



THE STRUCTURAL SHOP LTD CONSULTING ENGINEERS

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December 17, 2007

Tyler Truss Systems  
7883 West Fall Creek Drive  
Pendleton, IN 46064

Re: 35'x53' Stage Roof

TSS Job #: 07659

To Whom It May Concern:

We have completed several calculations with regard to the load capacity of the referenced stage roof. Enclosed please find a copy of the truss information, lateral stability diagram, and a load schedule. We have complete sets of calculations for your records upon request. If there are any additional load schemes needed, we can model them on our structural analysis program to determine the structural adequacy of the referenced stage roof.

The maximum allowable service loads for each truss is noted in the attached schedule. Loads applied to the trusses must be applied at truss panel points. The maximum uniform load, point load at the center, point load at third points and point load at quarter points is shown in the schedule. Also shown is the maximum deflection under self-weight and for each of the aforementioned load cases. The Aluminum Association does not allow a 1/3 increase on allowable stresses. See the attached schedule for additional loading information.

The referenced stage roof has been analyzed for an exterior lateral pressure of 6.7 pounds per square foot. The lateral stability of the stage roof is provided by the self-weight of the structure in conjunction with the connection to the foundation at each column to be provided by others. An attached diagram denotes the service uplift and downward forces at each column.

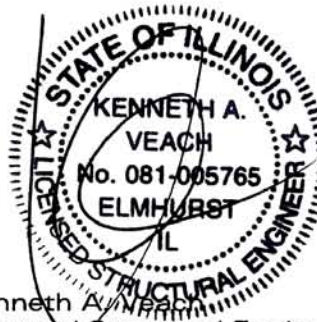
If there are any questions with regard to this report or if we can be of further service to you in any way, please do not hesitate to contact our office.

Sincerely,

THE STRUCTURAL SHOP, LTD.

Arlo Gough, E.I.T.  
Associate

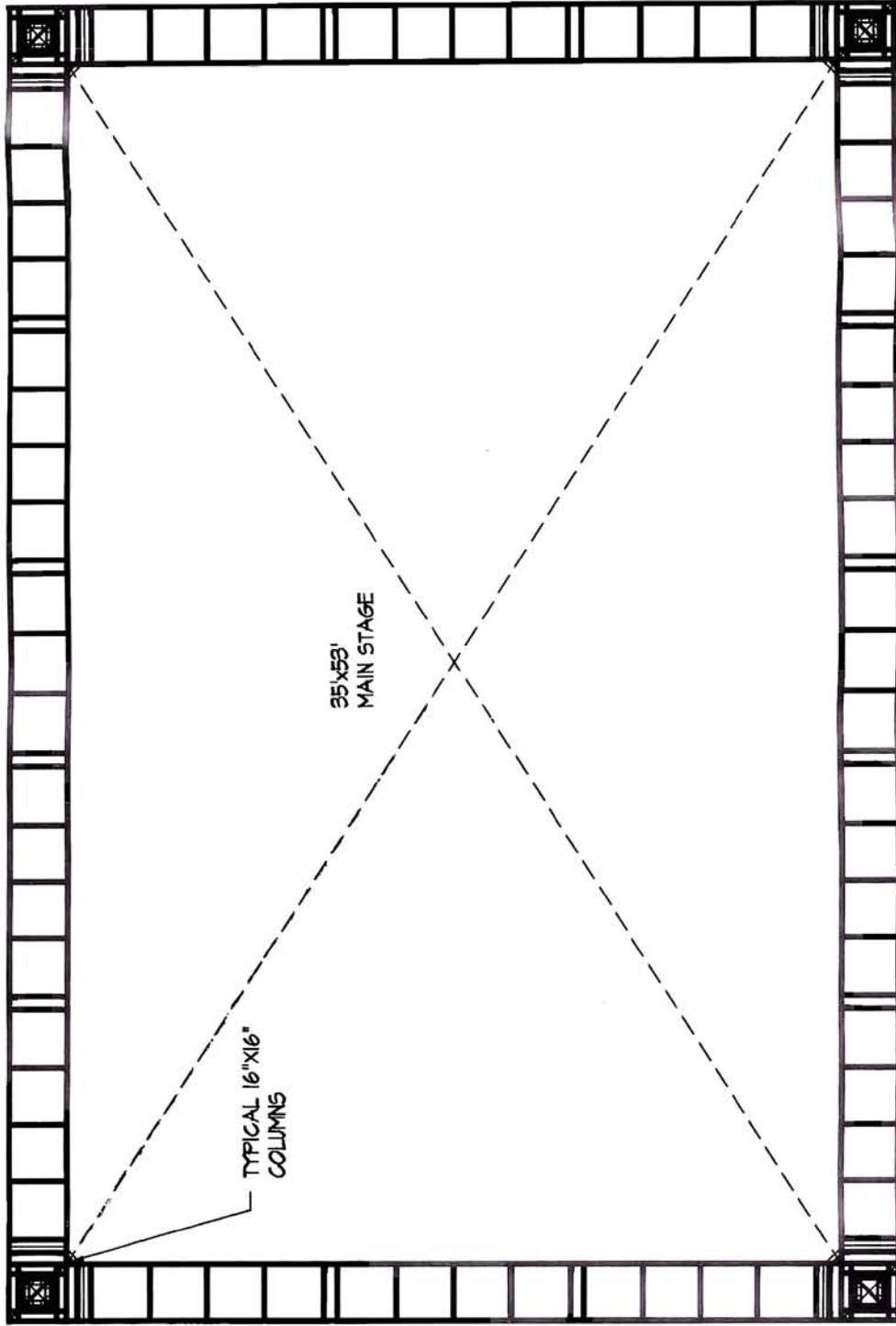
KV/ag



Kenneth A. Veach  
Licensed Structural Engineer  
State of Illinois

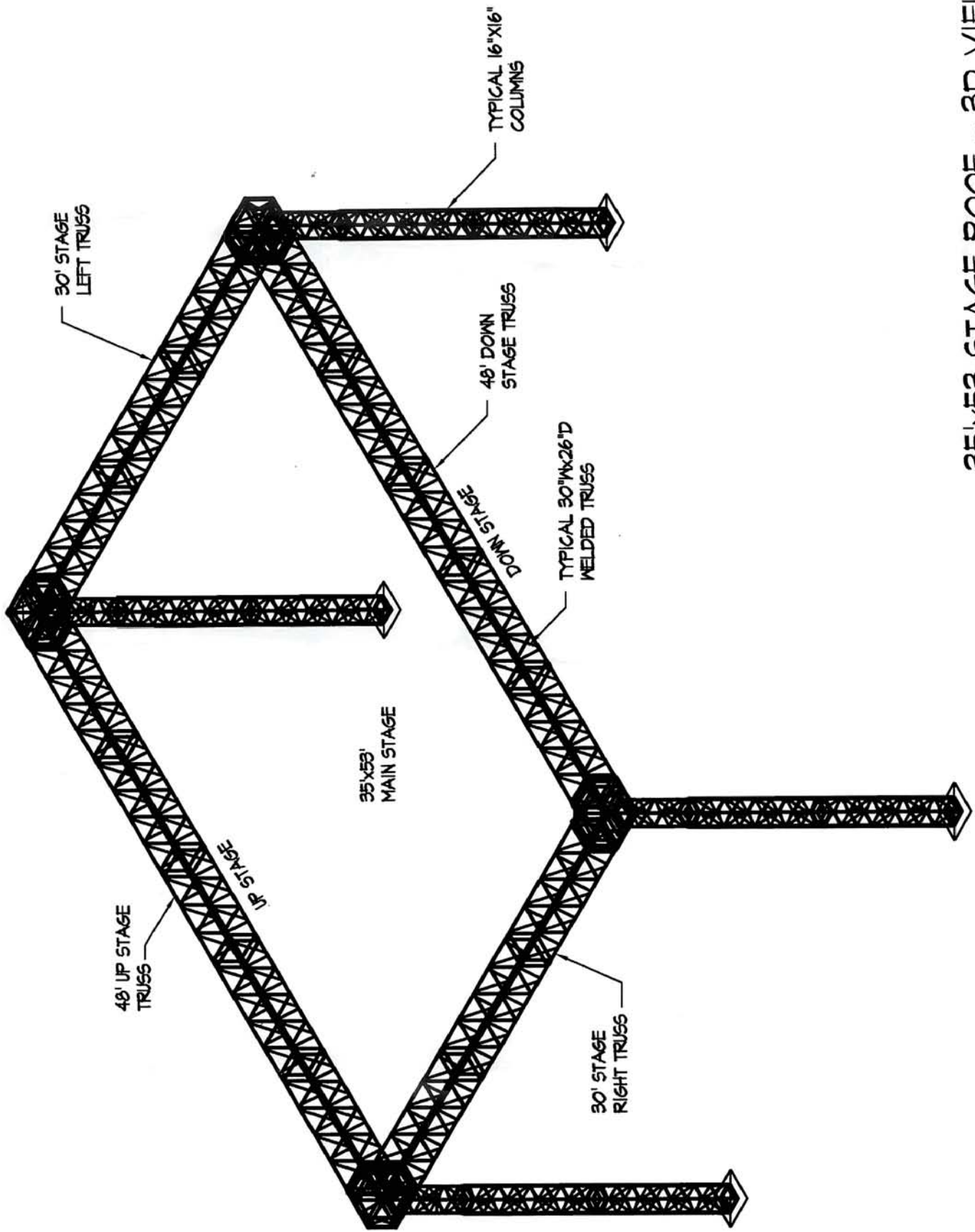
NOTES:

1. Design is based on an exterior wind pressure of 6.7psf.
2. The foundation for each column must be designed to resist the uplift and downward loads as follows (service loads):
  - Uplift = 2940 lbs.
  - Downward = 7560 lbs.
3. Design assumes 100% of roof covered including faces of the trusses.
4. --- represents 1/2" dia. guy wires at the top of the roof structure attached from lifting block to lifting blocks.



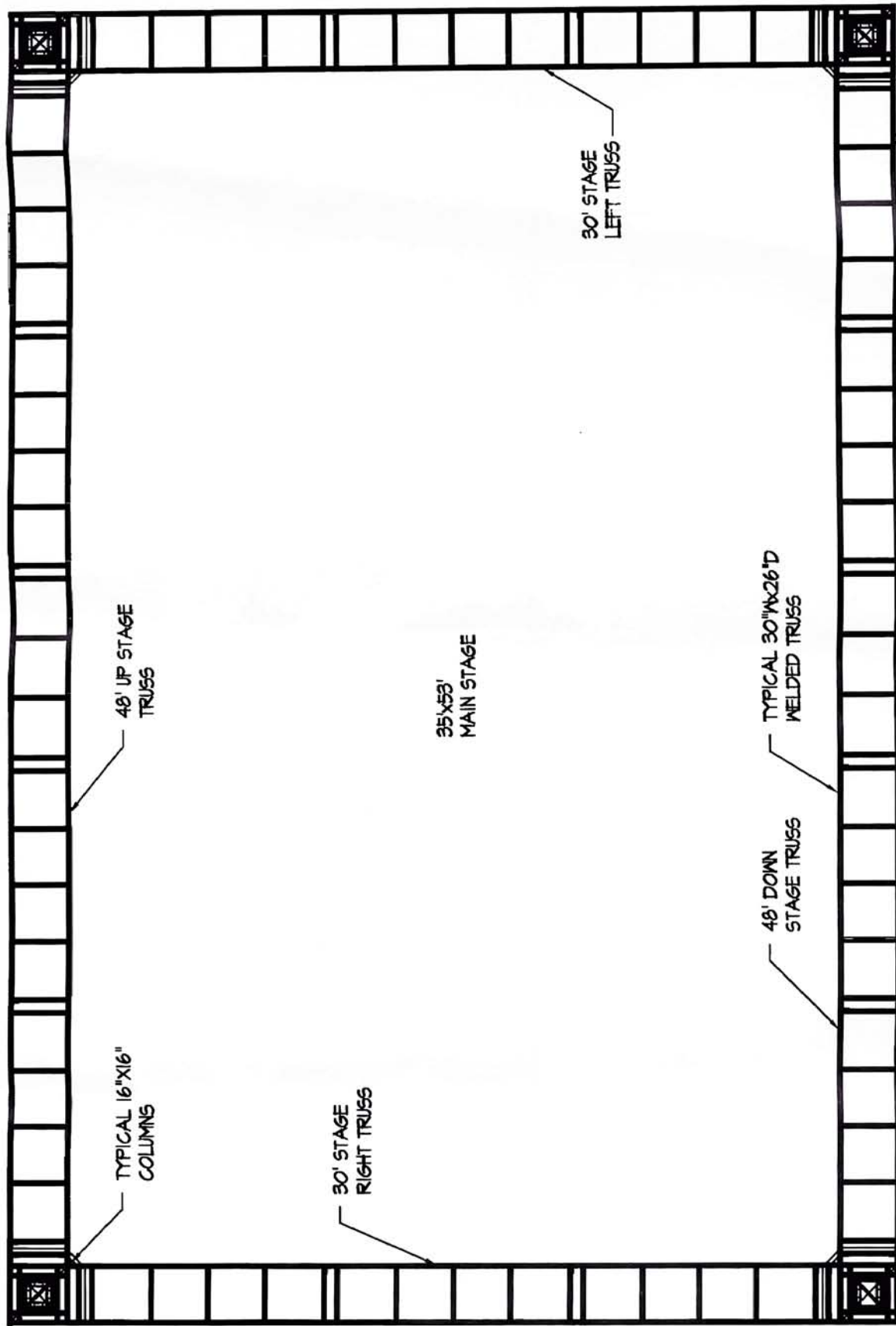
35'x53' STAGE ROOF - LATERAL STABILITY

SCALE: N.T.S.



**35'x53' STAGE ROOF - 3D VIEW**

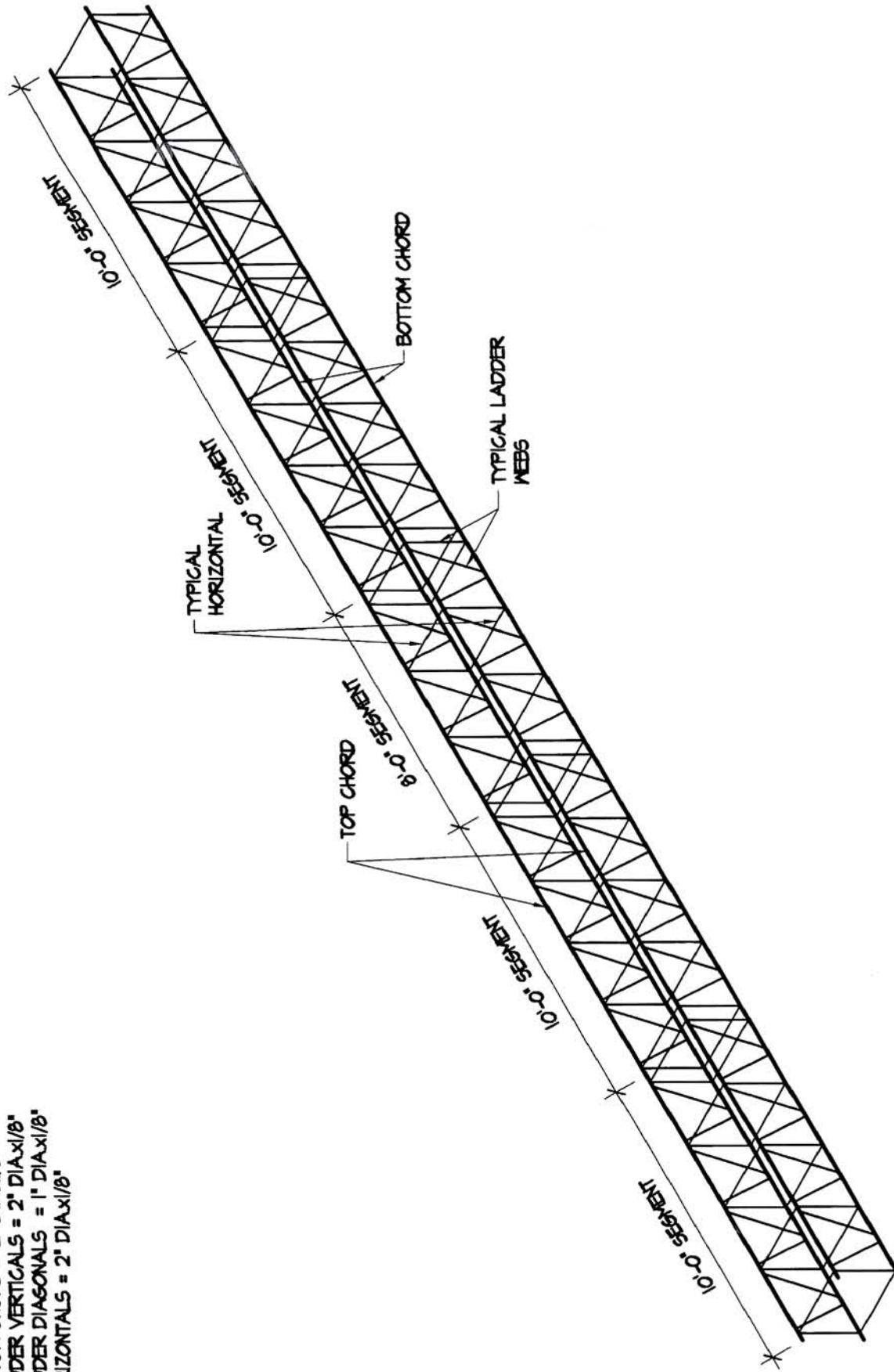
SCALE: N.T.S.



35'x53' STAGE ROOF - PLAN VIEW

SCALE: N.T.S.

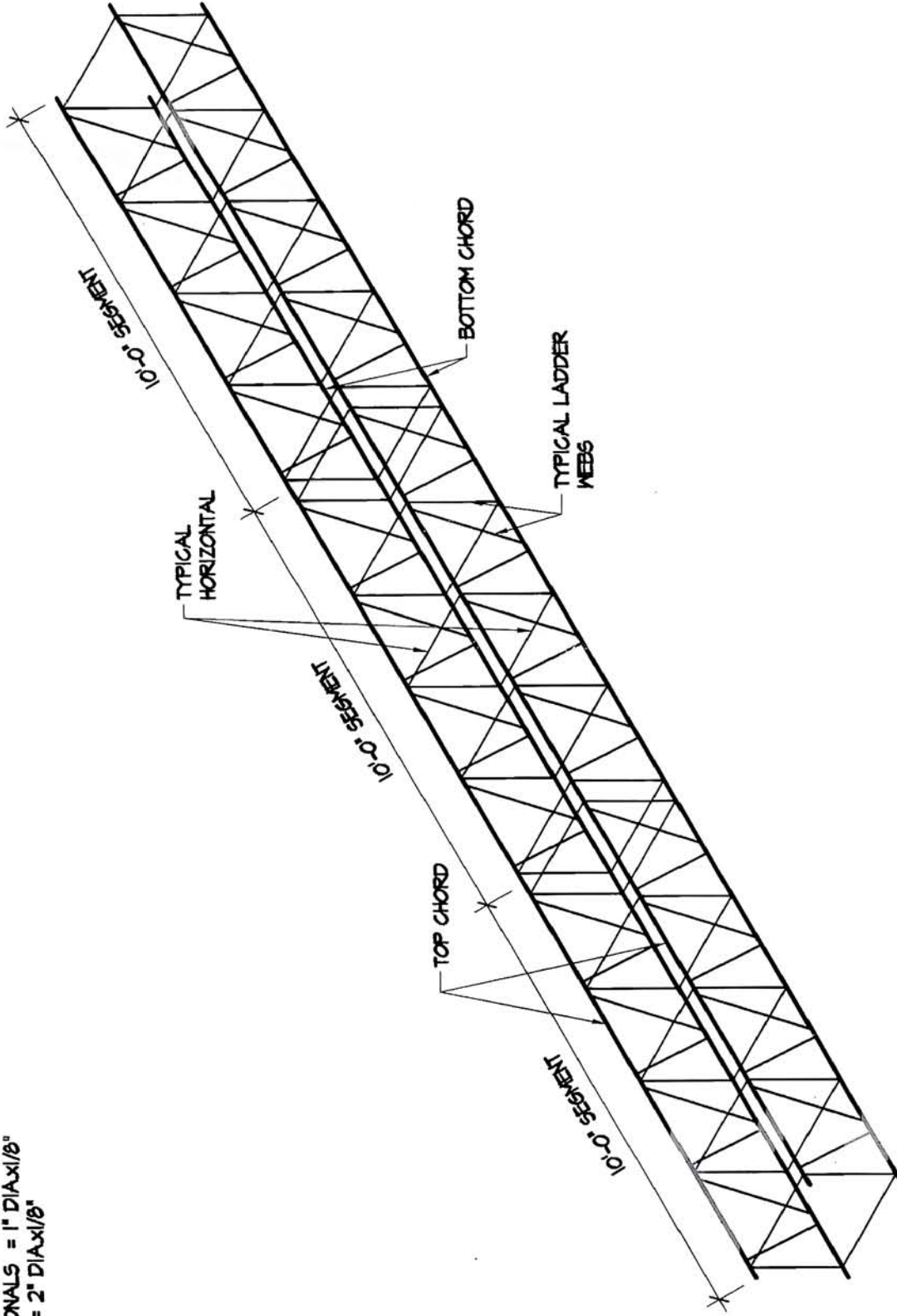
MEMBERS (6061-T6 ALUMINUM)  
 TOP CHORD = 2" DIA x 1/8"  
 BOTTOM CHORD = 2" DIA x 1/8"  
 LADDER VERTICALS = 2" DIA x 1/8"  
 LADDER DIAGONALS = 1" DIA x 1/8"  
 HORIZONTALS = 2" DIA x 1/8"



48 FT. 26" x 30" TRUSS

SCALE: N.T.S.

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 TOP CHORD = 2" DIAx1/8"  
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30 FT. 26"x30" TRUSS

SCALE: N.T.S.

26x30 Truss Allowable Service Loads And Associated Deflections (Notes 1, 2, 3)											
		Uniform Load		Point Load at Center		Point Loads at 1/3 Points		Point Loads at 1/4 Points		Selfweight	
Span (ft.)	Load (lbs./ft.)	Load (lbs.)	Maximum Deflection (in.)	Load (lbs.)	Maximum Deflection (in.)	Load (lbs.)	Maximum Deflection (in.)	Load (lbs.)	Maximum Deflection (in.)	Load (lbs.)	Maximum Deflection (in.)
30	154	4620	0.915	3800	1.233	2090	1.102	1395	1.043	-	0.048
48	89	4272	3.046	2650	3.066	2015	3.834	1340	3.579	-	0.268

Notes:

- 1) The load shown is the maximum load that the truss can support at that span. 6.7 pounds per square foot of wind load needs to be deducted for the area of roof that is covered at any given time.
- 2) The truss capacities are meant for lighting and equipment loads only. Occupancy loads have not been considered.
- 3) The load shown assumes no roof covering.
- 4) Loads applied to the trusses must be applied at panel points.