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July 9, 2012

Stageline Mobile Stage Inc.
700 Marsolais Street
L'Assomption, Quebec, Canada, J5W 2G9

Email: Yvan@stageline.com

Attn: Mr. Yvan Miron

Re: SL320 Mobile Stage – Use in the United States
MEG File No. 103096 Task 26

McLaren Engineering Group (MEG) has reviewed the SL320 Mobile Stage system 2004 version for general use in the United States. The calculations and drawings were produced under the direct supervision and responsible charge of "the undersigned." The final documents are the result of a comprehensive evaluation by MEG and include approved revisions as needed resulting from these engineering reviews. **We believe that the erected system will safely support the approved loading and environmental conditions if properly assembled and used in accordance with manufacturer's recommendations and as noted herein.**

The assessment by MEG only considers the fully erected SL320 Mobile Stage structure and its standard features, including wind walls, adjustable side sound hangers ("ECS"), and front-of-house rigging trusses. Additional items such as auxiliary components, P.A. side platforms, hydraulic systems and erection devices were not considered in this review. The fabrication, design and operational procedures meet or exceed the requirements of ANSI E1.21-2006 "Temporary Ground-Supported Overhead Structures Used to Cover the Stage Areas and Support Equipment in the Production of Outdoor Entertainment Events." The design loads were derived from ASCE 7 and ANSI E1.21. Steel design was performed using AISC-LRFD provisions. Plywood was designed using APA provisions.

The design and construction of the erected stage assembly meets the applicable requirements of IBC-2009 Chapter 16, with the following suitable adjustments:

1. The mobile stage is erected for a very short period of time and protective actions will be taken by trained personnel under specified environmental conditions. Environment loads in ASCE 7 and IBC, including wind, are based on statistical probabilities that relate to time. Reductions in design loads have been taken using the provisions of ANSI E1.21 to account for such conditions. The wind design loads for the mobile stage far exceed the minimum permissible using E1.21.

2. ANSI E1.21 allows reduced wind loads compared with IBC only if weather is monitored and if certain actions by trained personnel can be accomplished. The

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procedures in the User's Manual comply with and exceed the minimum requirements of E1.21.

Stageline Mobile Stage Inc. furnished the following material for review:

1. SL320 (2004) Mobile Stage Design Brief, dated July 2004
2. SL320 (2004) Users Manual, dated July 2004
3. Matrix structural computer model analysis results using "Visual Design" software by Civil Design Inc.
4. SL320 (2004) assembly drawings and select detail shop drawings
5. Load test reports for selected components
6. Stageline Mobile Stage Equipment "Wind Resistance and Procedures in Case of Heavy Wind," dated September 27, 2011

The SL320 Mobile Stage is to be used as a performance or similar platform for short-term temporary use in outdoor environments. The mobile stage travels as a tractor trailer; when it arrives on site, the Certified Operator and crew deploy and erect the stage roof and stage platform assembly. The trailer chassis remains in place as the center portion of the stage. The mobile stage bears on grade that is suitable to support the truck and tractor trailer. The Certified Operator in conjunction with the Event Producer are responsible for confirming that the ground bearing conditions are suitable as per the User's Manual.

The mobile stage has a roof, available rigging points, and optional fabric wind walls. The stage is a temporary performance platform and not a legitimate theater stage, and as such, is not subject to the same live loads. The SL320 has a stage live load rating of 100 psf. The SL320 has a roof live load rating of 20 psf unrigged or 16,000 lbs rigged, plus 4,000 lbs of capacity at the side sound hangers ("ECS") on the downstage corners. Standard Stageline stairs and guardrails are appropriate for performance use. Netting must be added to the guardrails for events in which the general public will have access to the stage area.

The stage roof is intended to support rigging loads, wind, and rain. It is not generally intended to support the weight of snow and ice. Use in locations and time periods where snow and ice are a possibility shall be reviewed and approved in writing by a professional engineer for the combined effects of rigged loads, wind, snow, rain and/or ice.

Users must understand and carefully adhere to the Rigging Diagram provided in the User's Manual. If the desired rigging loads deviate from or exceed those specified on the Rigging Diagram, contact Stageline Mobile Stage Inc. for advice. No adjustments or modifications should be made to the SL320 without first being reviewed and approved by Stageline Mobile Stage Inc.

As stated in the SL320 Users Manual, the stage system must be operated under the supervision of Stageline trained and certified personnel.

The mobile stage assembly is designed to resist a 90 mph 3-second wind gust without the wind walls, and 60 mph 3-second wind gust with the wind walls in place. A Stageline Certified Operator is required to monitor wind forecasts from an official weather information service for the entire period the structure is assembled. Stageline recommends that the Operator use an anemometer to measure wind on site for improved real-time wind monitoring. The Certified Operator shall take recommended actions listed in the User's Manual and in the attached "Wind Resistance and Procedures in Case of Heavy Wind" document, if wind gusts approaching the applicable limit are possible or measured. Depending on the situation, such actions include lowering of the roof if time permits, removal of vulnerable equipment, rapid mitigation of wind resistance from wind walls, and evacuation of personnel to a safe distance from the assembly.

Although not ordinarily required by governmental authorities for temporary structures, seismic loads have been considered for moderate and high seismic regions. The seismic loads do not govern the design, except for sliding in high seismic regions (see Design Brief - Earthquake Section), where lateral anchorage is needed to resist sliding.

MGM acknowledges that the SL320 Mobile Stage is a piece of equipment that serves the live event industry and it is not practical to involve engineers in typical usage. As such, it is the responsibility of the Stageline Certified Operator to adhere to the manufacturer's guidelines. In addition, if the mobile stage is part of a larger event with other structures, it is the responsibility of the Event Producer to understand the requirements of the Stageline equipment, to understand the responsibilities of the Stageline Certified Operator, and coordinate the Stageline mobile stage requirements with the event operational management plan. Please feel free to contact our office if you have any questions about our review.

Very truly yours,

The Office of
McLaren Engineering Group
M.G. McLAREN, P.C.

Malcolm G. McLaren, P.E., SECB
President

MGM/wbg/kml

Attachments: Stageline Procedures for Heavy Wind
State P.E. and S.E. seals

N:\Proj103\103096.26\3. Correspondence (Ltrs,Emails,Trans,Faxes,Telecons,Memos)\Letters\Sent\SL-320 US Letter 2012-07-09.doc

Certification

Stageline Mobile Stage Inc. Equipment

Wind Resistance and Procedures in case of Heavy Winds

We, from Stageline Mobile Stage inc., certify that the components identified below have been specified by the engineering department to meet the following wind resistance and also the NFPA 701-04 and ULC S-109 regulations (Standard Methods of Fire Tests for Flame Propagation of Textiles and Films).

MODEL	WIND Resistance	WIND Resistance (without windwalls)	WINDWALL AREA
SL100	60 mph or 97 km/h	80 mph or 129 km/h	679ft² (63.1m²)
SL200	60 mph or 97 km/h	90 mph or 144 km/h	490ft² (45.5m²) + 2 x 198ft² (18.4m²)
SL250	60 mph or 97 km/h	90 mph or 144 km/h	566ft² (52.6m²) + 2 x 243ft² (22.6m²)
SL260	60 mph or 97 km/h	90 mph or 144 km/h	599ft² (55.6m²) + 2 x 257ft² (23.9m²)
SL320	60 mph or 97 km/h	90 mph or 144 km/h	991ft² (92.1m²) + 2 x 600ft² (55.7m²)
PROMOBILE	60 mph or 97 km/h	90 mph or 144 km/h	594ft² (55.2m²) + 2 x 288ft² (26.8m²)
SAM440	60 mph or 97 km/h	90 mph or 144 km/h	1147ft² (106.6m²) + 2 x 731ft² (67.9m²)
SAM550	60 mph or 97 km/h	90 mph or 144 km/h	2 x 690ft² (64.1m²) + 2 x 747ft² (69.4m²)
SAM555	60 mph or 97 km/h	90 mph or 144 km/h	2 x 805ft² (74.8m²) + 2 x 793ft² (73.7m²)
Covered Sound Wings SL250/260	50 mph or 80 km/h	90 mph or 144 km/h	632ft² (58.7m²) + 2 x 112ft² (10.4m²) per side
Covered Sound Wings SAM555	50 mph or 80 km/h	90 mph or 144 km/h	2100ft² (195.1m²) + 275ft² (25.5m²) per side

27/09/11

A) Wind weather condition during set-up and dismantling of the stage and windwalls

The windwalls are the elements most at risk in windy conditions and the installation can become problematic. Wait until the wind has subsided before installing windwalls. If this is not possible, roll up windwalls and fasten with ratchet strap to the roof before raising the structure so it does not lash out and hurt anyone. We also suggest increasing your staff to have this operation completed quickly and more safely.

If wind speed exceeds 40 mph (65 km/h), windwalls and stage installation are not recommended. We highly suggest you wait until wind diminishes before completing the set up or dismantling the stage and windwalls.

B) Wind weather forecast condition when stage is up, fully pinned and prior to the start of the event

The Stageline Mobile Stages are designed to resist 3 seconds wind gust up to 90mph[1] (145 Km/h). However, this wind resistance depends on a proper installation of all support equipment and braces. In any weather conditions, the stage must be inspected and all its components must be secured.

If wind gusts are expected to exceed 50mph (80 km/h) for the upcoming event, roof structure should be lowered to reduce exposed surface and windwalls should be removed.

C) Wind weather condition when stage is up, fully pinned and during the event

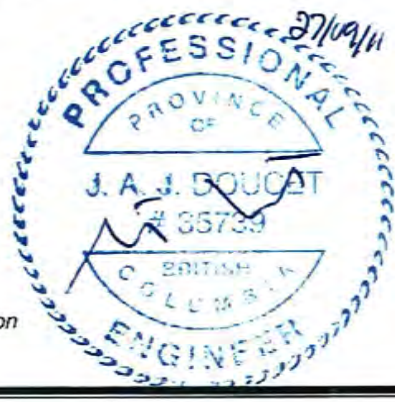
The Stageline Mobile Stages are designed to resist 3 second wind gusts up to 90mph[1] (145 Km/h). However, this wind resistance depends on a proper installation of all support equipment and braces. In any weather condition, the stage must be inspected and all its components must be secured.

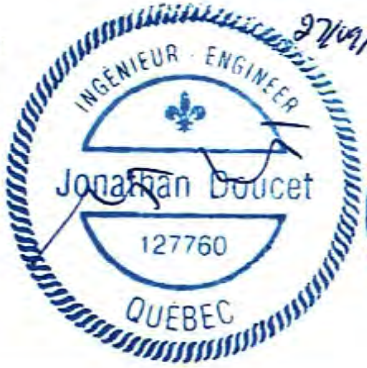
1. If wind gusts exceed 40mph, roll up all access doors. Remove all movable parts i.e. speakers, screens or lighting equipment or lower them to the stage floor and make sure they are tied down to limit any movement in the wind.

2. If wind gusts exceed 60mph (97 km/h), unclasp the windwalls. If the storm intensifies, openings should be slashed in windwall. It is better to sacrifice a windwall than to possibly damage the stage and/or sound and lighting equipment. Floating windwalls are dangerous for people standing near the stage. So, everyone should remain at least 100 ft (30 m) away from the stage.

3. If wind gusts exceed 90 mph[1] (145 km/h), the public and all personnel present must evacuate the premises and remain at least 100 ft (30 m) away from the stage.

Note: The most probable scenario during a violent storm is that the windwalls will be torn away. This is why it is so important to keep all technicians and the crowd at a safe distance.





Research & Engineering

[1] *80 mph (129 km/h) for an SL100 or Mix position*

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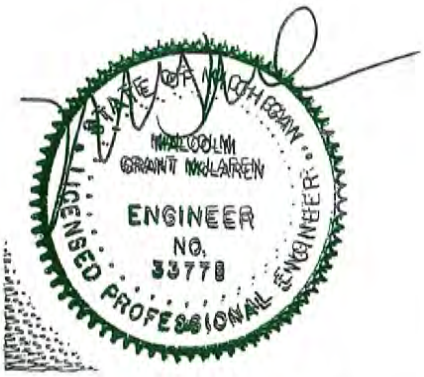

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I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

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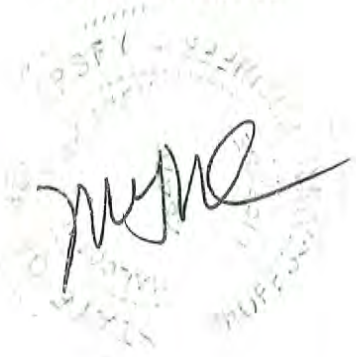

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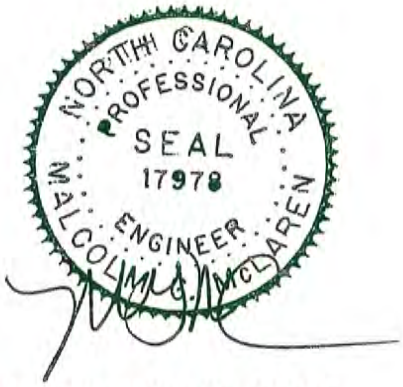

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