# STAGE LINE ®

# SL320
## TECHNICAL DRAWINGS
### 2020

1'-5" [0,44m]

4'-1" [1,24m]

6'-7" [2,01m]

11po [0,28m]

1'-9" [0,54m]

4'-7" [1,40m]

1'-1" [0,34m]

41'-0" [12,50m]

50'-10" [15,50m]

52'-3" [15,94m]

13'-5" [4,09m]

8'-1" [2,46m]

Minimum 7'-9" [2.36m]
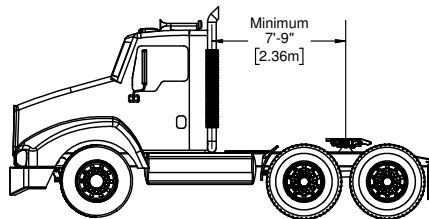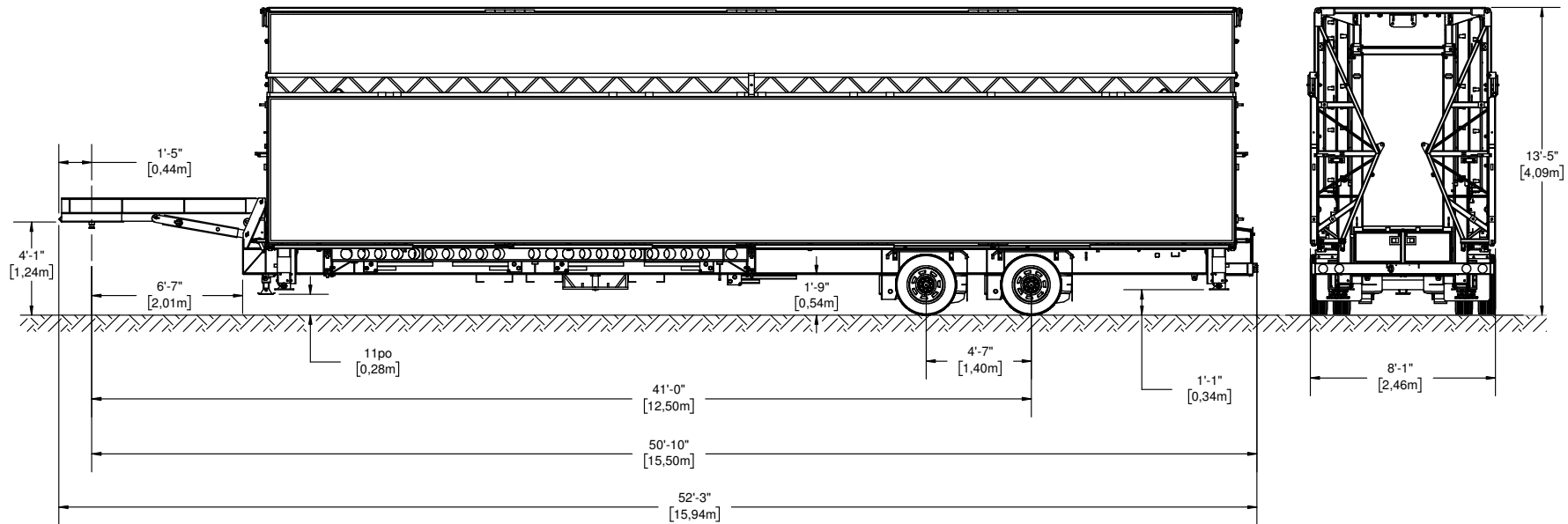
| Mass SL320 | Unladen | | Standard Equipment | | Maximum Capacity | |
|---|---|---|---|---|---|---|
| | Lbs | Kg | Lbs | Kg | Lbs | Kg |
| Total Mass | 38890 | 17640 | 44864 | 20350 | 50000 | 22680 |
| Mass on Axles | 28418 | 12890 | 32805 | 14880 | 34000 | 15422 |
| Mass on Hitch | 10472 | 4750 | 12059 | 5470 | - | - |

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80'-3"
[24,45m]

55'-8"
[16,96m]

42'-3"
[12,87m]

6'-9"
[2,05m]

12'-3"
[3,74m]

29'-7" to 32'-1"
[9.02m to 9.78m]

20'-0"
[6,09m]

5'-3"
[1,61m]

26'-4"
[8,03m]

15'-10"
[4,83m]

Door
10'-0" x 9'-0"
(3.05m x 2.74m)

Door
10'-0" x 9'-0"
(3.05m x 2.74m)

3'-6" to 6'-0"
[1.07m to 1.83m]

6'-8"
[2,03m]

10'-5"
[3,17m]

12'-0"
[3,66m]

40'-0"
[12,19m]

64'-0"
[19,50m]
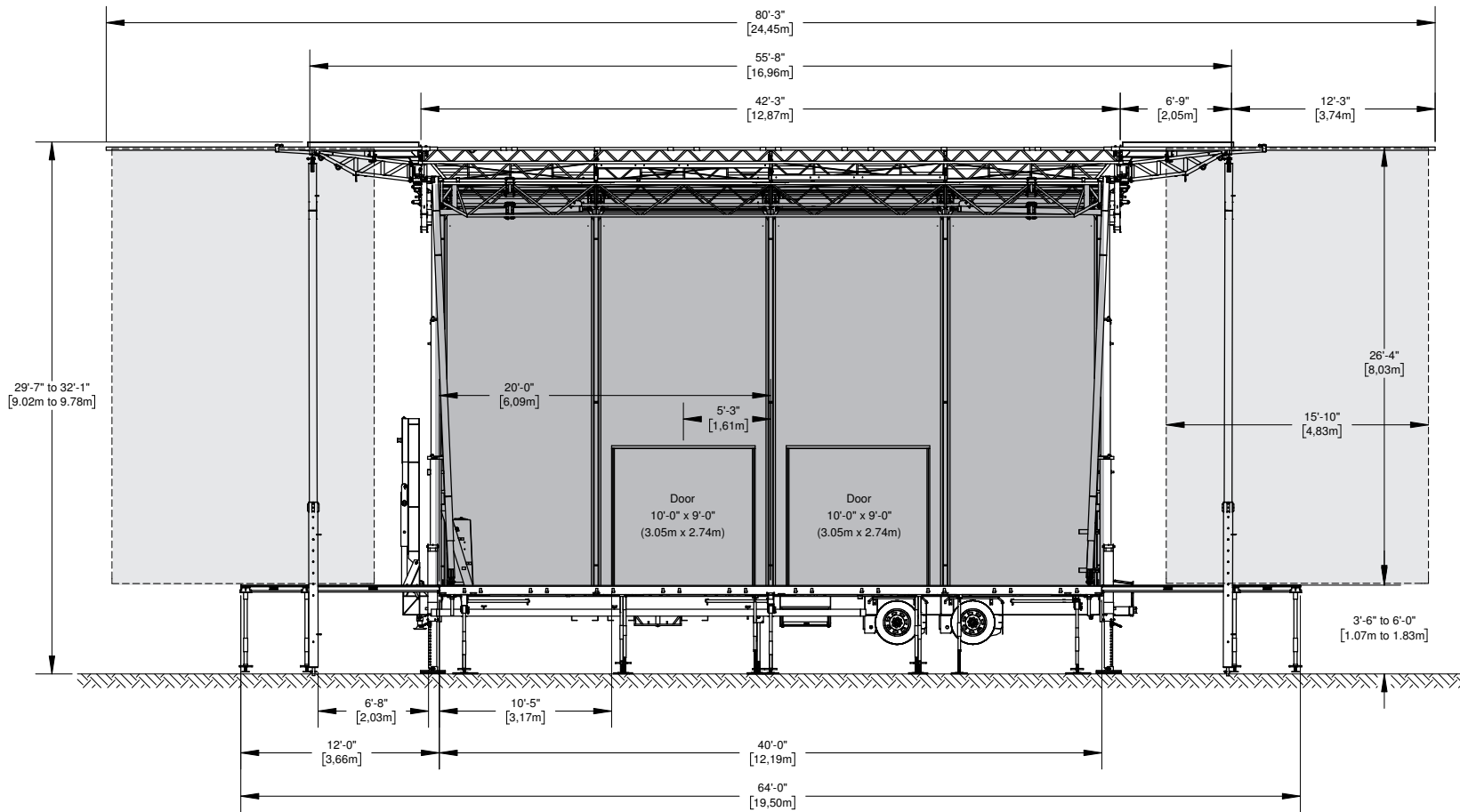
WINDWALL

BANNER (For dimensions, please refer to Banner Book)

**Drawings may show stage equipped with optional accessories. May be sold separately.**

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93'-0"
[28,34m]

55'-9"
[16,98m]

42'-3"
[12,87m]

6'-9"
[2,06m]

9'-11"
[3,02m]

28'-7" to 31'-1"
[8,71m to 9,47m]

Screen and banner area
24'-6" x 25'-0"
(7,47m x 7,62m)

20'-0"
[6,09m]

5'-3"
[1,61m]

Door
10'-0" x 9'-0"
(3.05m x 2.74m)

Door
10'-0" x 9'-0"
(3.05m x 2.74m)

Screen and banner area
24'-6" x 25'-0"
(7,47m x 7,62m)

29'-10" to 32'-4"
[9,09m to 9,86m]

3'-6" to 6'-0"
[1.07m to 1.83m]

6'-8"
[2,03m]

10'-5"
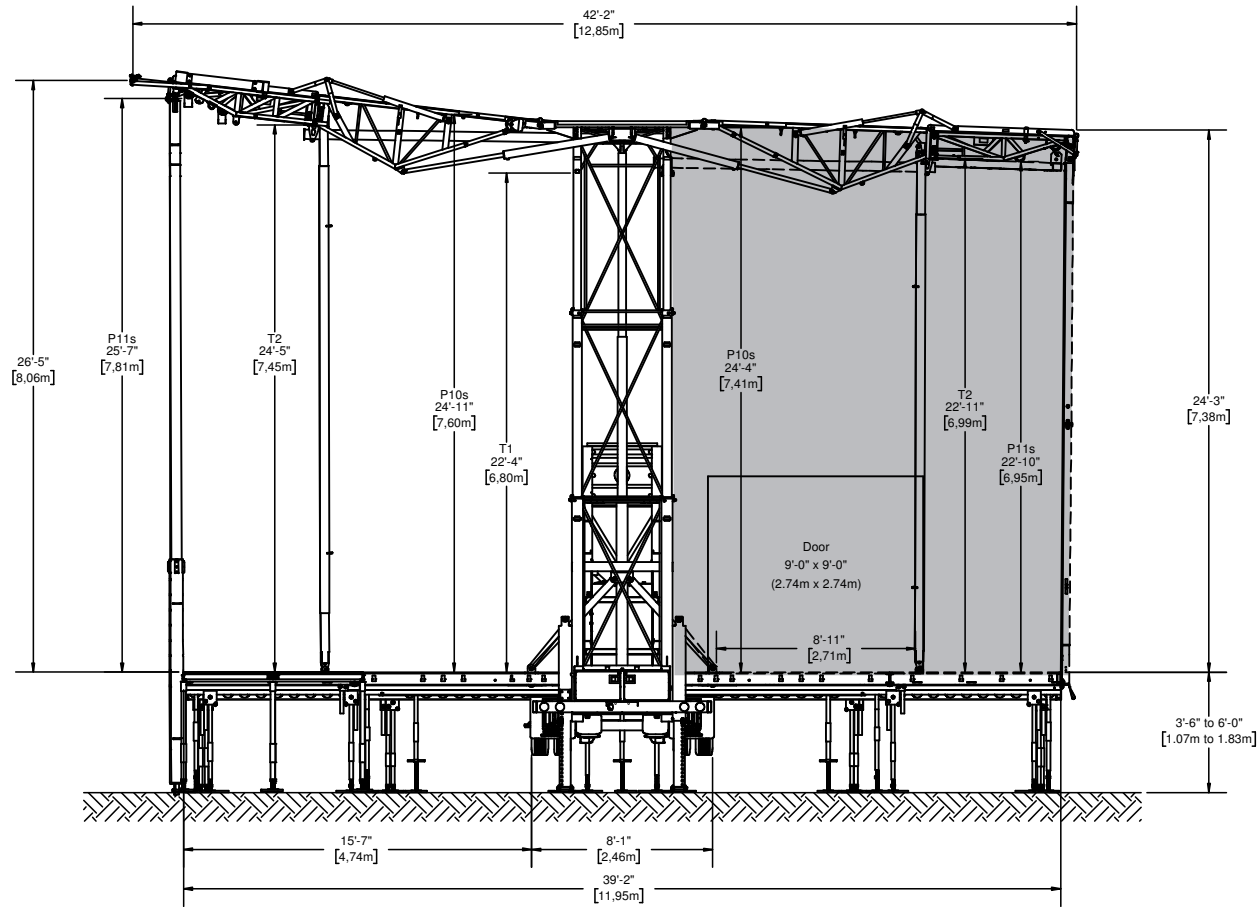[3,17m]

12'-0"
[3,66m]

40'-0"
[12,19m]

64'-0"
[19,50m]
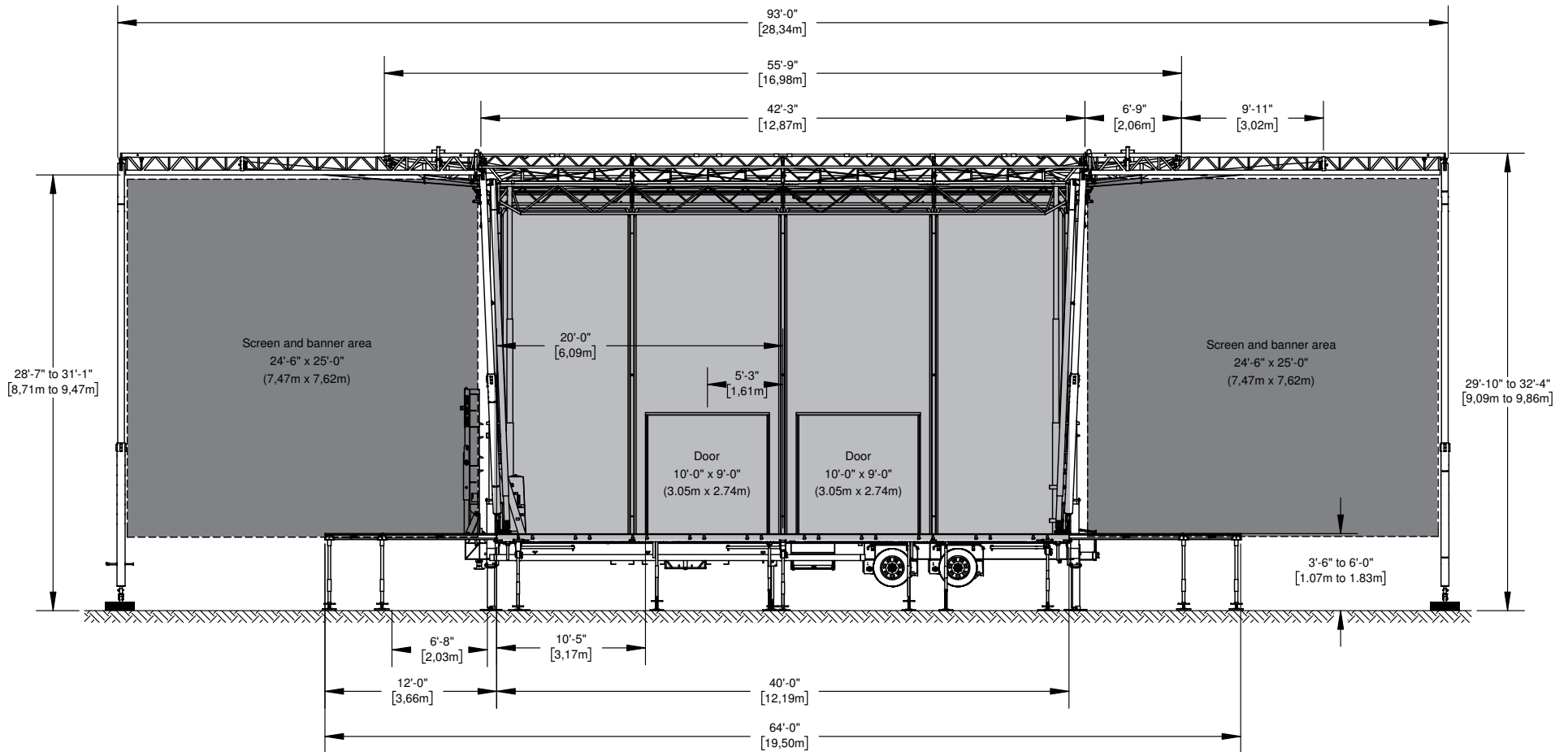
SCREEN AND BANNER AREA, REFER TO RIGGING PLAN FOR DETAILS AND LIMITATIONS.

WINDWALL

NOTE: Screen support ballasts were removed to lighten the view.

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42'-2"
[12,85m]

P11s
25'-7"
[7,81m]

T2
24'-5"
[7,45m]

26'-5"
[8,06m]

P10s
24'-11"
[7,60m]

T1
22'-4"
[6,80m]

P10s
24'-4"
[7,41m]

T2
22'-11"
[6,99m]

P11s
22'-10"
[6,95m]

24'-3"
[7,38m]

Door
9'-0" x 9'-0"
(2.74m x 2.74m)

8'-11"
[2,71m]

3'-6" to 6'-0"
[1.07m to 1.83m]

15'-7"
[4,74m]

8'-1"
[2,46m]

39'-2"
[11,95m]

WINDWALL

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40'-7"
[12,36m]

T2
24'-5"
[7,45m]

Screen
Support
26'-6"
[8,08m]

P11s
25'-7"
[7,81m]

P10s
24'-11"
[7,60m]

T1
22'-4"
[6,80m]

P10s
24'-4"
[7,41m]

P10s
24'-4"
[7,41m]

T2
22'-11"
[6,99m]

P11s
22'-10"
[6,95m]

24'-3"
[7,38m]

Door
9'-0" x 9'-0"
(2.74m x 2.74m)

8'-11"
[2,71m]

3'-6" to 6'-0"
[1.07m to 1.83m]

15'-7"
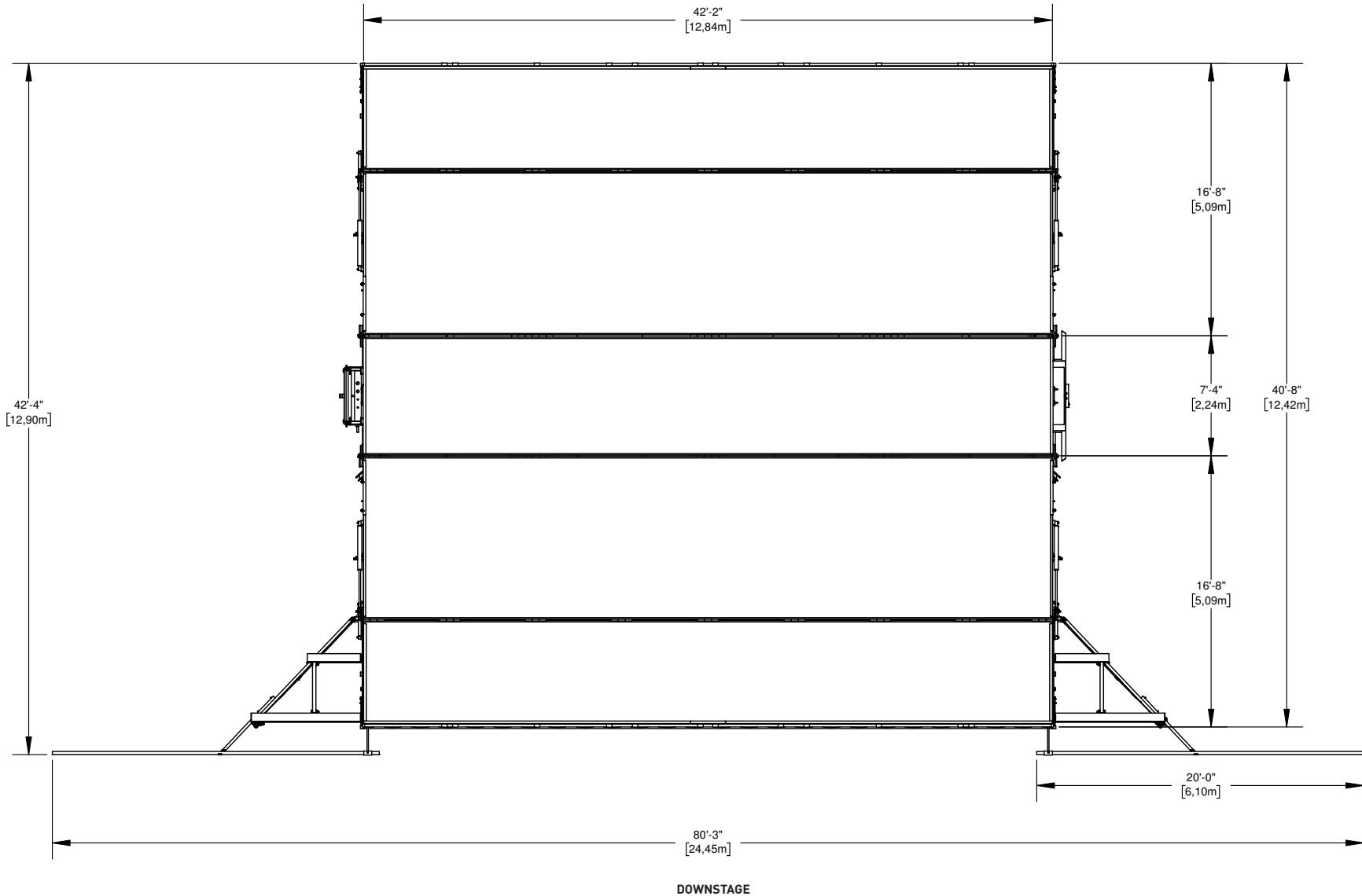[4,74m]

8'-1"
[2,46m]

39'-2"
[11,95m]

WINDWALL

NOTE: Screen support ballasts were removed to lighten the view.

**Drawings may show stage equipped with optional accessories. May be sold separately.**

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42'-2"
[12,84m]

42'-4"
[12,90m]

16'-8"
[5,09m]

7'-4"
[2,24m]

40'-8"
[12,42m]

16'-8"
[5,09m]

20'-0"
[6,10m]

80'-3"
[24,45m]

**DOWNSTAGE**

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42'-2" [12,84m]

40'-3" [12,26m]

16'-8" [5,09m]

7'-4" [2,24m]

40'-8" [12,42m]

16'-8" [5,09m]

25'-2" [7,66m]

92'-7" [28,22m]

**DOWNSTAGE**

NOTE: Screen support ballasts were removed to lighten the view.

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40'-0" [12,19m]

17'-2" [5,22m]

3'-6" [1,08m]

4'-11" [1,50m]

8'-0" [2,43m]

39'-2" [11,95m]

36'-7" [11,15m]

17'-2" [5,22m]

16'-0" [4,88m]

12'-0" [3,66m]

64'-0" [19,50m]
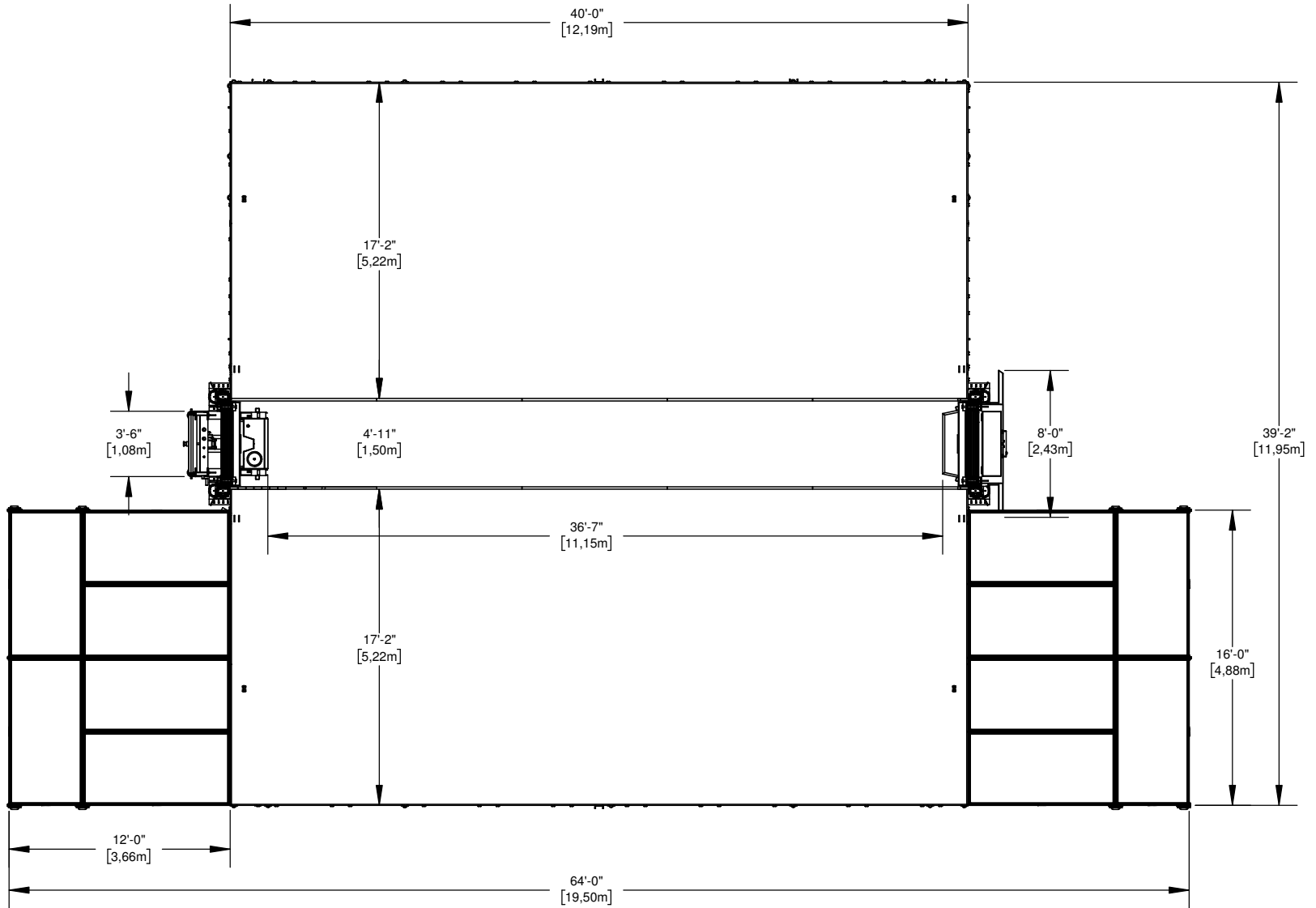
**DOWNSTAGE**

CAPACITY: 100lbs/ft² (490kg./m²)

**Drawings may show stage equipped with optional accessories. May be sold separately.**

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FLOOR STABILIZERS, EXTENSIONS AND LEVELLING JACKS

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STANDARD CONFIGURATIONS
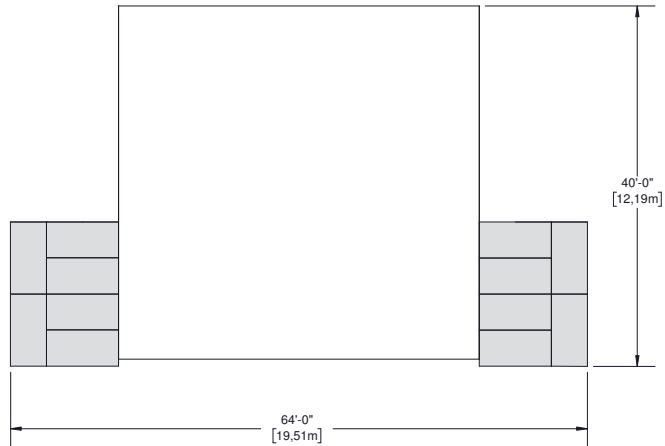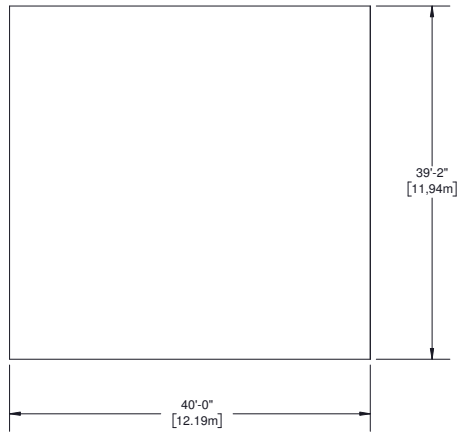
EXTENDED CONFIGURATIONS
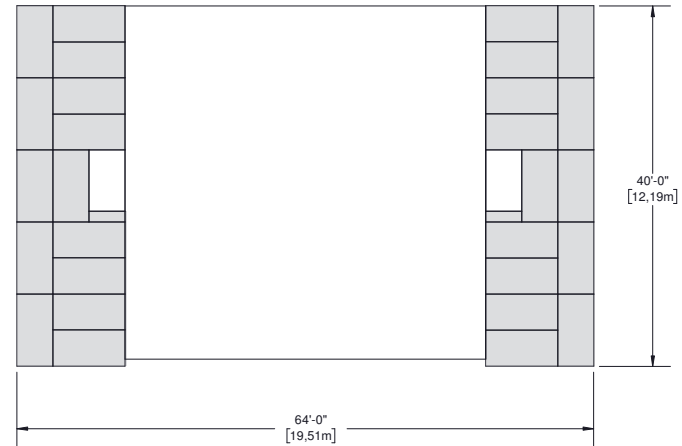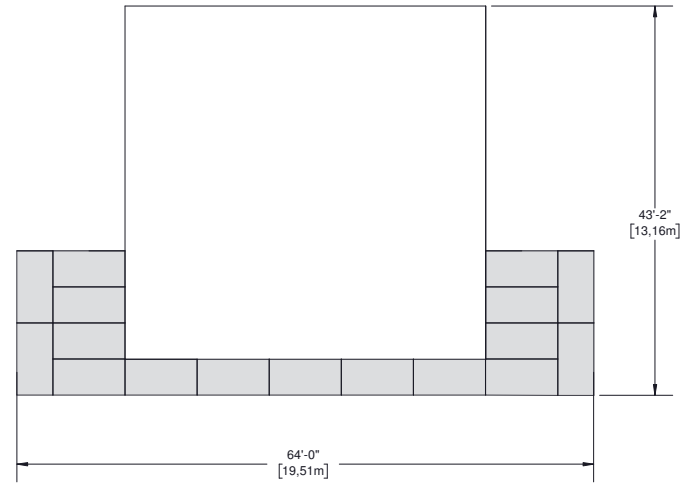
39'-2"
[11,94m]

40'-0"
[12.19m]

43'-2"
[13,16m]

64'-0"
[19,51m]

40'-0"
[12,19m]

64'-0"
[19,51m]

40'-0"
[12,19m]

64'-0"
[19,51m]

PLATFORM

## A THOROUGH UNDERSTANDING OF THE INTER-RELATED LOADINGS SHOWN IN THIS RIGGING PLAN IS NEEDED IN ORDER TO SAFELY USE THIS MOBILE STAGE ROOF AND TAKE FULL ADVANTAGE OF THE MANY RIGGING OPPORTUNITIES IT OFFERS.

This mobile stage roof offers a variety of rigging options with regard to load capacity, placement and type.

There are rigging pipes, trusses, roof rigging points and side overhang rigging beams.

This rigging plan locates and defines these rigging features, includes load capacity for each and describes maximum combinations of loads amongst features.

Take note of exclusions, maximum sub-totals in a group, load balance requirements, maximum lifting capacity of roof and maximum rigging load on roof.

The maximum load on the roof is less than the sum of the maximum load on each rigging feature.

**Refer to Operator's Manual for procedures in regards to proper setup and setup methods of the stage and its options.**
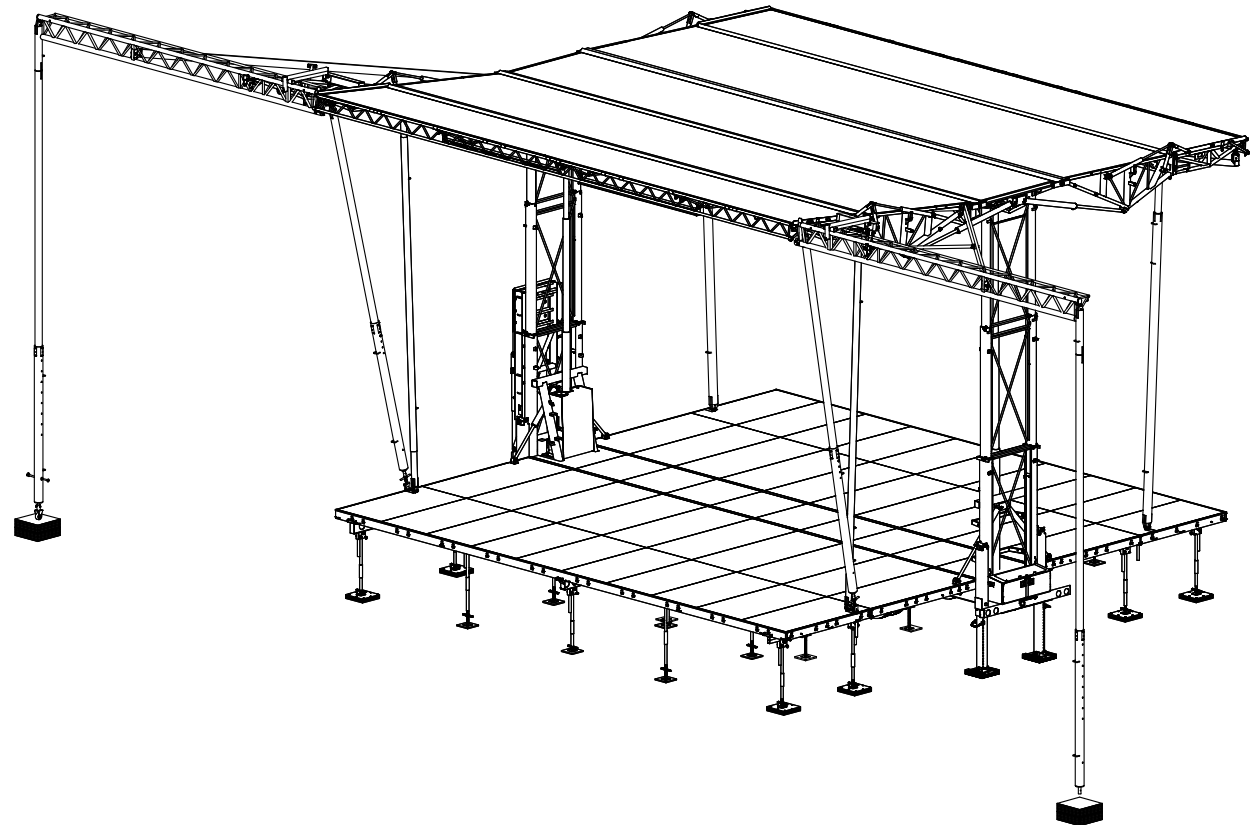


The information contained in the current document is final and must be considered as such. They are derived from design briefs and summarized to help the user plan rigging configurations safely. It is therefore mandatory that the user follows and respects the capabilities and limitations described herein. Overloading of stage components above their specified capacity may result in structural failure, equipment damage, injury or death. Stageline cannot be held responsible if the user, himself or subcontractors under his supervision, derogate from this document and/or the approved rigging plan. If a desired configuration cannot meet these requirements, the user must contact Stageline to analyse the case and obtain further instructions. Special restrictions and limitations may apply.

Certain authorities may require that a rig configuration plan, signed and sealed by a recognized member of a professional body, be available to allow the stage to be setup on their territory. This document was not intended to and cannot be used or considered as an official document or certificate to serve this purpose. Contact responsible authorities or Stageline for details.

## RIGGING RESTRICTIONS:

- MAXIMUM LOAD BEARING CAPACITY: 26 000 lb (11 793 kg). All corner posts must be installed and pinned, and telescopic columns pinned and secured.

- Once corner posts and sound wing posts are installed, total load of P12s to P15 and zones L, M and N must not exceed 3000 lb (1360 kg) when banners are installed. Capacity can be increased to 4000 lb (1814 kg) when banners are not installed.

- Do not rig on T3 trusses.

- Capacity of downstage P12* must take into account loads of points P13 to P15 and zones L, M and N.

- Capacity of T1 and T2 trusses must take into account loads on rigging beams. (Please refer to **RIGGING BEAM LOAD DISTRIBUTION RATIO** table on next page)

- Do not load more than 1000 lb (454 kg) on each twin set of P10 in upstage roof panel.

- Do not load more than 500 lb (227 kg) on each twin set of P11.

- Do not load P11s when upstage windwalls are installed.

- On any given beam, only one rigging point may be used at a time, i.e. it is not allowed to rig multiple points simultaneously.

- Upstage P12*s cannot exceed 1000 lb (454 kg) when windwalls are installed.

- Do not rig on downstage P12 when screen support is used. Refer to page 14 for details about rigging on the screen support.

- Banners may be installed to the screen supports.
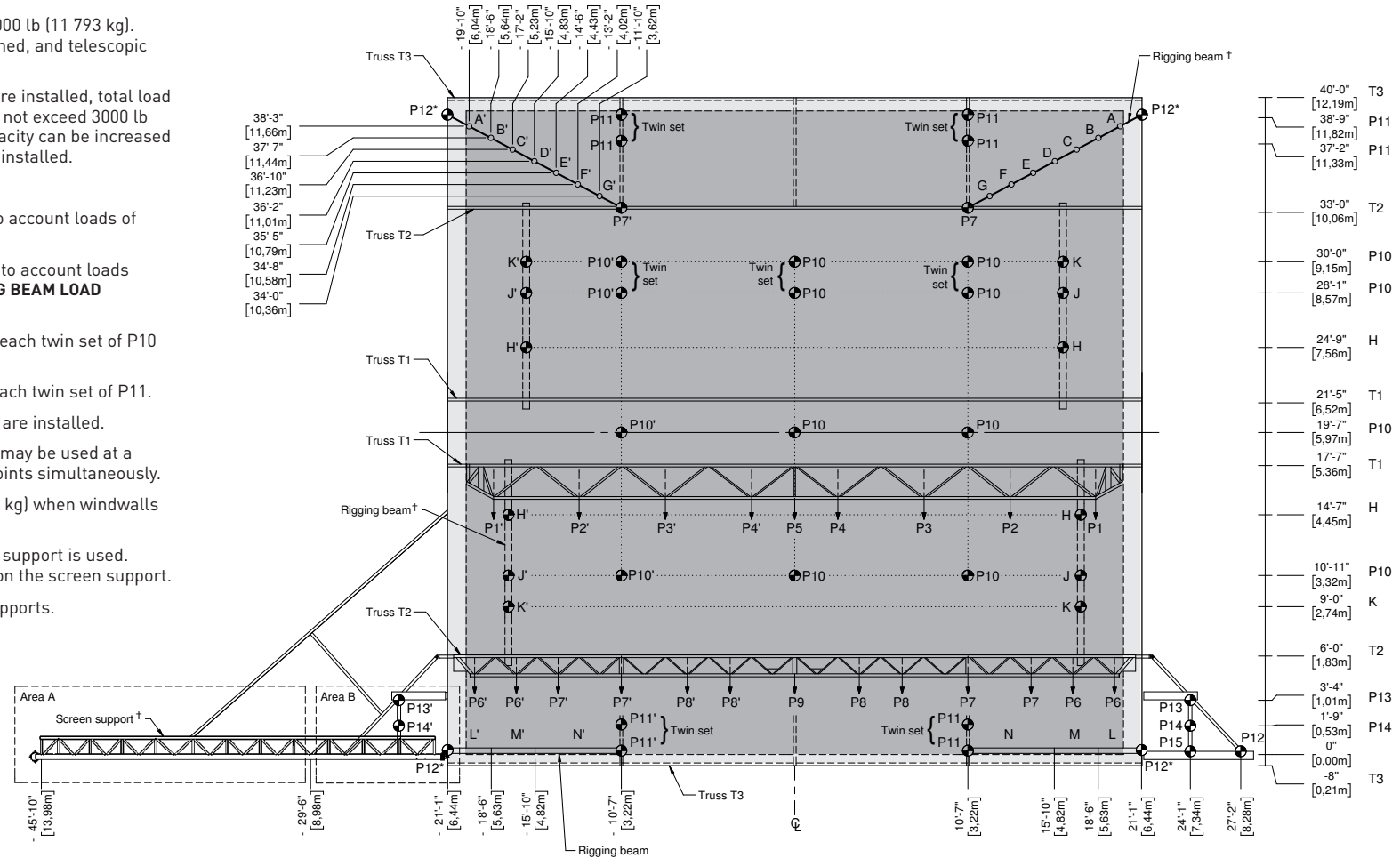
## LIFTING RESTRICTIONS

- MAXIMUM LIFTING CAPACITY IS 2000 lb (907 kg).

- Maximum asymmetric load difference between front and rear of stage is 1200 lb (544 kg). This includes loads on T1 trusses.

- Load must be symmetrically distributed between right and left side of stage.
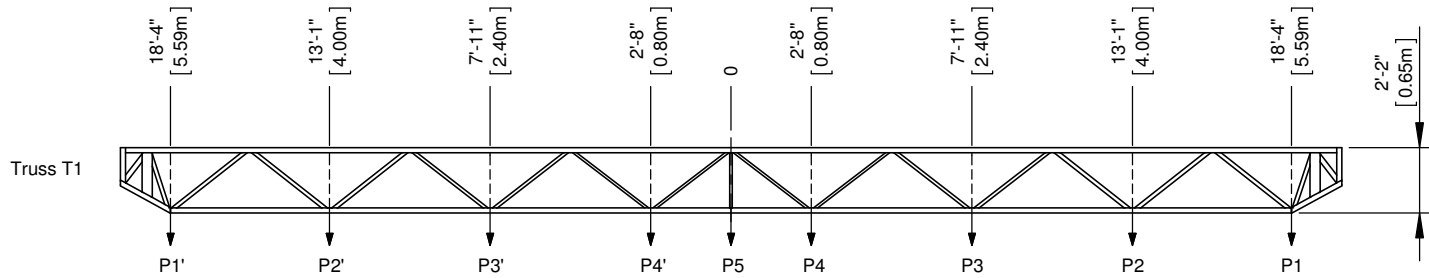
<sup>†</sup> *Optional items, see stage specifications.*

## NOTES:

Outside square tube rigging bar for lower chord of all trusses is 2'' (5 cm).

ROOF

FLOOR

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**12**

Truss T1

Dimensions (top): 18'-4" [5.59m], 13'-1" [4.00m], 7'-11" [2.40m], 2'-8" [0.80m], 0, 2'-8" [0.80m], 7'-11" [2.40m], 13'-1" [4.00m], 18'-4" [5.59m], 2'-2" [0.65m]

Points: P1', P2', P3', P4', P5, P4, P3, P2, P1

**Truss T1\*\*:** $\dfrac{Load\ P1}{Capacity\ P1} + \dfrac{Load\ P2}{Capacity\ P2} + \dfrac{Load\ P3}{Capacity\ P3} + \dfrac{Load\ P4}{Capacity\ P4} + \dfrac{Load\ P5}{Capacity\ P5} \leq 1.00$

Truss T2

Dimensions (top): 19'-6" [5.94m], 16'-11" [5.16m], 14'-5" [4.39m], 10'-7" [3.22m], 6'-7" [1.99m], 3'-11" [1.20m], 0, 3'-11" [1.20m], 6'-7" [1.99m], 10'-7" [3.22m], 14'-5" [4.39m], 16'-11" [5.16m], 19'-6" [5.94m], 1'-4" [0.41m]

Points: P6', P6', P7', P7', P8', P8', P9, P8, P8, P7, P7, P6, P6
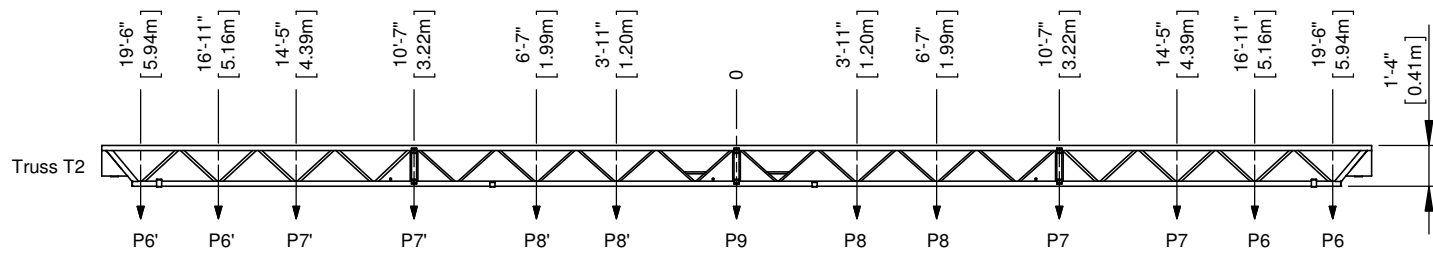
**Truss T2\*\*:** $\dfrac{Load\ P6}{Capacity\ P6} + \dfrac{Load\ P7}{Capacity\ P7} + \dfrac{Load\ P8}{Capacity\ P8} + \dfrac{Load\ P9}{Capacity\ P9} \leq 1.00$

**UDL CHART**

50% — 50%

19% — 62% — 19%

13% — 37% — 37% — 13%
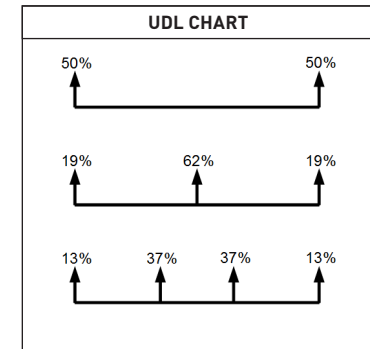
| RIGGING BEAM LOAD DISTRIBUTION RATIO (%) *** | | | |
|---|---|---|---|
| Point No. | P12 * / T2 | Point No. | T1 / T2 |
| A † | 88 / 12 | H † | 71 / 29 |
| B † | 75 / 25 | J † | 42 / 58 |
| C † | 63 / 37 | K † | 26 / 74 |
| D † | 50 / 50 | | |
| E † | 37 / 63 | | |
| F † | 25 / 75 | | |
| G † | 12 / 88 | | |

| MAXIMUM LOAD CAPACITY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Point No. | Lbs | Kg | Point No. | Lbs | Kg | Point No. | Lbs | Kg | Point No. | Lbs | Kg |
| P1, P2 | 1500 | 680 | P11 | 500 | 227 | P20 † | 2500 | 1134 | G † | 750 | 340 |
| P3 | 1200 | 544 | P12, P12 * | 2000 | 907 | A † | 1700 | 770 | H † | 1500 | 680 |
| P4, P5 | 700 | 318 | P13, P14, P15 | 4000 | 1815 | B † | 2000 | 907 | J † | 1700 | 770 |
| P6 | 1000 | 454 | P16 † | 3000 | 1361 | C † | 1700 | 770 | K † | 1000 | 454 |
| P7 | 650 | 295 | P17 † | 2000 | 907 | D † | 1300 | 590 | Zone L | 2000 | 907 |
| P8, P9 | 400 | 182 | P18 † | 1000 | 454 | E † | 1000 | 454 | Zone M | 1000 | 454 |
| P10 | 1000 | 454 | P19 † | 1500 | 680 | F † | 850 | 385 | Zone N | 500 | 227 |

† *Optional items, see stage specifications.*
** *Valid for symmetric loads only. In other cases, contact Stageline for assistance.*
*** *Weight distribution percentages of rigging points on their supporting truss or rigging point (ex: loading 1700 lbs (770 kg) on point A will distribute 88% of that weight on P12* and 12% on T2).*

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Area A — measurements: 23'-9" [7,24m], 21'-10" [6,65m], 19'-11" [6,06m], 17'-10" [5,44m], 15'-7" [4,74m], 13'-6" [4,12m], 11'-6" [3,49m], 9'-5" [2,87m]

Area B — 7'-4" [2,23m], 5'-2" [1,58m]

3'-0" [0,92m], 10" [0,27m], 0 — Roof panel

Points: P16, P16, P16, P16, P16, P20, P17, P19, P18, P17, P16, P16, P12*

DO NOT RIG

DO NOT RIG

Area C     Area D
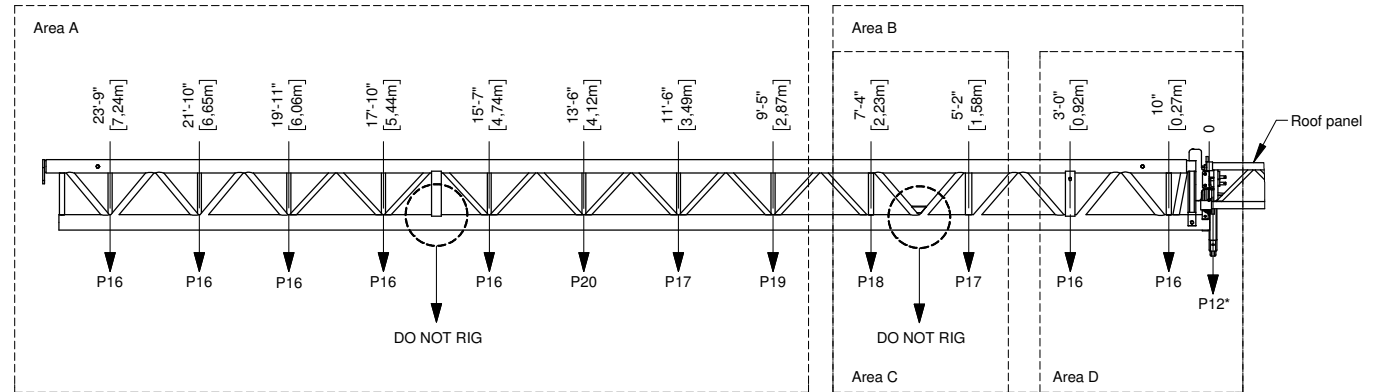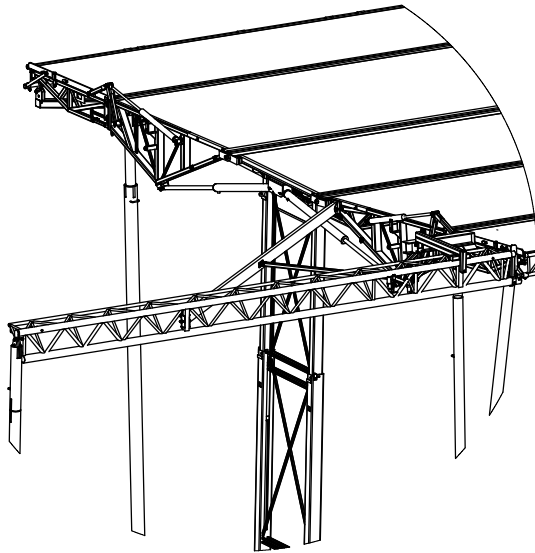
## RIGGING RESTRICTIONS:

- Maximum allowable load per area:
  - Area A is 3000lb (1361kg)
  - Area B is 3000lb (1361kg)
  - Area C is 2000lb (907kg)
  - Area D is 3000lb (1361kg)

- When rigging a screen, minimum distance between the points:
  - 2 points : 8'0'' (2.44m)
  - 3 points : 6'0'' (1.80m)

- No rigging is allowed between the screen's rigging points.

- Leave a minimum of 6' (1.80m) between any rigging points located in area A.

- Do not apply tension to the lateral banners.

- Ballast weights are mandatory for utilization of screen support system, refer to User's Manuel for details and specifications.

- Areas B and D must take into account loads from points P12*, P13 and P14.

† *Optional items, see stage specifications.*

| MAXIMUM LOAD CAPACITY | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Point No. | Lbs | Kg | Point No. | Lbs | Kg | Point No. | Lbs | Kg | Point No. | Lbs | Kg |
| P1, P2 | 1500 | 680 | P11 | 500 | 227 | P20† | 2500 | 1134 | G† | 750 | 340 |
| P3 | 1200 | 544 | P12, P12 * | 2000 | 907 | A† | 1700 | 770 | H† | 1500 | 680 |
| P4, P5 | 700 | 318 | P13, P14, P15 | 4000 | 1815 | B† | 2000 | 907 | J† | 1700 | 770 |
| P6 | 1000 | 454 | P16† | 3000 | 1361 | C† | 1700 | 770 | K† | 1000 | 454 |
| P7 | 650 | 295 | P17† | 2000 | 907 | D† | 1300 | 590 | Zone L | 2000 | 907 |
| P8, P9 | 400 | 182 | P18† | 1000 | 454 | E† | 1000 | 454 | Zone M | 1000 | 454 |
| P10 | 1000 | 454 | P19† | 1500 | 680 | F† | 850 | 385 | Zone N | 500 | 227 |

## WHEN CALCULATING THE LOAD ON A SL320 TRUSS, USE FOLLOWING METHOD.

Each truss in the roof must be visualized as 2 trusses put together that share a center point.

**Example:** T2 on a SL320.

Points from left to right are P6', P7', P8', P9, P8, P7, P6. We will only verify loads on 1 side of the truss, Meaning P6 thru P9.
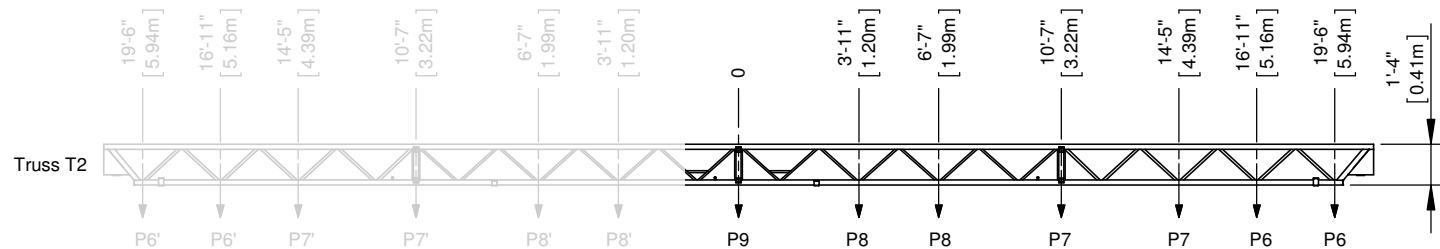


### CALCULATION EXAMPLE #1:

1 lighting truss on 2 motors, total uniformly distributed weight of the truss is 1500lbs.
Each motor will be hung from the P6 points.

- 0.50 x 1500 (50% of weight, see UDL chart) / 1000 (the capacity of the P6 on the T2 truss) = 0.75.
- 0.75 = 75 %, as 1.00 would equal 100 %.

**So the T2 truss is at 75 % of its total capacity.**

### CALCULATION EXAMPLE #2:

1 lighting truss on 3 motors, total uniformly distributed weight of the truss is 1500lbs.
The motors will be hung from P6', P9, P6.

- **P6**
  0.19 x 1500 (19% of weight, see UDL chart) / 1000 (capacity P6) = 0.29, so this one point will use 29 % of the truss capacity.
- **P9**
  0.62 x 1500 (62% of weight, see UDL chart) / 400 (capacity P9) = 2.33, 233 % of truss capacity.

Now that we have the loads for both points, we add them together to determine the total load on the truss.

0.29 + 2.33 = 2.62
**So the T2 truss is at 262 % of its total capacity.**

### CALCULATION EXAMPLE #3:

1 lighting truss on 2 motors, total uniformly distributed weight of the truss is 1200lbs. The motors will be hung from L' and L on the downstage rigging beam. Also, a 3000lbs line array will be rigged at each P15 point.

- **L**
  0.50 x 1200 (50% of truss weight on right side) = 600lbs.
  0.75 x 600 (75% of weight on stage right P12*) = 450lbs.
  0.25 x 600 (25% of weight on stage right P11) = 150lbs.
- **P15**
  0.50 x 3000 (50% of weight on stage right P12*) = 1500lbs

Now that we have the loads for both points, we add them together to determine total load on P12*.

(450 + 1500)/2000 (P12* capacity) = 0.98
**So the P12* point is at 98 % of its total capacity.**