Plymouth Engineering, Inc.

P.O. Box 46 – 30 Lower Detroit Road
Plymouth, Maine 04969
info@plymouthengineering.com
tel: (207) 257-2071 fax: (207) 257-2130

CITY OF PORTLAND, MAINE · RESURGAM
Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 08/24/17

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Snap Space Solutions
55 Baker Blvd,
Brewer Maine 04412

Dear Mr. Cowperthwaite,

This letter references that structural integrity of the temporary rest room facility built for the waterfront concerts. The trailer units have been modified from their original conditions to accommodate the new doors. Based upon our experience reviewing the trailer modifications, as they are constructed in the shop, structurally comply with the 2009 IBC required for these sites.

The original container was designed to support the following loads

- Maximum Operating Gross Mass: 67,200lb
- Allowable stacking load for 1.8G: 423,280lb
- Transverse Tacking Test Force: 150,000 Newtons

The structural modification to the containers consisted of

- Removing the side wall to allow access for (2) double wide doors and 1 single door.
  - 2x2x1/8 HSS and 2x4x1/8" HSS were used for the frames of the door.
  - Commercial grade steel doors, from exactitude, were used inside the constructed frames.
- Cutting holes for the piping penetrations.
- The interior container walls were framed with 2x4" studs while the interior walls consisted of 2x6 framing. All walls were covered with ½" plywood covered by FRP.

The shipping containers are tested to support a roof load of 660lb applied over a 2'x1' area. This force equates to 76 lb/sf applied to that 1' strip of roof. The snow load, according to ASCE7-05, for Portland Maine are 60 lb/sf ground snow load, and 42 lb/sf flat roof snow load. This snow load will use 55% of the tested capacity of the roof structure. The new steel door frames mentioned above are more than adequate to support this roof load. The pipe penetrations through the sidewall were not substantial enough to affect the overall structure of the sidewall.

The floor of the bathrooms need to support a load of 100lb/sf, assembly area Lobbies (ASCE7-07). The floor of the containers are designed to pass a concentrated load test of 16,000lb over a footprint of 44sq inches and an overall load of 47,895lb (300lb/sf) when evenly distributed over the container floor. These load test are more than sufficient for the 100lb/sf loading that will be applied to the floor of the containers in this current use.

The modifications to the container have not degrade the structural capacity of the container from its original load testing. This building structurally complies with the 2009 IBC as a building for public use.

If you have any questions or need any additional information please feel free to contact us.

Sincerely,

Keith Ewing, PE
Structural Engineer
N.E.H.

STATE OF MAINE
KEITH EWING
8-4-17
No. 12315
LICENSED PROFESSIONAL ENGINEER