4.6	3.47	-3.02	do		z 80	0.96	do	do		
4.7	3.47	-3.02	do		z 80	0.96	do	do		
4.8	4.12	-2.60	do		z 80	0.83	do	.090 -	1 1/2"	
4.9	5.79	-3.06	U 1 x 0.091		z 80	0.97	do	.090 -	2 1/8"	
4.10	7.45	-3.51	U 1 x 1 1/8 x 0.118		z 77	0.79	do	.118 -	2 1/8"	
4.11	9.12	-3.97	U 1 x 1 1/8 x 0.118		z 77	0.92	3'-0 7/8"	.118 -	2 5/8"	
4.12	13.77	-5.61	d U 1 3/8 x 0.136		z 77	0.92	3'-9 5/8"	.136 -	3 3/8"	
Diagonal Towards Center										
5.1	4.13	-10.47	d U 1 3/8 x 0.157		z 52	0.92	2'-8 1/4"	.158 -	2 1/4"	
5.2	4.19	-9.95	d U 1 3/8 x 0.157		z 60	0.95	3'-0 7/8"	.158 -	2 1/8"	
5.3	3.73	-8.28	d U 1 3/8 x 0.136		z 62	0.97	do	.136 -	2"	
5.4	3.28	-6.61	d U 1 3/8 x 1 1/4 x 0.118		z 66	0.97	do	.118 -	1 7/8"	
5.5	2.82	-4.95	U 1 x 1 1/4 x 0.136		z 71	0.92	do	.136 -	1 1/2"	
5.6	1.90	-3.47	U 1 x 1 1/8 x 0.118		z 77	0.78	do	.118 -	1 1/2"	
5.7	1.82	-3.47	U 1 x 1 1/8 x 0.118		z 77	0.78	do	.118 -	1 1/2"	
5.8	2.83	-4.95	U 1 x 1 1/4 x 0.136		z 71	0.92	do	.136 -	1 1/2"	
5.9	3.28	-6.62	d U 1 3/8 x 1 1/4 x 0.118		z 66	0.97	do	.118 -	1 7/8"	
5.10	3.74	-8.29	d U 1 3/8 x 0.136		z 62	0.97	do	.136 -	2"	
5.11	4.19	-9.96	d U 1 3/8 x 0.157		z 60	0.95	3'-0 7/8"	.158 -	2 1/8"	
5.12	4.14	-10.48	d U 1 3/8 x 0.157		z 52	0.92	2'-8 1/4"	.158 -	2 1/4"	
Secondary Web Member										
7.1	0.23	-0.93	U 1 x 3/4 x 0.091		z 89	0.29	2'-6 1/2"	.091 -	1"	
7.2	0.21	-0.94	do		z 81	0.26	2'-4"	do		
7.3	0.17	-0.85	do		z 81	0.24	do	do		
7.4	0.17	-0.90	do		z 81	0.25	do	do		
7.5	0.17	-0.95	do		z 81	0.27	do	do		
7.6	0.51	-1.36	do		z 81	0.38	do	do		
7.7	0.17	-0.99	do		z 81	0.28	do	do		
7.8	0.57	-1.42	do		z 81	0.40	do	do		
7.9	0.17	-0.95	do		z 81	0.27	do	do		
7.10	0.17	-0.90	do		z 81	0.25	do	do		
7.11	0.17	-0.85	do		z 81	0.24	do	do		
7.12	0.21	-0.94	do		z 81	0.26	2'-4"	do		
7.13	0.23	-0.92	U 1 x 3/4 x 0.091		z 89	0.29	2'-6 1/2"	.091 -	1"	



Mark : TJ26

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:56

BRIDGING

Maximum spacing between rows of bridging				Lateral Supports
@ Top Chord:	21'-3 1/8" ==>	2 Row(s) Minimum		Deck (36")
@ Bottom Chord:	32'-5 1/2" ==>	5 Row(s) Minimum		Imposed and conc. load 5 or

POSITION	@ Top Chord	@ Bottom Chord
	18'-8"	3'-8 1/2"
	37'-5"	13'-11 3/4"
		28'-0 1/2"
		42'-1 1/4"
		52'-4 1/2"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

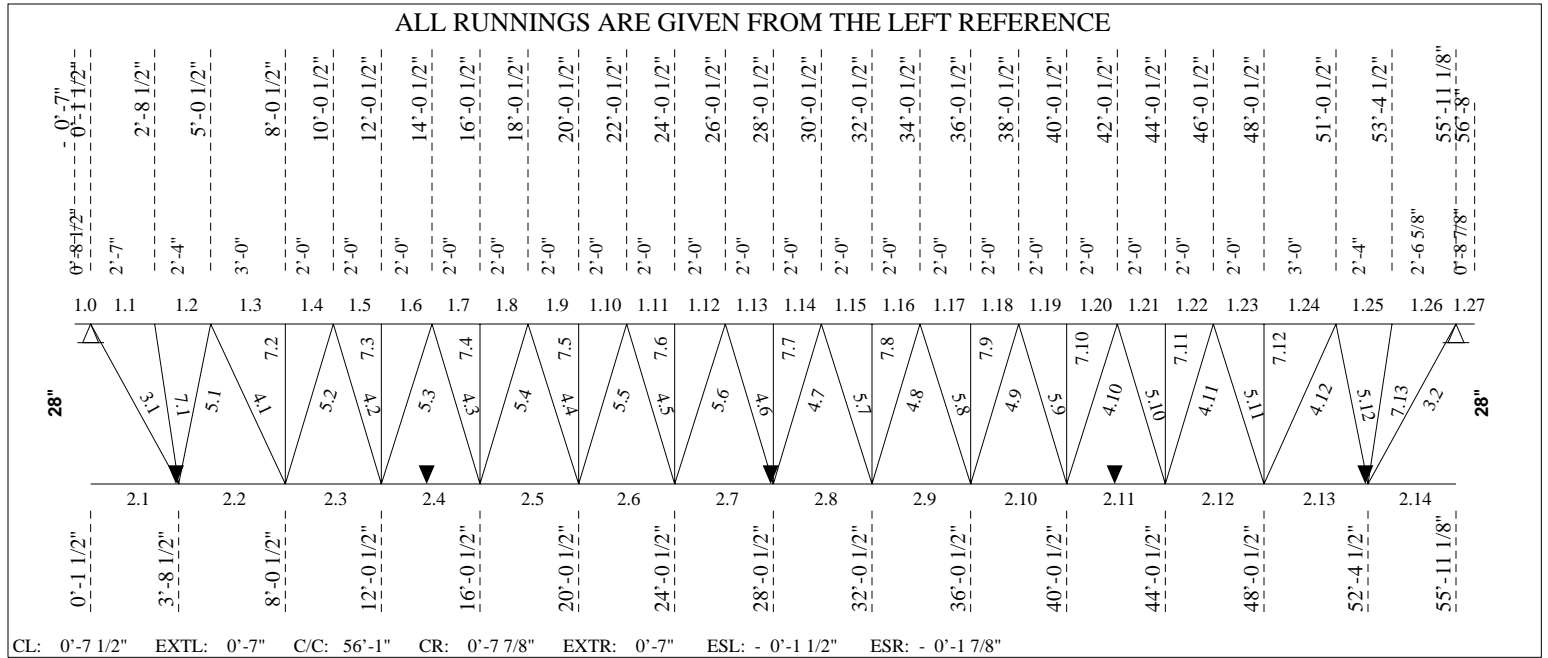
Project no.:	501994	Designer:	Qingfang Wu	Shop:	Buckeye Arizona [Production]
	1287 / 1342		Area to Paint	:	285.08 ft2
					Material Sort : Cost

857(893)-857(893)-25-26/14-1287(1342) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ27 (MS 1" LH, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-8 1/2"	Type	F[S]	Shoe =	5.00	Mf =	-0.077 ft-kip	(0.254)
TL =	308	LL =	148	ntQL =	55	Req.D. LL = L/	180 =	0.05 TL = L/
I =	1.21 in ⁴			Cal.D. LL = L/	9999 =	0.00 TL = L/	-107 =	-0.08

Tcx-R	0'-8 7/8"	Type	F[S]	Shoe =	5.00	Mf =	-0.084 ft-kip	(0.256)
TL =	308	LL =	148	ntQL =	55	Req.D. LL = L/	180 =	0.05 TL = L/
I =	1.21 in ⁴			Cal.D. LL = L/	9999 =	0.00 TL = L/	-107 =	-0.08

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
						1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



Mark : TJ27

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:56

----- DEFLECTION -----

Allowed deflection under live load..... = 1.85 in (L/ 360)
 Calculated deflection under service live load..... = 1.81 in (L/ 368)
 Joist inertia..... = 690.07 in⁴
 Required camber..... = 1.29 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.03 kips Right Reaction = 8.77/ -1.67 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 17 0.25	0'-8 1/2"		
1.1	2.91	-12.54	do	z 59 0.31	2'-7"		
1.2	2.82	-12.21	do	z 57 0.54	2'-4"		
1.3	5.81	-25.59	do	z 55 0.58	3'-0"		
1.4	5.81	-25.59	do	z 36 0.64	2'-0"		
1.5	7.93	-35.54	do	z 36 0.68	do		
1.6	7.93	-35.54	do	z 36 0.78	do		
1.7	9.44	-43.28	do	z 36 0.83	do		
1.8	9.44	-43.28	do	z 36 0.87	do		
1.9	10.34	-48.81	do	z 36 0.93	do		
1.10	10.34	-48.81	do	z 36 0.93	do		
1.11	10.75	-52.12	do	z 36 1.00	do		
1.12	10.75	-52.12	do	z 36 1.00	do		
1.13	10.77	-53.22 x	do	zz 24 0.96	do		
1.14	10.77	-53.22 x	do	zz 24 0.96	do		
1.15	10.39	-52.10	do	z 36 0.99	do		
1.16	10.39	-52.10	do	z 36 0.99	do		
1.17	9.61	-48.77	do	z 36 0.93	do		
1.18	9.61	-48.77	do	z 36 0.93	do		
1.19	8.44	-43.23	do	z 36 0.87	do		
1.20	8.44	-43.23	do	z 36 0.83	do		
1.21	6.87	-35.47	do	z 36 0.78	do		
1.22	6.87	-35.47	do	z 36 0.68	do		
1.23	4.91	-25.50	do	z 36 0.63	2'-0"		
1.24	4.91	-25.50	do	z 55 0.58	3'-0"		
1.25	2.32	-12.11	do	z 57 0.54	2'-4"		
1.26	2.37	-12.43	do	z 58 0.30	2'-6 5/8"		
1.27	0.00	0.00	LL 2.5 X .210	z 18 0.26	0'-8 7/8"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .247	z 105 0.28	3'-7"		
2.2	16.67	-3.83	do	z 120 0.51	4'-4"		
2.3	30.84	-6.95	do	z 110 0.66	4'-0"		
2.4	39.69	-8.76	do	yy127 0.77	do		
2.5	46.32	-9.97	do	yy127 0.84	do		
2.6	50.74	-10.60	do	yy127 0.91	do		
2.7	52.94	-10.81	do	yy127 0.95	do		
2.8	52.93	-10.63	do	yy127 0.95	do		
2.9	50.71	-10.05	do	yy127 0.91	do		
2.10	46.28	-9.07	do	yy127 0.84	do		
2.11	39.63	-7.70	do	yy127 0.77	do		
2.12	30.76	-5.94	do	z 110 0.66	4'-0"		
2.13	16.57	-3.17	do	z 120 0.51	4'-4"		
2.14	0.00	0.00	LL 2 X .247	z 104 0.28	3'-6 5/8"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	14.97	-3.47	BR 1"	yy157	0.72	4'-1 5/8"	.230 - 1 1/2"	
3.2	14.88	-2.84	BR 1"	yy156	0.63	4'-1 3/8"	.230 - 1 1/2"	
Diagonal Towards End								
4.1	11.96	-2.47	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.71	-1.47	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.32	-1.02	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.02	-0.57	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.80	-1.17	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.15	do	z 81	0.69	do	do	
4.7	2.95	-2.15	do	z 81	0.69	do	do	
4.8	3.81	-1.16	do	z 81	0.51	do	.090 - 1 1/2"	
4.9	5.03	-0.80	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.10	6.33	-1.10	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.11	7.72	-1.39	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.12	11.97	-2.16	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
Diagonal Towards Center								
5.1	1.98	-8.76	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	1.69	-8.44	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.24	-7.00	d U 1 3/8 x 0.136	z 62	0.82	do	.136 - 1 3/4"	
5.4	0.79	-5.66	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.38	-4.40	d U 1 x 1 1/4 x 0.136	z 72	0.82	do	.136 - 1 1/2"	
5.6	0.08	-3.23	d U 1 x 1 1/8 x 0.118	z 78	0.73	do	.118 - 1 1/2"	
5.7	0.36	-3.24	d U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.8	0.66	-4.41	d U 1 x 1 1/4 x 0.136	z 72	0.82	do	.136 - 1 1/2"	
5.9	0.95	-5.67	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.10	1.25	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.11	1.54	-8.45	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.12	1.67	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.22	-0.87	U 1 x 3/4 x 0.091	z 91	0.27	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.90	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.80	do	z 83	0.23	do	do	
7.4	0.17	-0.84	do	z 83	0.24	do	do	
7.5	0.14	-0.87	do	z 83	0.25	do	do	
7.6	0.11	-0.89	do	z 83	0.25	do	do	
7.7	0.11	-0.90	do	z 83	0.26	do	do	
7.8	0.11	-0.89	do	z 83	0.25	do	do	
7.9	0.11	-0.87	do	z 83	0.25	do	do	
7.10	0.11	-0.84	do	z 83	0.24	do	do	
7.11	0.11	-0.80	do	z 83	0.23	do	do	
7.12	0.14	-0.90	do	z 83	0.26	2'-4"	do	
7.13	0.14	-0.86	U 1 x 3/4 x 0.091	z 91	0.27	2'-6 1/2"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-8 7/8" ==> 2 Row(s) Minimum
 @ Bottom Chord: 24'-11 5/8" ==> 5 Row(s) Minimum
 Lateral Supports Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 18'-8 3/4" Add 3'-8 1/2"
 37'-3 7/8" 14'-0 1/4"
 28'-0 1/2"
 42'-0 3/4"
 Add 52'-4 1/2"



Mark : TJ27

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:56

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

855 / 892

Area to Paint

: 228.58 ft2

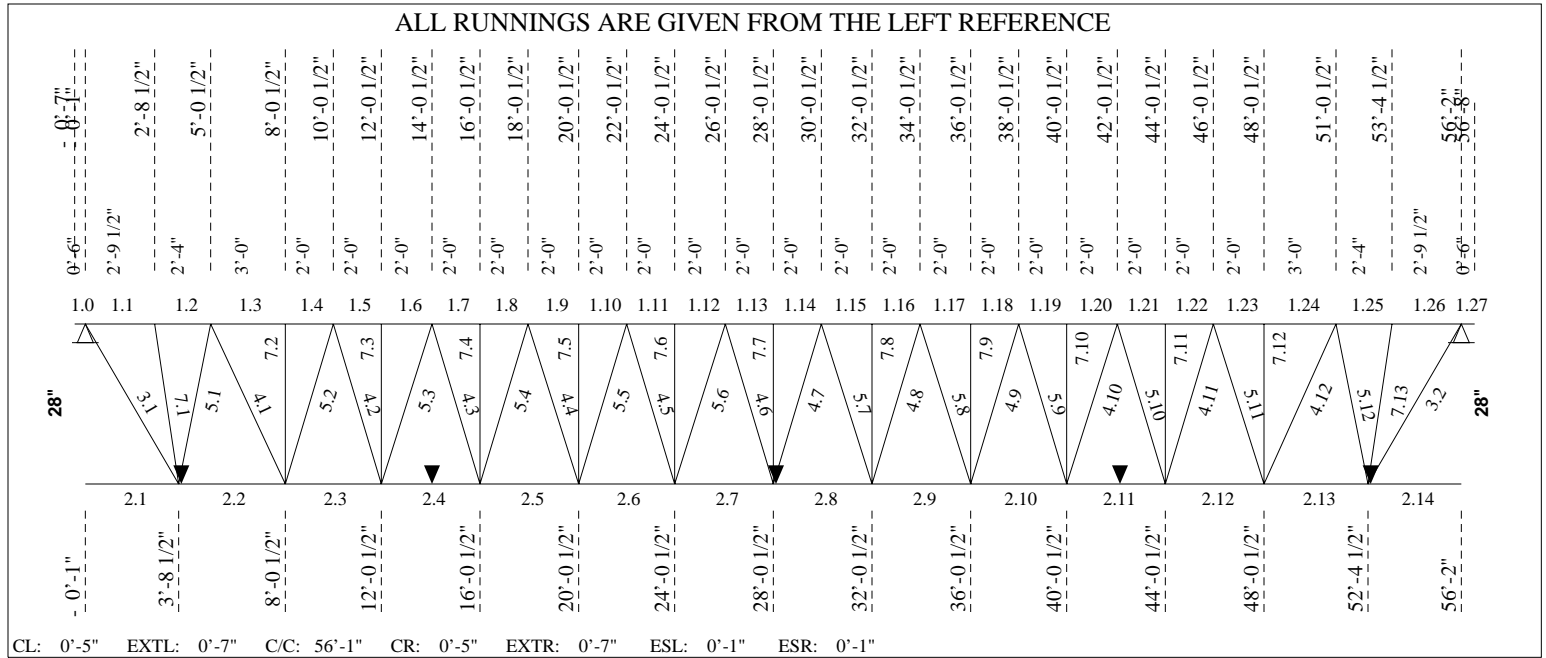
Material Sort : Cost

575(600)-575(600)-25-26/14-855(892) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ27B (MS 1" LH, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
						1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



Mark : TJ27B

Project: PROJECT EVELER FREEZER PUYALL

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----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 690.07 in⁴
 Required camber..... = 1.31 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.04 kips Right Reaction = 8.76/ -1.67 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
1.1	3.10	-13.36	do	z 64 0.35	2'-9 1/2"		
1.2	3.00	-13.02	do	z 57 0.55	2'-4"		
1.3	6.00	-26.41	do	z 55 0.60	3'-0"		
1.4	6.00	-26.41	do	z 36 0.65	2'-0"		
1.5	8.11	-36.37	do	z 36 0.70	do		
1.6	8.11	-36.37	do	z 36 0.79	do		
1.7	9.62	-44.12	do	z 36 0.84	do		
1.8	9.62	-44.12	do	z 36 0.88	do		
1.9	10.53	-49.65	do	z 36 0.95	do		
1.10	10.53	-49.65	do	z 36 0.95	do		
1.11	10.94	-52.97 x	do	zz 24 0.96	do		
1.12	10.94	-52.97 x	do	zz 24 0.96	do		
1.13	10.95	-54.08 x	do	zz 24 0.98	do		
1.14	10.95	-54.08 x	do	zz 24 0.98	do		
1.15	10.57	-52.97 x	do	zz 24 0.96	do		
1.16	10.57	-52.97 x	do	zz 24 0.96	do		
1.17	9.79	-49.65	do	z 36 0.95	do		
1.18	9.79	-49.65	do	z 36 0.95	do		
1.19	8.62	-44.12	do	z 36 0.88	do		
1.20	8.62	-44.12	do	z 36 0.84	do		
1.21	7.05	-36.37	do	z 36 0.79	do		
1.22	7.05	-36.37	do	z 36 0.70	do		
1.23	5.08	-26.41	do	z 36 0.65	2'-0"		
1.24	5.08	-26.41	do	z 55 0.60	3'-0"		
1.25	2.49	-13.02	do	z 57 0.55	2'-4"		
1.26	2.55	-13.36	do	z 64 0.35	2'-9 1/2"		
1.27	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		
2.2	17.48	-4.02	do	z 120 0.53	4'-4"		
2.3	31.66	-7.13	do	z 110 0.67	4'-0"		
2.4	40.52	-8.94	do	yy127 0.78	do		
2.5	47.16	-10.15	do	yy128 0.86	do		
2.6	51.59	-10.78	do	yy128 0.93	do		
2.7	53.80	-10.99	do	yy128 0.97	do		
2.8	53.80	-10.81	do	yy128 0.97	do		
2.9	51.59	-10.23	do	yy128 0.93	do		
2.10	47.16	-9.25	do	yy128 0.86	do		
2.11	40.52	-7.88	do	yy127 0.78	do		
2.12	31.66	-6.11	do	z 110 0.67	4'-0"		
2.13	17.48	-3.35	do	z 120 0.53	4'-4"		
2.14	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		



Mark : TJ27B

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:56

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	15.68	-3.63	BR 1"	yy163	0.82	4'-3 3/4"	.230 - 1 5/8"	
3.2	15.68	-3.00	BR 1"	yy163	0.68	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-2.47	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.47	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.02	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-0.56	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	do	z 81	0.70	do	do	
4.7	2.95	-2.17	do	z 81	0.70	do	do	
4.8	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.9	5.04	-0.80	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.10	6.34	-1.10	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.11	7.73	-1.40	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.12	11.97	-2.16	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
Diagonal Towards Center								
5.1	1.98	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	1.69	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.24	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	0.79	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.38	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.08	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.7	0.36	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.8	0.66	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.9	0.95	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.10	1.25	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.11	1.54	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.12	1.67	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.14	-0.88	do	z 83	0.25	do	do	
7.6	0.11	-0.89	do	z 83	0.26	do	do	
7.7	0.11	-0.90	do	z 83	0.26	do	do	
7.8	0.11	-0.89	do	z 83	0.26	do	do	
7.9	0.11	-0.88	do	z 83	0.25	do	do	
7.10	0.11	-0.85	do	z 83	0.24	do	do	
7.11	0.11	-0.81	do	z 83	0.23	do	do	
7.12	0.14	-0.91	do	z 83	0.26	2'-4"	do	
7.13	0.15	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	

----- **BRIDGING** -----

Maximum spacing between rows of bridging
 @ Top Chord: 18'-6 1/4" ==> 3 Row(s) Minimum
 @ Bottom Chord: 24'-9 1/8" ==> 5 Row(s) Minimum
 Lateral Supports
 Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 13'-11 3/4" 3'-8 1/2"
 28'-0 1/2" 13'-11 3/4"
 42'-1 1/4" 28'-0 1/2"
 42'-1 1/4" 42'-1 1/4"
 52'-4 1/2" 52'-4 1/2"



Mark : TJ27B

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:56

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

856 / 896

Area to Paint

: 228.37 ft2

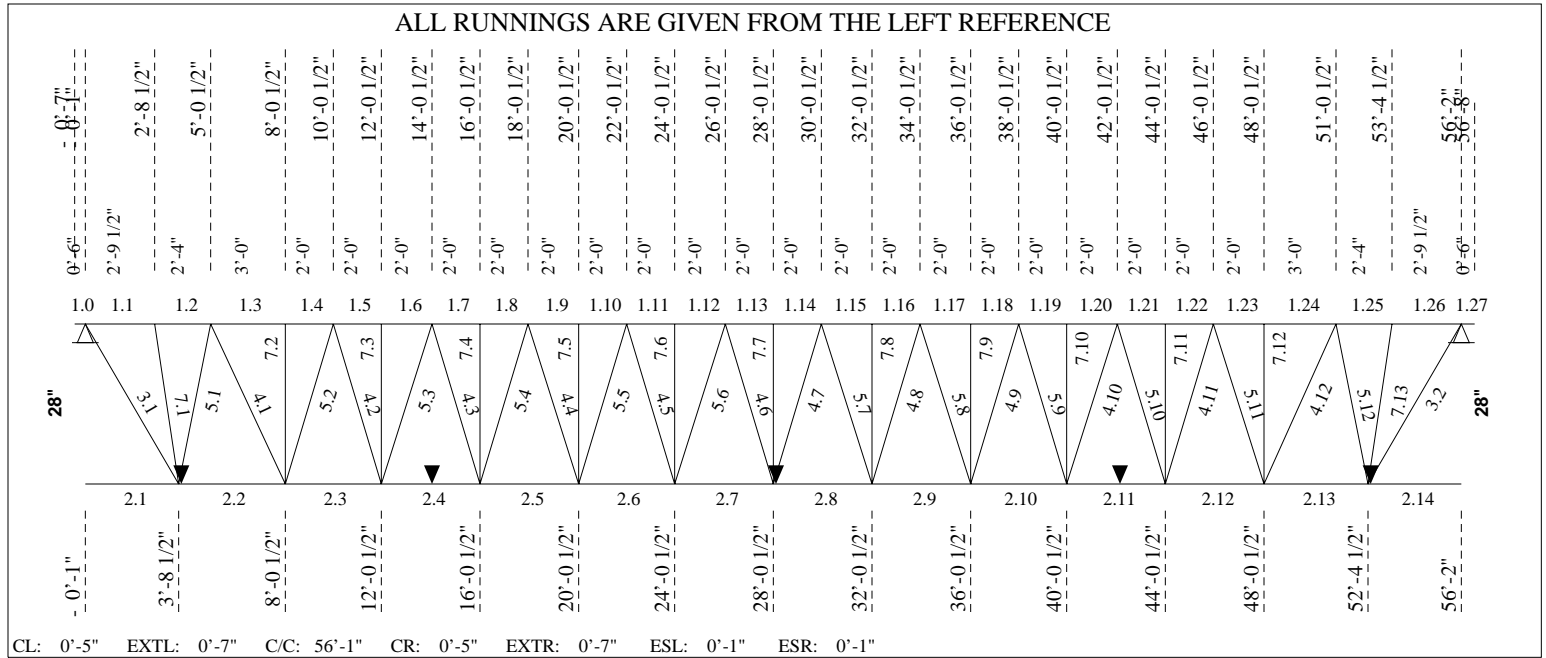
Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ27C (MS 1" LH, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----
 (THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)		
TL =	308	LL =	148	ntQL =	55	Req.D. LL = L/	180 =	0.03 TL = L/	90 =	0.07
I =	1.21	in ⁴		Cal.D. LL = L/	9999 =	0.00	TL = L/	-104 =	-0.06	

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)		
TL =	308	LL =	148	ntQL =	55	Req.D. LL = L/	180 =	0.03 TL = L/	90 =	0.07
I =	1.21	in ⁴		Cal.D. LL = L/	9999 =	0.00	TL = L/	-104 =	-0.06	

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
						1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



Mark : TJ27C

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:57

----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 690.07 in⁴
 Required camber..... = 1.31 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.04 kips Right Reaction = 8.76/ -1.67 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
1.1	3.10	-13.36	do	z 64 0.35	2'-9 1/2"		
1.2	3.00	-13.02	do	z 57 0.55	2'-4"		
1.3	6.00	-26.41	do	z 55 0.60	3'-0"		
1.4	6.00	-26.41	do	z 36 0.65	2'-0"		
1.5	8.11	-36.37	do	z 36 0.70	do		
1.6	8.11	-36.37	do	z 36 0.79	do		
1.7	9.62	-44.12	do	z 36 0.84	do		
1.8	9.62	-44.12	do	z 36 0.88	do		
1.9	10.53	-49.65	do	z 36 0.95	do		
1.10	10.53	-49.65	do	z 36 0.95	do		
1.11	10.94	-52.97 x	do	zz 24 0.96	do		
1.12	10.94	-52.97 x	do	zz 24 0.96	do		
1.13	10.95	-54.08 x	do	zz 24 0.98	do		
1.14	10.95	-54.08 x	do	zz 24 0.98	do		
1.15	10.57	-52.97 x	do	zz 24 0.96	do		
1.16	10.57	-52.97 x	do	zz 24 0.96	do		
1.17	9.79	-49.65	do	z 36 0.95	do		
1.18	9.79	-49.65	do	z 36 0.95	do		
1.19	8.62	-44.12	do	z 36 0.88	do		
1.20	8.62	-44.12	do	z 36 0.84	do		
1.21	7.05	-36.37	do	z 36 0.79	do		
1.22	7.05	-36.37	do	z 36 0.70	do		
1.23	5.08	-26.41	do	z 36 0.65	2'-0"		
1.24	5.08	-26.41	do	z 55 0.60	3'-0"		
1.25	2.49	-13.02	do	z 57 0.55	2'-4"		
1.26	2.55	-13.36	do	z 64 0.35	2'-9 1/2"		
1.27	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		
2.2	17.48	-4.02	do	z 120 0.53	4'-4"		
2.3	31.66	-7.13	do	z 110 0.67	4'-0"		
2.4	40.52	-8.94	do	yy127 0.78	do		
2.5	47.16	-10.15	do	yy128 0.86	do		
2.6	51.59	-10.78	do	yy128 0.93	do		
2.7	53.80	-10.99	do	yy128 0.97	do		
2.8	53.80	-10.81	do	yy128 0.97	do		
2.9	51.59	-10.23	do	yy128 0.93	do		
2.10	47.16	-9.25	do	yy128 0.86	do		
2.11	40.52	-7.88	do	yy127 0.78	do		
2.12	31.66	-6.11	do	z 110 0.67	4'-0"		
2.13	17.48	-3.35	do	z 120 0.53	4'-4"		
2.14	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	15.68	-3.63	BR 1"	yy163	0.82	4'-3 3/4"	.230 - 1 5/8"	
3.2	15.68	-3.00	BR 1"	yy163	0.68	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-2.47	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.47	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.02	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-0.56	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	do	z 81	0.70	do	do	
4.7	2.95	-2.17	do	z 81	0.70	do	do	
4.8	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.9	5.04	-0.80	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.10	6.34	-1.10	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.11	7.73	-1.40	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.12	11.97	-2.16	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
Diagonal Towards Center								
5.1	1.98	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	1.69	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.24	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	0.79	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.38	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.08	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.7	0.36	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.8	0.66	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.9	0.95	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.10	1.25	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.11	1.54	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.12	1.67	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.14	-0.88	do	z 83	0.25	do	do	
7.6	0.11	-0.89	do	z 83	0.26	do	do	
7.7	0.11	-0.90	do	z 83	0.26	do	do	
7.8	0.11	-0.89	do	z 83	0.26	do	do	
7.9	0.11	-0.88	do	z 83	0.25	do	do	
7.10	0.11	-0.85	do	z 83	0.24	do	do	
7.11	0.11	-0.81	do	z 83	0.23	do	do	
7.12	0.14	-0.91	do	z 83	0.26	2'-4"	do	
7.13	0.15	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-6 1/4" ==> 3 Row(s) Minimum
 @ Bottom Chord: 24'-9 1/8" ==> 5 Row(s) Minimum
 Lateral Supports Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 13'-11 3/4" 3'-8 1/2"
 28'-0 1/2" 13'-11 3/4"
 42'-1 1/4" 28'-0 1/2"
 42'-1 1/4" 42'-1 1/4"
 52'-4 1/2" 52'-4 1/2"



Mark : TJ27C

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:57

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

856 / 896

Area to Paint

: 228.37 ft2

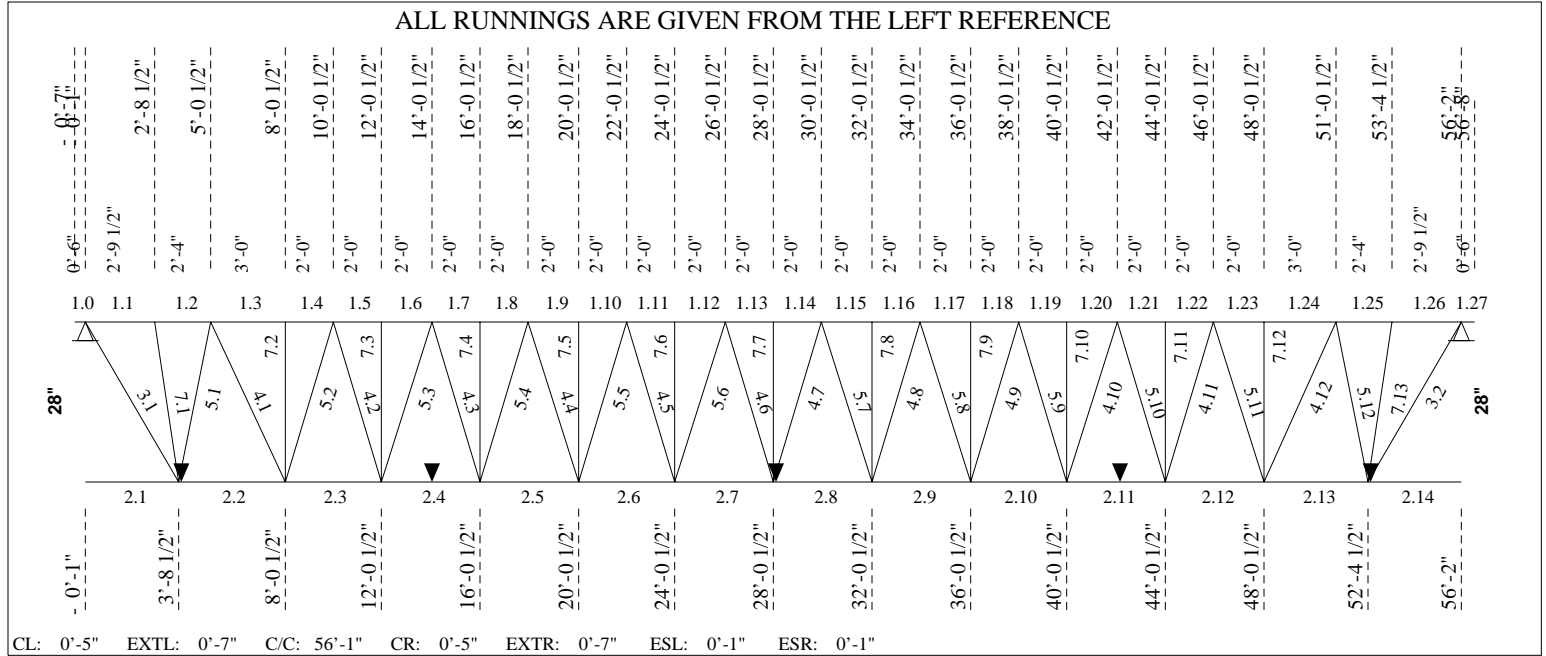
Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ27D (MS 1" LH, Symmetrical,, Free ends) aligned on J25



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.038 ft-kip	(0.244)
TL =	308	LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	1.21 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -104 = -0.06

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
						1	3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.86 in (L/ 360)
 Calculated deflection under service live load..... = 1.86 in (L/ 360)
 Joist inertia..... = 690.07 in⁴
 Required camber..... = 1.31 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.71 in)

Left Reaction = 8.76/ -2.04 kips Right Reaction = 8.76/ -1.67 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
	x = tied at mid-length					Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
1.1	3.10	-13.36	do	z 64 0.35	2'-9 1/2"		
1.2	3.00	-13.02	do	z 57 0.55	2'-4"		
1.3	6.00	-26.41	do	z 55 0.60	3'-0"		
1.4	6.00	-26.41	do	z 36 0.65	2'-0"		
1.5	8.11	-36.37	do	z 36 0.70	do		
1.6	8.11	-36.37	do	z 36 0.79	do		
1.7	9.62	-44.12	do	z 36 0.84	do		
1.8	9.62	-44.12	do	z 36 0.88	do		
1.9	10.53	-49.65	do	z 36 0.95	do		
1.10	10.53	-49.65	do	z 36 0.95	do		
1.11	10.94	-52.97 x	do	zz 24 0.96	do		
1.12	10.94	-52.97 x	do	zz 24 0.96	do		
1.13	10.95	-54.08 x	do	zz 24 0.98	do		
1.14	10.95	-54.08 x	do	zz 24 0.98	do		
1.15	10.57	-52.97 x	do	zz 24 0.96	do		
1.16	10.57	-52.97 x	do	zz 24 0.96	do		
1.17	9.79	-49.65	do	z 36 0.95	do		
1.18	9.79	-49.65	do	z 36 0.95	do		
1.19	8.62	-44.12	do	z 36 0.88	do		
1.20	8.62	-44.12	do	z 36 0.84	do		
1.21	7.05	-36.37	do	z 36 0.79	do		
1.22	7.05	-36.37	do	z 36 0.70	do		
1.23	5.08	-26.41	do	z 36 0.65	2'-0"		
1.24	5.08	-26.41	do	z 55 0.60	3'-0"		
1.25	2.49	-13.02	do	z 57 0.55	2'-4"		
1.26	2.55	-13.36	do	z 64 0.35	2'-9 1/2"		
1.27	0.00	0.00	LL 2.5 X .210	z 12 0.24	0'-6"		
Bottom Chord							
2.1	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		
2.2	17.48	-4.02	do	z 120 0.53	4'-4"		
2.3	31.66	-7.13	do	z 110 0.67	4'-0"		
2.4	40.52	-8.94	do	yy127 0.78	do		
2.5	47.16	-10.15	do	yy128 0.86	do		
2.6	51.59	-10.78	do	yy128 0.93	do		
2.7	53.80	-10.99	do	yy128 0.97	do		
2.8	53.80	-10.81	do	yy128 0.97	do		
2.9	51.59	-10.23	do	yy128 0.93	do		
2.10	47.16	-9.25	do	yy128 0.86	do		
2.11	40.52	-7.88	do	yy127 0.78	do		
2.12	31.66	-6.11	do	z 110 0.67	4'-0"		
2.13	17.48	-3.35	do	z 120 0.53	4'-4"		
2.14	0.00	0.00	LL 2 X .247	z 111 0.29	3'-9 1/2"		



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
End Diagonal								
3.1	15.68	-3.63	BR 1"	yy163	0.82	4'-3 3/4"	.230 - 1 5/8"	
3.2	15.68	-3.00	BR 1"	yy163	0.68	4'-3 3/4"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.97	-2.47	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
4.2	7.73	-1.47	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.3	6.34	-1.02	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.4	5.04	-0.56	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.5	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.6	2.95	-2.17	do	z 81	0.70	do	do	
4.7	2.95	-2.17	do	z 81	0.70	do	do	
4.8	3.82	-1.18	do	z 81	0.51	do	.090 - 1 1/2"	
4.9	5.04	-0.80	U 1 x 0.091	z 81	0.67	do	.090 - 1 7/8"	
4.10	6.34	-1.10	U 1 x 1 1/8 x 0.118	z 78	0.64	do	.118 - 1 3/4"	
4.11	7.73	-1.40	U 1 x 1 1/4 x 0.136	z 72	0.64	3'-0 7/8"	.136 - 1 7/8"	
4.12	11.97	-2.16	d U 1 3/8 x 0.157	z 76	0.69	3'-9 5/8"	.158 - 2 1/2"	
Diagonal Towards Center								
5.1	1.98	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
5.2	1.69	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.3	1.24	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.4	0.79	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.5	0.38	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.6	0.08	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.7	0.36	-3.25	U 1 x 1 1/8 x 0.118	z 78	0.74	do	.118 - 1 1/2"	
5.8	0.66	-4.42	U 1 x 1 1/4 x 0.136	z 72	0.83	do	.136 - 1 1/2"	
5.9	0.95	-5.68	d U 1 3/8 x 1 1/4 x 0.118	z 67	0.83	do	.118 - 1 5/8"	
5.10	1.25	-7.02	d U 1 3/8 x 0.136	z 62	0.83	do	.136 - 1 3/4"	
5.11	1.54	-8.46	d do	z 62	0.99	3'-0 7/8"	.136 - 2 1/8"	
5.12	1.67	-8.77	d U 1 3/8 x 0.136	z 54	0.95	2'-8 1/4"	.136 - 2 1/8"	
Secondary Web Member								
7.1	0.23	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	
7.2	0.21	-0.91	do	z 83	0.26	2'-4"	do	
7.3	0.17	-0.81	do	z 83	0.23	do	do	
7.4	0.17	-0.85	do	z 83	0.24	do	do	
7.5	0.14	-0.88	do	z 83	0.25	do	do	
7.6	0.11	-0.89	do	z 83	0.26	do	do	
7.7	0.11	-0.90	do	z 83	0.26	do	do	
7.8	0.11	-0.89	do	z 83	0.26	do	do	
7.9	0.11	-0.88	do	z 83	0.25	do	do	
7.10	0.11	-0.85	do	z 83	0.24	do	do	
7.11	0.11	-0.81	do	z 83	0.23	do	do	
7.12	0.14	-0.91	do	z 83	0.26	2'-4"	do	
7.13	0.15	-0.91	U 1 x 3/4 x 0.091	z 91	0.29	2'-6 1/2"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 18'-6 1/4" ==> 3 Row(s) Minimum
 @ Bottom Chord: 24'-9 1/8" ==> 5 Row(s) Minimum
 Lateral Supports Deck (36")
 Imposed and conc. load 5 or

POSITION @ Top Chord @ Bottom Chord
 13'-11 3/4" 3'-8 1/2"
 28'-0 1/2" 13'-11 3/4"
 42'-1 1/4" 28'-0 1/2"
 42'-1 1/4" 42'-1 1/4"
 52'-4 1/2" 52'-4 1/2"



Mark : TJ27D

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:57

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,

-BL = 2 angles welded in box,

-BR = Round bar

-U = 1 U profile,

-UU = 2 U profiles one inside the other,

-CL = Crimped angle

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension,

3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

Project no.: 501994

Designer: Qingfang Wu

Shop: Buckeye Arizona [Production]

856 / 896

Area to Paint

: 228.37 ft2

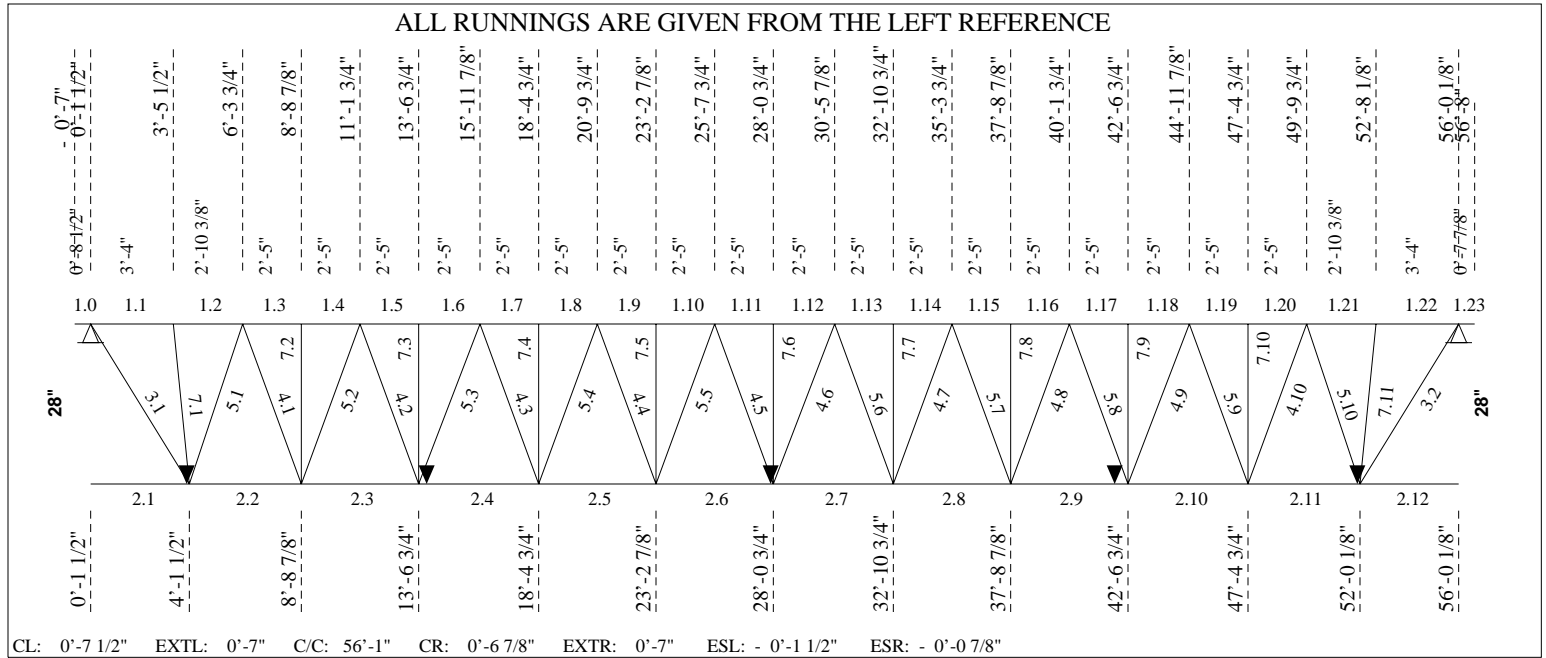
Material Sort : Cost

576(602)-576(602)-25-26/14-856(896) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ29 (LS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-8 1/2"	Type	F[S]	Shoe =	5.00	Mf =	-0.077 ft-kip	(0.231)
TL =	308	LL =	148	ntQL =	55	Req.D. LL = L/	180 =	0.05
I =	2.49 in ⁴			Cal.D. LL = L/	480 =	0.02	TL = L/	-146 =
								-0.06
Tcx-R	0'-7 7/8"	Type	F[S]	Shoe =	5.00	Mf =	-0.066 ft-kip	(0.239)
TL =	308	LL =	148	ntQL =	55	Req.D. LL = L/	180 =	0.04
I =	2.49 in ⁴			Cal.D. LL = L/	639 =	0.01	TL = L/	-146 =
								-0.05

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	1.50	1.50	1.50	39'-9"*	39'-9"	1	1	90	0
2	1	Both	No	1.50	1.50	1.50	44'-9"*	5'-0"	1	1	90	0
3	1	Both	No	1.00	1.00	0.00	54'-9"*	10'-0"	1	1	90	0

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft]	[lb/ft ²]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
							1 3

----- **UPLIFT** -----



Mark : TJ29

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:57

Net uplift uniform load : 55.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.85 in (L/ 360)
 Calculated deflection under service live load..... = 1.85 in (L/ 360)
 Joist inertia..... = 948.52 in⁴
 Required camber..... = 1.29 in

===== LOAD NO 2 (TJ29#02) =====

----- LOADING CONDITIONS -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- EXTENSION -----

Tcx-L	0'-8 1/2"	Type	F[S]	Shoe =	5.00	Mf =	-0.077 ft-kip	0.000
TL =	308 LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.05 TL = L/	90 =	0.09

Tcx-R	0'-7 7/8"	Type	F[S]	Shoe =	5.00	Mf =	-0.066 ft-kip	0.000
TL =	308 LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.04 TL = L/	90 =	0.09

----- CONCENTRATED LOADS (From Axis) -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	1.90	1.90	0.00	39'-9"*	39'-9"	1	1	90	0
2	1	Both	No	1.50	0.00	0.00	39'-9"*	0'-0"	1	1	0	0
3	1	Both	No	-1.90	-1.90	0.00	44'-9"*	5'-0"	1	1	90	0
4	1	Both	No	1.50	0.00	0.00	44'-9"*	0'-0"	1	1	0	0
5	1	Both	No	1.00	1.00	0.00	54'-9"*	10'-0"	1	1	90	0

----- PARTIAL LOADS (From Axis) -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft ²]	[lb/ft ²]	[ft]	[ft]		
1	1	29.00	29.00	0'0	20'0	1	3

----- UPLIFT -----

Net uplift uniform load : 55.00 lb/ft

----- DEFLECTION -----

Allowed deflection under live load..... = 1.85 in (L/ 360)
 Calculated deflection under service live load..... = 1.71 in (L/ 389)

===== LOAD NO 3 (TJ29#03) =====



Mark : TJ29

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:57

----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 308.00 lb/ft 28LHSP308/148 LIVE LOAD...: 148.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-8 1/2"	Type	F[S]	Shoe =	5.00	Mf =	-0.077 ft-kip	0.000
TL =	308 LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.05 TL = L/	90 =	0.09
Tcx-R	0'-7 7/8"	Type	F[S]	Shoe =	5.00	Mf =	-0.066 ft-kip	0.000
TL =	308 LL =	148 ntQL =	55	Req.D. LL = L/	180 =	0.04 TL = L/	90 =	0.09

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	-1.90	-1.90	0.00	39'-9"*	39'-9"	1	1	90	0
2	1	Both	No	-1.50	-1.50	0.00	39'-9"*	0'-0"	1	1	0	0
3	1	Both	No	1.90	1.90	0.00	44'-9"*	5'-0"	1	1	90	0
4	1	Both	No	-1.50	-1.50	0.00	44'-9"*	0'-0"	1	1	0	0
5	1	Both	No	1.00	1.00	0.00	54'-9"*	10'-0"	1	1	90	0

----- **PARTIAL LOADS (From Axis)** -----

No	Span	Left	Right	Start	Length	Chord	Cat.
		[lb/ft2]	[lb/ft]	[lb/ft2]	[lb/ft]	[ft]	[ft]
1	1	29.00	29.00	29.00	29.00	0'0	20'0
							1 3

----- **UPLIFT** -----

Net uplift uniform load : 55.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... = 1.85 in (L/ 360)



Mark : TJ29

Project: PROJECT EVELER FREEZER PUYALL

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Calculated deflection under service live load..... = 1.61 in (L/ 414)

=====**End of multiple loads**=====

----- **F O R C E S I N M E M B E R S [kips]** -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" (Fy = 50 Ksi U/N) (Eff. depth = 26.32 in)

Left Reaction = 9.53/ -2.77 kips Right Reaction = 12.00/ -3.93 kips

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
Top Chord								
1.0	0.00	0.00	LL 3 X .25	z 14	0.23	0'-8 1/2"		
1.1	4.54	-17.62	do	z 64	0.32	3'-4"		
1.2	4.46	-17.34	do	z 58	0.42	2'-10 3/8"		
1.3	9.15	-31.84	do	z 37	0.43	2'-5"		
1.4	9.15	-31.84	do	z 37	0.56	do		
1.5	13.16	-43.96	do	z 37	0.59	do		
1.6	13.16	-43.96	do	z 37	0.68	do		
1.7	16.27	-53.81	do	z 37	0.72	do		
1.8	16.27	-53.81	do	z 37	0.75	do		
1.9	18.56	-60.39	do	z 37	0.81	do		
1.10	18.56	-60.39	do	z 37	0.81	do		
1.11	20.25	-63.69	do	z 37	0.85	do		
1.12	20.25	-63.69	do	z 37	0.85	do		
1.13	21.35	-63.72	do	z 37	0.85	do		
1.14	21.35	-63.72	do	z 37	0.86	do		
1.15	21.87	-60.46	do	z 37	0.81	do		

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
1.16	21.87	-60.46	do	z 37	0.84	do		
1.17	19.87	-51.99	do	z 37	0.82	do		
1.18	19.87	-51.99	do	z 37	0.71	do		
1.19	14.10	-37.06	do	z 37	0.71	do		
1.20	14.10	-37.06	do	z 37	0.51	2'-5"		
1.21	6.60	-18.24	do	z 58	0.46	2'-10 3/8"		
1.22	6.65	-18.62	do	z 64	0.42	3'-4"		
1.23	0.00	0.00	LL 3 X .25	z 13	0.24	0'-7 7/8"		
Bottom Chord								
2.1	0.00	0.00	LL 3 X .224	z 77	0.27	4'-0"		
2.2	23.02	-6.81	do	z 84	0.45	4'-7 3/8"		
2.3	37.80	-11.26	do	z 88	0.59	4'-10"		
2.4	49.29	-14.83	do	yy 97	0.68	do		
2.5	57.51	-17.50	do	yy 98	0.74	do		
2.6	62.45	-19.48	do	yy 98	0.80	do		
2.7	64.12	-20.87	do	yy 98	0.83	do		
2.8	62.50	-21.68	do	yy 98	0.81	do		
2.9	57.32	-21.63	do	yy 97	0.74	do		
2.10	45.68	-17.80	do	z 88	0.68	4'-10"		
2.11	27.62	-10.24	do	z 84	0.54	4'-7 3/8"		
2.12	0.00	0.00	LL 3 X .224	z 77	0.33	4'-0"		

End Diagonal



Mark : TJ29

Project: PROJECT EVELER FREEZER PUYALL

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3.1	17.76	-5.23		1" SQUARE BAR	yy147	0.75	4'-5 7/8"	.250 - 2 3/8"
3.2	21.46	-7.67		1"RB + U1-3/8X.157 (50%)	yy140	0.91	4'-5 7/8"	.230 - 3 1/8"

Diagonal Towards End

4.1	10.53	-3.16	d	U 1 3/8 x 0.136	z 68	0.70	3'-4 1/4"	.136 - 2 5/8"
4.2	8.32	-2.56		U 1 x 1 1/8 x 0.118	z 85	0.84	do	.118 - 2 3/8"
4.3	6.30	-1.95		U 1 x 0.091	z 88	0.84	do	.090 - 2 3/8"
4.4	4.62	-1.44		U 1 x 3/4 x 0.091	z 121	0.76	do	.091 - 1 3/4"
4.5	4.46	-2.39		U 1 x 0.091	z 88	0.85	do	.090 - 1 3/4"
4.6	4.46	-2.39		U 1 x 0.091	z 88	0.85	do	.090 - 1 3/4"
4.7	4.62	-1.07		U 1 x 3/4 x 0.091	z 121	0.76	do	.091 - 1 3/4"
4.8	6.30	-1.04		U 1 x 0.091	z 88	0.84	do	.090 - 2 3/8"
4.9	9.47	-2.79		U 1 x 1 1/8 x 0.118	z 85	0.95	do	.118 - 2 3/4"
4.10	12.75	-5.20	d	U 1 3/8 x 0.136	z 68	0.85	3'-4 1/4"	.136 - 3 1/8"

Diagonal Towards Center

5.1	3.32	-11.17	x	LL 1.5 X .155	zz 63	0.57	3'-2 3/8"	.155 - 2 1/2"
5.2	2.86	-9.43	x	LL 1.5 X .155	zz 66	0.49	3'-4 1/4"	.155 - 2"
5.3	2.25	-7.21	d	U 1 3/8 x 0.157	z 67	0.73	do	.158 - 1 1/2"
5.4	1.66	-5.44	d	U 1 3/8 x 1 1/4 x 0.118	z 73	0.84	do	.118 - 1 5/8"
5.5	1.24	-4.46		U 1 x 1 1/4 x 0.136	z 78	0.93	do	.136 - 1 1/2"
5.6	0.45	-4.46		U 1 x 1 1/4 x 0.136	z 78	0.93	do	.136 - 1 1/2"
5.7	0.84	-5.44	d	U 1 3/8 x 1 1/4 x 0.118	z 73	0.84	do	.118 - 1 5/8"
5.8	2.38	-8.63	d	U 1 3/8 x 0.157	z 67	0.88	do	.158 - 1 7/8"
5.9	5.01	-11.65	x	LL 1.5 X .155	zz 66	0.61	3'-4 1/4"	.155 - 2 1/2"
5.10	5.15	-13.28	x	LL 1.5 X .155	zz 63	0.67	3'-2 3/8"	.155 - 2 7/8"

Secondary Web Member

7.1	0.26	-1.06		U 1 x 3/4 x 0.091	z 85	0.31	2'-5 1/8"	.091 - 1"
7.2	0.20	-0.91		do	z 81	0.26	2'-4"	do
7.3	0.20	-0.97		do	z 81	0.27	do	do
7.4	0.20	-1.02		do	z 81	0.29	do	do
7.5	0.13	-1.06		do	z 81	0.30	do	do
7.6	0.13	-1.07		do	z 81	0.30	do	do
7.7	0.13	-1.07		do	z 81	0.30	do	do
7.8	0.38	-1.34		do	z 81	0.38	do	do

FORCES IN MEMBERS (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL	Slend.	Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length				Weld-Ea.Side	
7.9	0.28	-1.16	do	z 81	0.33	do	do	
7.10	0.13	-0.94	do	z 81	0.26	2'-4"	do	
7.11	0.17	-1.43	U 1 x 3/4 x 0.091	z 85	0.42	2'-5 1/8"	.091 - 1"	

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 21'-4 5/8" ==> 2 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 32'-6 5/8" ==> 5 Row(s) Minimum Imposed and conc. load 5 or

POSITION @ Top Chord 18'-9"
 37'-4 5/8"
 @ Bottom Chord Add 4'-1 1/2"
 14'-0 1/4"
 28'-0 1/2"
 42'-0 3/4"
 Add 52'-0 1/8"

Equally Spaced Bridging between Uplift Rows : No



Mark : TJ29

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:57

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
-U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

1 = within a panel with no reinforcement

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

PARTIAL LOADS

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Chord: 1 = Top, 2 = Bottom

Load Category (Cat.): 1 = Dead, 2 = Live, 3 = Wind, 5 = Non-Composite Dead, 6 = Non-Composite Live

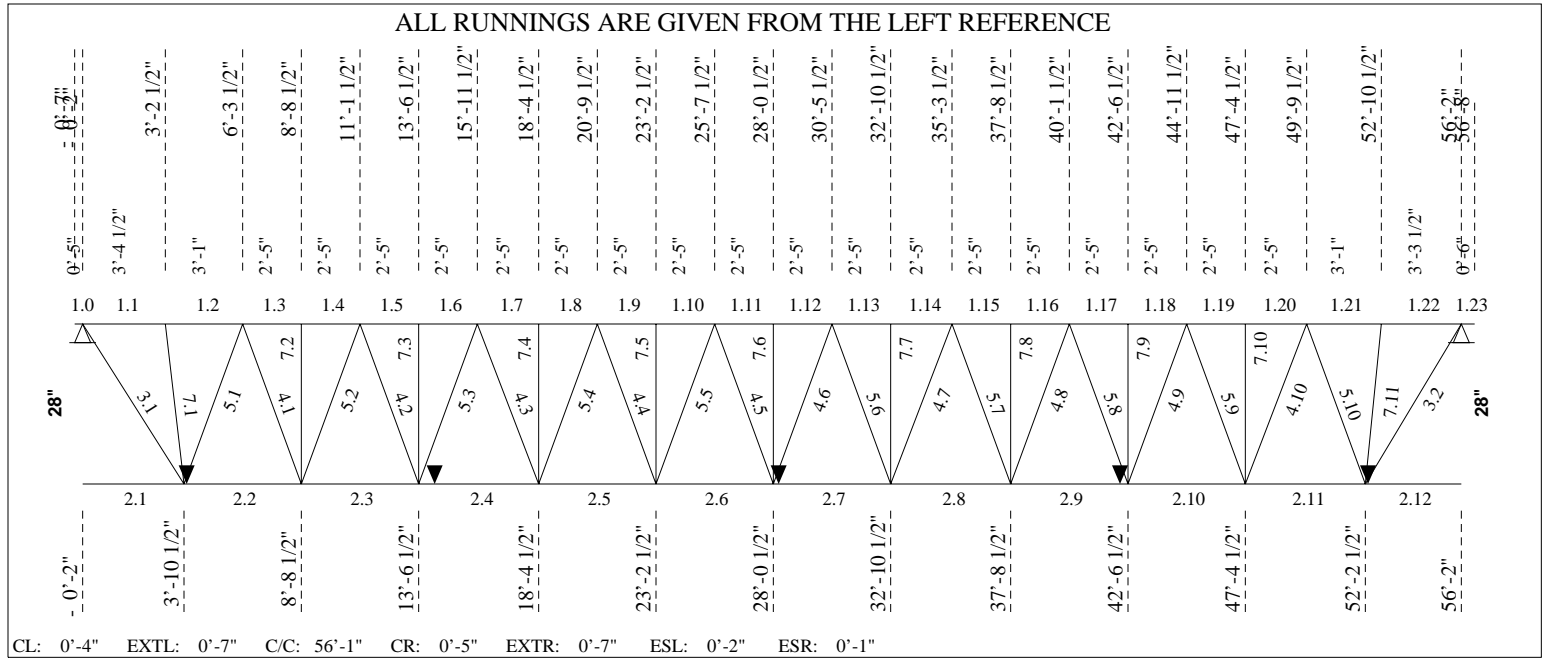
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1182 / 1235 Area to Paint : 289.06 ft2 Material Sort : Cost

787(822)-787(822)-25-22/12-1182(1235) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ32 (LS, Asymmetrical,, Free ends) aligned on J32



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 278.00 lb/ft 28LHSP278/139 LIVE LOAD...: 139.00 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-5"	Type	F[S]	Shoe =	5.00	Mf =	-0.024 ft-kip	(0.205)
TL =	278	LL =	139 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.06
I =	4.55 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -97 = -0.05
Tcx-R	0'-6"	Type	F[S]	Shoe =	5.00	Mf =	-0.035 ft-kip	(0.204)
TL =	278	LL =	139 ntQL =	84	Req.D. LL = L/	180 =	0.03	TL = L/ 90 = 0.07
I =	4.55 in ⁴				Cal.D. LL = L/	9999 =	0.00	TL = L/ -97 = -0.06

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Position	Spacing	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	4	1	90	0
2	1	Both	No	3.00	0.00	0.00	0'-0"	0'-0"	3	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 84.00 lb/ft



----- DEFLECTION -----

Allowed deflection under live load..... = 1.87 in (L/ 360)
 Calculated deflection under service live load..... = 1.01 in (L/ 666)
 Joist inertia..... = 1207.02 in⁴
 Required camber..... = 1.32 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 26.17 in)

Left Reaction = 13.90/ -2.39 kips Right Reaction = 13.92/ -2.39 kips

No	Tension Compres.		REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
			x = tied at mid-length				Weld-Ea.Side		
Top Chord									
1.0	0.00	0.00	LL 3.5 X .287	z 7	0.21	0'-5"			
1.1	3.94	-23.09	do	z 56	0.52	3'-4 1/2"			
1.2	3.86	-22.24	do	z 54	0.63	3'-1"			
1.3	7.93	-46.49	do	z 31	0.63	2'-5"			
1.4	7.93	-46.49	do	z 31	0.72	do			
1.5	11.07	-64.90	do	z 31	0.74	do			
1.6	11.07	-64.90	do	z 31	0.83	do			
1.7	13.31	-78.04	do	z 31	0.87	do			
1.8	13.31	-78.04	do	z 31	0.90	do			
1.9	14.66	-85.90	do	z 31	0.94	do			
1.10	14.66	-85.90	do	z 31	0.94	do			
1.11	15.10	-88.49	do	z 31	0.97	do			
1.12	15.10	-88.49	do	z 31	0.97	do			
1.13	14.64	-85.81	do	z 31	0.94	do			
1.14	14.64	-85.81	do	z 31	0.94	do			
1.15	13.28	-77.86	do	z 31	0.90	do			
1.16	13.28	-77.86	do	z 31	0.86	do			
1.17	11.03	-64.63	do	z 31	0.83	do			
1.18	11.03	-64.63	do	z 31	0.73	do			
1.19	7.87	-46.12	do	z 31	0.72	do			
1.20	7.87	-46.12	do	z 31	0.63	2'-5"			
1.21	3.78	-21.79	do	z 54	0.63	3'-1"			
1.22	3.86	-22.63	do	z 54	0.50	3'-3 1/2"			
1.23	0.00	0.00	LL 3.5 X .287	z 9	0.20	0'-6"			
Bottom Chord									
2.1	0.00	0.00	LL 3 X .281	z 79	0.34	4'-0 1/2"			
2.2	35.30	-6.02	do	z 88	0.54	4'-10"			
2.3	56.35	-9.61	do	z 88	0.69	do			
2.4	72.13	-12.31	do	z 88	0.79	do			
2.5	82.63	-14.10	do	z 88	0.86	do			
2.6	87.86	-14.99	do	z 88	0.91	do			
2.7	87.81	-14.98	do	z 88	0.91	do			
2.8	82.49	-14.07	do	z 88	0.86	do			
2.9	71.90	-12.27	do	z 88	0.79	do			
2.10	56.03	-9.56	do	z 88	0.69	do			
2.11	34.89	-5.95	do	z 88	0.54	4'-10"			
2.12	0.00	0.00	LL 3 X .281	z 77	0.33	3'-11 1/2"			
End Diagonal									
3.1	26.49	-4.52	x LL 2 X .156	zz 67	0.74	4'-6 1/4"	.156	- 5 3/4"	
3.2	26.10	-4.45	x LL 1.5 X .155	zz 89	0.99	4'-5 3/8"	.155	- 5 3/4"	

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension		Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
				x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	
Diagonal Towards End									
4.1	16.07		-2.57	U 1 3/8 x 0.157	z 66	0.92	3'-4 1/4"	.158 - 3 1/2"	
4.2	13.29		-1.96	U 1 3/8 x 0.136	z 68	0.89	do	.136 - 3 1/4"	
4.3	10.51		-1.36	U 1 3/8 x 1 1/4 x 0.118	z 73	0.84	do	.118 - 3"	
4.4	7.73		-2.08	do	z 73	0.62	do	.118 - 2 1/4"	
4.5	5.20		-3.86	do	z 73	0.60	do	.118 - 1 1/2"	
4.6	5.20		-3.83	do	z 73	0.59	do	.118 - 1 1/2"	
4.7	7.78		-2.05	do	z 73	0.62	do	.118 - 2 1/4"	
4.8	10.56		-1.37	U 1 3/8 x 1 1/4 x 0.118	z 73	0.85	do	.118 - 3"	
4.9	13.34		-1.97	U 1 3/8 x 0.136	z 68	0.89	do	.136 - 3 1/4"	
4.10	16.12		-2.58	U 1 3/8 x 0.157	z 66	0.93	3'-4 1/4"	.158 - 3 1/2"	
Diagonal Towards Center									
5.1	2.92		-17.60	d U 1 3/4 x 0.197	z 53	0.97	3'-4 1/4"	.197 - 3"	
5.2	2.27		-14.68	d U 1 3/4 x 0.197	z 53	0.81	do	.197 - 2 1/2"	
5.3	1.66		-11.90	d U 1 3/4 x 1 1/2 x 0.157	z 60	0.91	do	.158 - 2 1/2"	
5.4	1.19		-9.12	U 1 3/8 x 0.157	z 66	0.93	do	.158 - 2"	
5.5	2.97		-6.35	U 1 3/8 x 1 1/4 x 0.118	z 73	0.98	do	.118 - 1 3/4"	
5.6	2.94		-6.39	U 1 3/8 x 1 1/4 x 0.118	z 73	0.99	do	.118 - 1 7/8"	
5.7	1.16		-9.17	U 1 3/8 x 0.157	z 66	0.93	do	.158 - 2"	
5.8	1.67		-11.95	d U 1 3/4 x 1 1/2 x 0.157	z 60	0.91	do	.158 - 2 1/2"	
5.9	2.28		-14.73	d U 1 3/4 x 0.197	z 53	0.81	do	.197 - 2 1/2"	
5.10	2.93		-17.65	d U 1 3/4 x 0.197	z 53	0.97	3'-4 1/4"	.197 - 3"	
Secondary Web Member									
7.1	0.28		-7.31	U 1 3/8 x 1 1/4 x 0.118	z 51	0.93	2'-5 1/8"	.118 - 2 1/8"	
7.2	0.20		-6.91	do	z 49	0.86	2'-4"	.118 - 2"	
7.3	0.20		-7.00	do	z 49	0.87	do	do	
7.4	0.20		-7.07	do	z 49	0.88	do	do	
7.5	0.20		-7.11	do	z 49	0.89	do	do	
7.6	0.20		-7.13	do	z 49	0.89	do	do	
7.7	0.20		-7.11	do	z 49	0.89	do	do	
7.8	0.20		-7.07	do	z 49	0.88	do	do	
7.9	0.20		-7.00	do	z 49	0.87	do	do	
7.10	0.20		-6.91	do	z 49	0.86	2'-4"	.118 - 2"	
7.11	0.27		-7.29	U 1 3/8 x 1 1/4 x 0.118	z 51	0.93	2'-5 1/8"	.118 - 2 1/8"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	25'-10 1/4" ==>	2 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	35'-9 7/8" ==>	5 Row(s) Minimum	Deck (36")
			Imposed and conc. load 5 or

POSITION

@ Top Chord	18'-7 3/8"	@ Bottom Chord	3'-10 1/2"
	37'-4 5/8"	Add	14'-0 1/4"
			28'-0 1/2"
			42'-0 3/4"
		Add	52'-2 1/2"

Equally Spaced Bridging between Uplift Rows : No

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back,
- BL = 2 angles welded in box,
- BR = Round bar
- U = 1 U profile,
- UU = 2 U profiles one inside the other,
- CL = Crimped angle



Mark : TJ32

Project: PROJECT EVELER FREEZER PUYALL

(501994)

09/27/24

10:14:57

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension

Side: Both Sides, Near Side, Far Side Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):

3 = at any panel point along the joist

4 = anywhere along the joist

Chord: 1 = Top, 2 = Bottom

Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
1553 / 1620 Area to Paint : 326.38 ft2 Material Sort : Cost

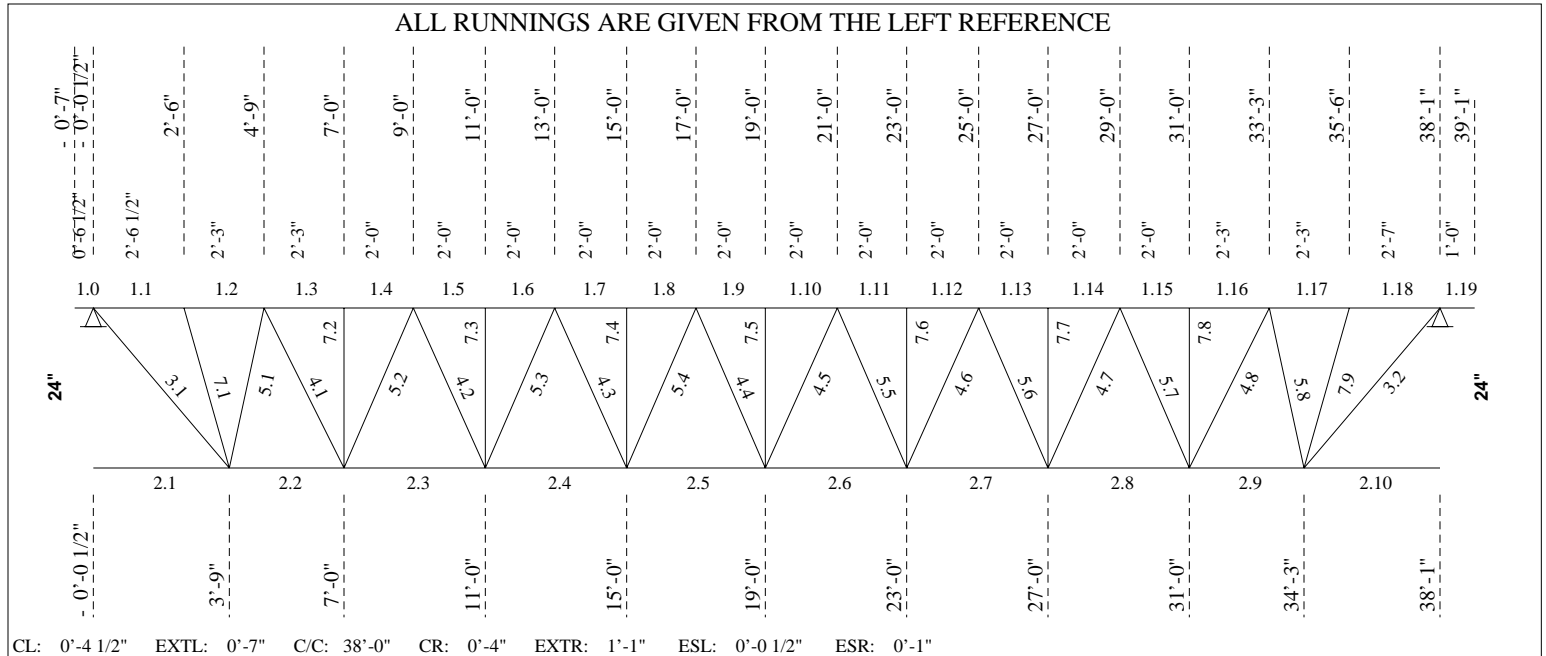
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1041(1084)-1041(1084)-25-22/12-1553(1620) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ34 (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 330.23 lb/ft 24KCS3 LIVE LOAD...: 165.12 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6 1/2"	Type	F[S]	Shoe =	2.50	Mf =	-0.048 ft-kip	(0.313)
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.04 TL = L/	90 = 0.07
I =	0.54 in ⁴				Cal.D. LL = L/	9999 =	0.00 TL = L/	-164 = -0.04
Tcx-R	1'-0"	Type	F[S]	Shoe =	2.50	Mf =	-0.165 ft-kip	(0.439)
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.07 TL = L/	90 = 0.13
I =	0.54 in ⁴				Cal.D. LL = L/	4205 =	0.00 TL = L/	-174 = -0.07

----- **UPLIFT** -----

Net uplift uniform load : 64.00 lb/ft

----- **DEFLECTION** -----

Allowed deflection under live load..... =	1.26 in (L/ 360)
Calculated deflection under service live load..... =	0.88 in (L/ 515)
Joist inertia..... =	341.05 in ⁴
Required camber..... =	0.58 in



Mark : TJ34

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:58

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 22.87 in)

Left Reaction = 7.20/ -1.24 kips Right Reaction = 7.20/ -1.27 kips

REQUIRED MATERIAL

REQUIRED WELD

No	Tension	Compres.	x = tied at mid-length	Slend.	Util.	Length	Weld-Ea.Side	Remarks
Top Chord								
1.0	0.00	0.00	LL 2 X .186	z 17	0.31	0'-6 1/2"		
1.1	2.15	-11.12	do	z 72	0.66	2'-6 1/2"		
1.2	2.06	-10.62	do	z 69	0.60	2'-3"		
1.3	3.57	-31.48	do	z 51	0.97	2'-3"		
1.4	3.57	-31.48	do	z 46	0.97	2'-0"		
1.5	4.91	-31.48	do	z 46	0.94	do		
1.6	4.91	-31.48	do	z 46	0.94	do		
1.7	5.72	-31.48	do	z 46	0.93	do		
1.8	5.72	-31.48	do	z 46	0.93	do		
1.9	5.99	-31.48	do	z 46	0.93	do		
1.10	5.99	-31.48	do	z 46	0.93	do		
1.11	5.73	-31.48	do	z 46	0.93	do		
1.12	5.73	-31.48	do	z 46	0.93	do		
1.13	4.92	-31.48	do	z 46	0.94	do		
1.14	4.92	-31.48	do	z 46	0.94	do		
1.15	3.58	-31.48	do	z 46	0.97	2'-0"		
1.16	3.58	-31.48	do	z 51	0.97	2'-3"		
1.17	2.08	-10.73	do	z 69	0.61	2'-3"		
1.18	2.18	-11.24	do	z 74	0.67	2'-7"		
1.19	0.00	0.00	LL 2 X .186	z 30	0.44	1'-0"		
Bottom Chord								
2.1	31.48	0.00	LL 2 X .156	z 110	0.87	3'-9 1/2"		
2.2	31.48	-2.57	do	z 99	0.87	3'-3"		
2.3	31.48	-4.31	do	z 121	0.87	4'-0"		
2.4	31.48	-5.38	do	z 121	0.87	do		
2.5	31.48	-5.92	do	z 121	0.87	do		
2.6	31.48	-5.93	do	z 121	0.87	do		
2.7	31.48	-5.39	do	z 121	0.87	do		
2.8	31.48	-4.32	do	z 121	0.87	4'-0"		
2.9	31.48	-2.59	do	z 99	0.87	3'-3"		
2.10	31.48	0.00	LL 2 X .156	z 111	0.87	3'-10"		
End Diagonal								
3.1	15.47	-2.43	BR 1"	yy157	0.73	4'-1 5/8"	.230 - 1 5/8"	
3.2	15.61	-2.45	BR 1"	yy159	0.74	4'-2 1/8"	.230 - 1 5/8"	
Diagonal Towards End								
4.1	11.14	-11.14	U 1 3/8 X 0.176	z 60	0.94	3'-0 1/8"	.176 - 2 1/8"	
4.2	10.44	-10.44	U 1 3/8 x 0.157	z 56	0.95	2'-10"	.158 - 2 1/4"	
4.3	10.44	-10.44	do	z 56	0.95	do	do	
4.4	10.44	-10.44	do	z 56	0.95	do	do	
4.5	10.44	-10.44	do	z 56	0.95	do	do	
4.6	10.44	-10.44	do	z 56	0.95	do	do	
4.7	10.44	-10.44	U 1 3/8 x 0.157	z 56	0.95	2'-10"	.158 - 2 1/4"	
4.8	11.14	-11.14	U 1 3/8 X 0.176	z 60	0.94	3'-0 1/8"	.176 - 2 1/8"	
Diagonal Towards Center								
5.1	1.11	-8.13	i U 1 3/8 x 0.136	z 45	0.81	2'-2 7/8"	.136 - 2"	
5.2	1.02	-10.44	U 1 3/8 x 0.157	z 56	0.95	2'-10"	.158 - 2 1/4"	
5.3	0.65	-10.44	do	z 56	0.95	do	do	
5.4	0.28	-10.44	do	z 56	0.95	do	do	
5.5	0.28	-10.44	do	z 56	0.95	do	do	



F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension	Compres.	REQUIRED MATERIAL			REQUIRED WELD		Remarks
			x = tied at mid-length	Slend. Util.	Length	Weld-Ea.Side		
5.6	0.65	-10.44	do	z 56 0.95	do	do		
5.7	1.02	-10.44	U 1 3/8 x 0.157	z 56 0.95	2'-10"	.158 - 2 1/4"		
5.8	1.12	-8.13 i	U 1 3/8 x 0.136	z 45 0.81	2'-2 7/8"	.136 - 2"		
Secondary Web Member								
7.1	0.18	-8.61 i	U 1 3/8 x 0.136	z 47 0.88	2'-4 1/4"	.136 - 2 1/8"		
7.2	0.14	-7.20	U 1 3/8 x 1 1/4 x 0.118	z 43 0.85	2'-0"	.118 - 2"		
7.3	0.13	-7.20	do	z 43 0.85	do	do		
7.4	0.13	-7.20	do	z 43 0.85	do	do		
7.5	0.13	-7.20	do	z 43 0.85	do	do		
7.6	0.13	-7.20	do	z 43 0.85	do	do		
7.7	0.13	-7.20	do	z 43 0.85	do	do		
7.8	0.14	-7.20	U 1 3/8 x 1 1/4 x 0.118	z 43 0.85	2'-0"	.118 - 2"		
7.9	0.18	-8.61 i	U 1 3/8 x 0.136	z 47 0.88	2'-4 1/4"	.136 - 2 1/8"		

BRIDGING

Maximum spacing between rows of bridging
 @ Top Chord: 16'-2 3/8" ==> 3 Row(s) Minimum Lateral Supports Deck (36")
 @ Bottom Chord: 24'-6" ==> 5 Row(s) Minimum Acc. to the code

POSITION @ Top Chord @ Bottom Chord
 9'-5 7/8" 3'-9"
 19'-0 1/4" 9'-5 7/8"
 28'-6 5/8" 19'-0 1/4"
 28'-6 5/8" 28'-6 5/8"
 34'-3"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

- LL = 2 angles short legs back to back, -BL = 2 angles welded in box, -BR = Round bar
- U = 1 U profile, -UU = 2 U profiles one inside the other, -CL = Crimped angle

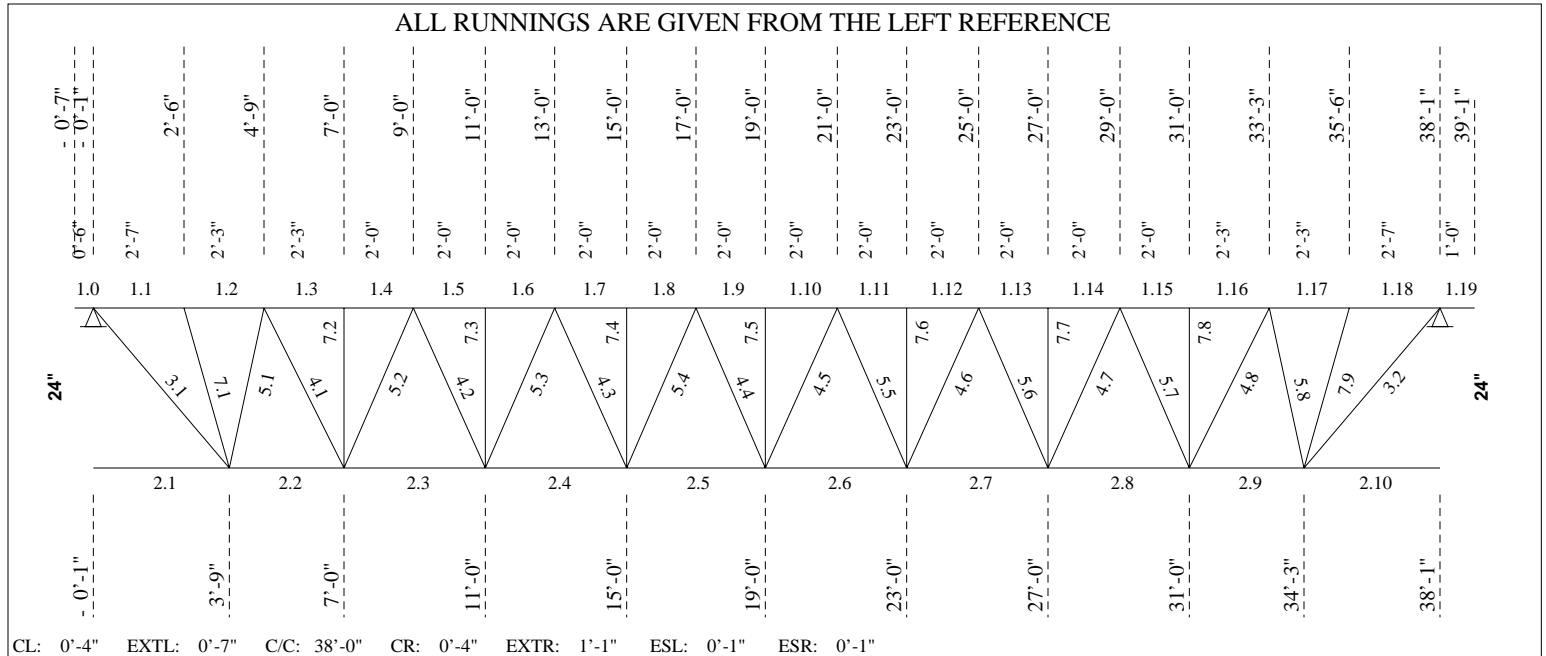
Project no.: 501994 Designer: Qingfang Wu Shop: Buckeye Arizona [Production]
 471 / 497 Area to Paint : 151.27 ft2 Material Sort : Cost

321(338)-321(338)-25-18/10-471(497) NNN,NNN

Project: PROJECT EVELER FREEZER PUYALL

JOIST CALCULATION ACCORDING TO SJI-2020 (ASD)

Mark : TJ34A (MS 1" KCS, Symmetrical,, Free ends)



----- **LOADING CONDITIONS** -----

(THE SHOWN VALUES ARE UN-FACTORED)

TOTAL LOAD...: 329.51 lb/ft 24KCS3 LIVE LOAD...: 164.76 lb/ft

----- **EXTENSION** -----

Tcx-L	0'-6"	Type	F[S]	Shoe =	2.50	Mf =	-0.041 ft-kip	(0.287)
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.03 TL = L/	90 = 0.07
I =	0.62 in ⁴				Cal.D. LL = L/	9999 =	0.00 TL = L/	-131 = -0.05
Tcx-R	1'-0"	Type	F[S]	Shoe =	2.50	Mf =	-0.165 ft-kip	(0.436)
TL =	330	LL =	165 ntQL =	64	Req.D. LL = L/	180 =	0.07 TL = L/	90 = 0.13
I =	0.62 in ⁴				Cal.D. LL = L/	4784 =	0.00 TL = L/	-137 = -0.09

----- **CONCENTRATED LOADS (From Axis)** -----

No	Sp	Side	Hole	Total Load	Live load	Net uplift	Start	End	Cat.	Chord	Incl.	Cmp
				[kips]	[kips]	[kips]	[ft]	[ft]	0-9	1/2	[deg]	
1	1	Both	No	0.75	0.00	0.00	26'-0"	38'-0"	8	1	90	0
2	1	Both	No	0.75	0.00	0.00	26'-0"	38'-0"	8	1	90	0

----- **UPLIFT** -----

Net uplift uniform load : 64.00 lb/ft



Mark : TJ34A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:58

----- DEFLECTION -----

Allowed deflection under live load..... = 1.26 in (L/ 360)
 Calculated deflection under service live load..... = 0.80 in (L/ 566)
 Joist inertia..... = 375.06 in⁴
 Required camber..... = 0.58 in

----- F O R C E S I N M E M B E R S [kips] -----

(THE SHOWN FORCES ARE UN-FACTORED)

Gap.....: 1" / 1 3/8" (Fy = 50 Ksi U/N) (Eff. depth = 22.86 in)

Left Reaction = 7.20/ -1.24 kips Right Reaction = 8.07/ -1.28 kips

No	Tension Compres.		REQUIRED MATERIAL	Slend. Util.	Length	REQUIRED WELD	Remarks
			x = tied at mid-length			Weld-Ea.Side	
Top Chord							
1.0	0.00	0.00	LL 2 X .216	z 15 0.29	0'-6"		
1.1	2.18	-12.22	do	z 74 0.59	2'-7"		
1.2	2.08	-11.71	do	z 69 0.53	2'-3"		
1.3	3.59	-31.50	do	z 52 0.84	2'-3"		
1.4	3.59	-31.50	do	z 46 0.84	2'-0"		
1.5	4.94	-31.50	do	z 46 0.81	do		
1.6	4.94	-31.50	do	z 46 0.81	do		
1.7	5.74	-33.57	do	z 46 0.82	do		
1.8	5.74	-33.57	do	z 46 0.84	do		
1.9	6.01	-36.03	do	z 46 0.88	do		
1.10	6.01	-36.03	do	z 46 0.88	do		
1.11	5.74	-35.72	do	z 46 0.87	do		
1.12	5.74	-35.72	do	z 46 0.94	do		
1.13	4.94	-31.53	do	z 46 0.94	do		
1.14	4.94	-31.53	do	z 46 0.92	do		
1.15	3.59	-31.50	do	z 46 0.97	2'-0"		
1.16	3.59	-31.50	do	z 52 0.97	2'-3"		
1.17	2.08	-13.26	do	z 69 0.70	2'-3"		
1.18	2.18	-13.93	do	z 74 0.78	2'-7"		
1.19	0.00	0.00	LL 2 X .216	z 31 0.44	1'-0"		
Bottom Chord							
2.1	31.50	0.00	LL 2 X .166	z 111 0.82	3'-10"		
2.2	31.50	-2.60	do	z 99 0.82	3'-3"		
2.3	31.50	-4.33	do	z 122 0.82	4'-0"		
2.4	31.50	-5.41	do	z 122 0.85	do		
2.5	35.15	-5.94	do	z 122 0.92	do		
2.6	36.22	-5.94	do	z 122 0.95	do		
2.7	34.53	-5.41	do	z 122 0.90	do		
2.8	31.50	-4.33	do	z 122 0.83	4'-0"		
2.9	31.50	-2.60	do	z 99 0.82	3'-3"		
2.10	31.50	0.00	LL 2 X .166	z 111 0.82	3'-10"		
End Diagonal							
3.1	15.62	-2.46	BR 1"	yy159 0.74	4'-2 1/8"	.230 - 1 5/8"	
3.2	15.70	-2.46	BR 1"	yy159 0.74	4'-2 1/8"	.230 - 1 5/8"	
Diagonal Towards End							
4.1	11.14	-11.14	U 1 3/8 X 0.176	z 60 0.94	3'-0 1/8"	.176 - 2 1/8"	
4.2	10.44	-10.44	U 1 3/8 x 0.157	z 56 0.95	2'-10"	.158 - 2 1/4"	
4.3	10.44	-10.44	do	z 56 0.95	do	do	
4.4	10.44	-10.44	do	z 56 0.95	do	do	
4.5	10.44	-10.44	do	z 56 0.95	do	do	
4.6	10.44	-10.44	do	z 56 0.95	do	do	
4.7	10.44	-10.44	U 1 3/8 x 0.157	z 56 0.95	2'-10"	.158 - 2 1/4"	
4.8	11.14	-11.14	U 1 3/8 X 0.176	z 60 0.94	3'-0 1/8"	.176 - 2 1/8"	



Mark : TJ34A

Project: PROJECT EVELER FREEZER PUYALL

(501994) 09/27/24 10:14:58

F O R C E S I N M E M B E R S (Cont.) [kips]

No	Tension		Compres.	i	REQUIRED MATERIAL		Slend. Util.	Length	REQUIRED WELD		Remarks
	x = tied at mid-length								Weld-Ea.Side		
Diagonal Towards Center											
5.1	1.11	-8.13			U 1 3/8 x 0.136		z 45 0.81	2'-2 7/8"	.136	- 2"	
5.2	1.02	-10.44			U 1 3/8 x 0.157		z 56 0.95	2'-10"	.158	- 2 1/4"	
5.3	0.65	-10.44			do		z 56 0.95	do	do		
5.4	0.28	-10.44			do		z 56 0.95	do	do		
5.5	0.28	-10.44			do		z 56 0.95	do	do		
5.6	0.65	-10.44			do		z 56 0.95	do	do		
5.7	1.02	-10.44			U 1 3/8 x 0.157		z 56 0.95	2'-10"	.158	- 2 1/4"	
5.8	1.12	-8.13		i	U 1 3/8 x 0.136		z 45 0.81	2'-2 7/8"	.136	- 2"	
Secondary Web Member											
7.1	0.18	-8.61		i	U 1 3/8 x 0.136		z 47 0.88	2'-4 1/4"	.136	- 2 1/8"	
7.2	0.14	-7.20			U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"	.118	- 2"	
7.3	0.13	-7.20			do		z 43 0.85	do	do		
7.4	0.13	-7.20			do		z 43 0.85	do	do		
7.5	0.13	-7.20			do		z 43 0.85	do	do		
7.6	0.13	-7.20			do		z 43 0.85	do	do		
7.7	0.13	-7.20			do		z 43 0.85	do	do		
7.8	0.14	-7.20			U 1 3/8 x 1 1/4 x 0.118		z 43 0.85	2'-0"	.118	- 2"	
7.9	0.18	-8.61		i	U 1 3/8 x 0.136		z 47 0.88	2'-4 1/4"	.136	- 2 1/8"	

BRIDGING

Maximum spacing between rows of bridging

@ Top Chord:	16'-3" ==>	3 Row(s) Minimum	Lateral Supports
@ Bottom Chord:	24'-6" ==>	5 Row(s) Minimum	Deck (36")
			Acc. to the code

POSITION	@ Top Chord	@ Bottom Chord
	9'-5 1/2"	3'-9"
	19'-0"	9'-5 1/2"
	28'-6 1/2"	19'-0"
		28'-6 1/2"
		34'-3"

Equally Spaced Bridging between Uplift Rows : No

v1.51

Uplift according to slope

Fabrication code unless noted

-LL = 2 angles short legs back to back,	-BL = 2 angles welded in box,	-BR = Round bar
-U = 1 U profile,	-UU = 2 U profiles one inside the other,	-CL = Crimped angle

CONCENTRATED LOADS (* indicates that the conc. load is not directly on the panel point.)

Span: 1 = Main Joist, 2 = Left Extension, 3 = Right Extension
 Side: Both Side, Near Side, Far Side
 Hole: Top Chord with Holes at Conc. Loads

Definition of the categories (Cat.):
 8 = anywhere along the joist for an interval

Chord: 1 = Top, 2 = Bottom
 Inclination (Incl.): 90 = Vertical, 0 = Horizontal Composite (Cmp): 0 = standard, 1 = non-composite

Project no.: 501994	Designer: Qingfang Wu	Shop: Buckeye Arizona [Production]
509 / 536	Area to Paint	: 151.23 ft2
		Material Sort : Cost

346(364)-346(364)-25-18/10-509(536) NNN,NNN