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diamond pier footings  
treated  
Pine 6x6 posts

4/12 pitch roof trusses 2' O.C.

Aluminum soffit & fascia



PAVILLION STRUCTURE FOR

SCHURZ ELEMENTARY  
1508 NEENAH ST.  
WATERTOWN, WI 53094

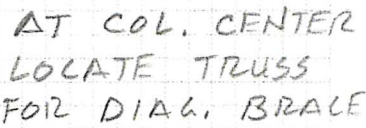
SHEET LIST

- |   |                             |
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| 1 | TITLE                       |
| 2 | LOADS, PLAN                 |
| 3 | BEAMS, COLUMNS, FOUNDATIONS |
| 4 | FORTE, TRUSS LOADS          |
| 5 | FORTE, BEAM DESIGN          |
| 6 | DIAMOND PIER CHART          |



*M.P. Trego Jr.*  
8-16-2023

ROOF DEAD LOAD	15 PSF
ROOF BASIC SNOW	30 PSF
WIND UPLIFT	20 PSF





B-1  $L = 10'-8"$  (MULTI-SPAN)

USE (2)  $7\frac{1}{4}"$  LVL

SEE FORTE OUTPUT

C-1 USE  $6 \times 6$  TREATED

$P = 2,904\#$  NET UPLIFT =  $426\#$

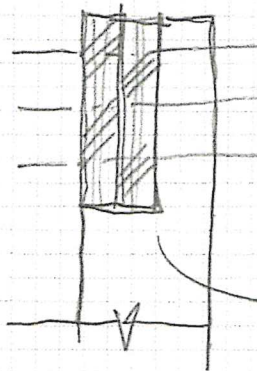
USE DIAMOND PIER DP-50/50

C-2 USE  $6 \times 6$  TREATED

$P = 5,206\#$  NET UPLIFT =  $854\#$

USE DIAMOND PIER DP-75/50"

COLUMN / BEAM CONNECTION



(3) STRUCTURAL SCREWS  
 $\frac{1}{4}" \times 5"$

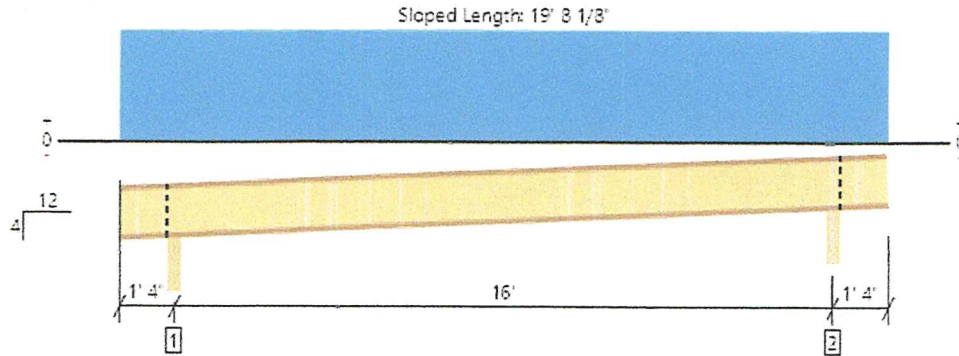
OR

(3)  $\frac{3}{8}"$  THREADED BOLTS.

NOTCH SEAT IN  $6 \times 6$

ROOF WITH 3 SPACES, Copy of Roof: TRUSS  
1 piece(s) 11 7/8" TJI@ 110 @ 16" OC

PG 4



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Member Length : 20' 1/16"

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	571 @ 1' 4"	2346 (3.50")	Passed (24%)	1.15	1.0 D + 1.0 S (Adj Spans)
Shear (lbs)	464 @ 1' 5 3/4"	1794	Passed (26%)	1.15	1.0 D + 1.0 S (Adj Spans)
Moment (Ft-lbs)	1918 @ 9' 4"	3634	Passed (53%)	1.15	1.0 D + 1.0 S (Alt Spans)
Live Load Defl. (in)	0.264 @ 9' 4"	0.843	Passed (L/766)	--	1.0 D + 1.0 S (Alt Spans)
Total Load Defl. (in)	0.402 @ 9' 4"	1.124	Passed (L/504)	--	1.0 D + 1.0 S (Alt Spans)

System : Roof  
Member Type : Joist  
Building Use : Residential  
Building Code : IBC 2015  
Design Methodology : ASD  
Member Pitch : 4/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Beveled Plate - SPF	3.50"	3.50"	3.50"	197	374	571	Blocking
2 - Beveled Plate - SPF	3.50"	3.50"	3.50"	197	374	571	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	4' 1" o/c	
Bottom Edge (Lu)	7' 4" o/c	

- TJI joists are only analyzed using Maximum Allowable bracing solutions.
- Maximum allowable bracing intervals based on applied load.

Vertical Load	Location	Spacing	Dead (0.90)	Snow (1.15)	Comments
1 - Uniform (PSF)	0 to 18' 8"	16"	15.0	30.0	Default Load

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

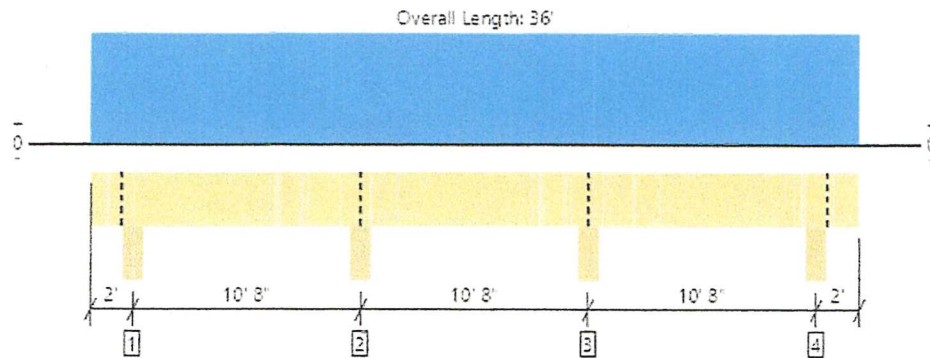
ForteWEB Software Operator	Job Notes
Michael Trego Trego Architects, LLC (262) 443-8201 mpt@tregoarchitects.com	





ROOF WITH 3 SPACES, Copy of Roof: Drop Beam  
2 piece(s) 1 3/4" x 7 1/4" 2.0E Microllam® LVL

5



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	5205 @ 12' 8"	13956 (5.50")	Passed (37%)	--	1.0 D + 1.0 S (Adj Spans)
Shear (lbs)	2385 @ 11' 10"	5544	Passed (43%)	1.15	1.0 D + 1.0 S (Adj Spans)
Moment (Ft-lbs)	-5123 @ 12' 8"	8182	Passed (63%)	1.15	1.0 D + 1.0 S (Adj Spans)
Live Load Defl. (in)	0.242 @ 6' 11 15/16"	0.533	Passed (L/529)	--	1.0 D + 1.0 S (Alt Spans)
Total Load Defl. (in)	0.345 @ 29' 11/16"	0.711	Passed (L/371)	--	1.0 D + 1.0 S (Alt Spans)

System : Roof  
Member Type : Drop Beam  
Building Use : Residential  
Building Code : IBC 2015  
Design Methodology : ASD  
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Overhang deflection criteria: LL (2L/240) and TL (2L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Total	
1 - Column - SPF	5.50"	5.50"	1.50"	1007	1897	2904	Blocking
2 - Column - SPF	5.50"	5.50"	2.05"	1786	3420	5206	Blocking
3 - Column - SPF	5.50"	5.50"	2.05"	1786	3420	5206	Blocking
4 - Column - SPF	5.50"	5.50"	1.50"	1007	1897	2904	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	22' 7" o/c	
Bottom Edge (Lu)	17' 1" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 36'	N/A	7.4	--	
1 - Uniform (PLF)	0 to 36' (Front)	N/A	147.8	280.5	Linked from: Copy of Roof: TRUSS, Support 1

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Michael Trego Trego Architects, LLC (262) 443-8201 mpt@tregocarchitects.com	



## RESIDENTIAL DIAMOND PIER LOAD CHART

**IAS-Accredited Third-Party Bearing, Uplift, and Lateral Field Tests<sup>2</sup>**

**Minimum 1500 psf**

**Silts/Clays** (CL, ML, MH, CH)<sup>3</sup>

Model / Pin No. / Length	Bearing Load Capacity	□ Equivalent Base Area	○ Cylinder Comparison	⊗ Frost Zone	Uplift Load Capacity	Lateral Load Capacity
DP-50/36"	2700#	1.8 sf	18" dia	24"	600#	600#
DP-50/42"	* 3000#	2.0 sf	19" dia	36"	* 900#	* 600#
DP-50/50"	3300#	2.2 sf	20" dia	48"	1200#	600#
DP-75/50"	* 3750#	2.5 sf	21" dia	48"	* 1400#	* 600#
DP-75/63"	4200#	2.8 sf	22" dia	60"	1600#	600#

*Equivalency to Traditional Concrete Footings*

**Minimum 2000 psf**

**Sands/Gravels** (SW, SP, SM, SC, GM, GC)<sup>3</sup>

Model / Pin No. / Length	Bearing Load Capacity	□ Equivalent Base Area	○ Cylinder Comparison	⊗ Frost Zone	Uplift Load Capacity	Lateral Load Capacity
DP-50/36"	3600#	1.8 sf	18" dia	24"	600#	600#
DP-50/42"	* 4000#	2.0 sf	19" dia	36"	* 900#	* 600#
DP-50/50"	4400#	2.2 sf	20" dia	48"	1200#	600#
DP-75/50"	* 5600#	2.8 sf	22" dia	48"	* 1400#	* 600#
DP-75/63"	6400#	3.2 sf	24" dia	60"	1600#	600#

*Equivalency to Traditional Concrete Footings*

\*Interpolated from field test values.

### Notes:

1. This load chart is intended for simple structures supported by columns, posts, and beams loaded up to, but not exceeding, the stated capacities. It is not intended for structures with asymmetrical, rotational, overturning, or dynamic forces. Intended uses are described in section 2.0 of ICC-ES prescriptive bearing evaluation report ESR-1895. For projects that exceed the capacities or limitations defined herein, or the intended uses described in ESR-1895, contact PFI for additional information or site-specific capacity evaluation. See also the [Use and Applications](http://www.diamondpiers.com) download at [www.diamondpiers.com](http://www.diamondpiers.com).
2. Capacities shown are tested to a Factor of Safety of 2, and are applicable in properly drained, normal sound soils only, with minimum soil bearing capacities as indicated. Copies of the field test reports are available from PFI upon request.
3. See IRC Table R401.4.1, "Presumptive Load-Bearing Values of Foundation Materials," for a full description of applicable 1500 psf and 2000 psf soil types. For soils below 1500 psf, or soils with unknown characteristics, additional site and design analysis is required. For soils above 2000 psf, the values in this chart shall apply.
4. All capacities use four pins of the specified length per foundation. Pin length includes that portion of the pin embedded within the concrete head. See "Check Your Layout" in the Diamond Pier Installation Manual for more information on pin/pier layout and spacing restrictions.
5. For professional engineers designing for short-term transient loads, contact PFI for further information.