



Bureau d'études spécialisées inc.

Structural evaluation – Floor type A & B

Cabanon Fontaine Inc.

Ref/N.: 05-208-01

Prepared for:

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Montreal, April 27th, 2005

1. DESCRIPTION

The analysis covers two different types of steel floors. The steel floor type A and B are presented in appendix A. These floors are built with 2 x 4" and 2 x 6" joists floor type A and B, respectively.

The typical floor consisting of a 5/8" galvanized steel deck is supported by concrete blocks resting on a 12" thick concrete slab. The structure is supported by concrete blocks resting on a 12" thick concrete slab. The structure is supported by concrete blocks resting on a 12" thick concrete slab.

2. FLOORS ANALYSIS

2.1 - Type A floor

Type A floor is built with 2 x 4" joists spaced at 16" on center.

The floor is supported by concrete blocks resting on a 12" thick concrete slab.

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April 27th, 2005


Stéphane Rivest, P. eng.

1 DESCRIPTION

The analysis covers two different types of shed floors. The shed floor type A and B are presented in appendix A. These floors are built with 2"x 4" and 2"x 6" for shed floor type A and B, respectively.

The typical floor sheathing used is 5/8" plywood nailed to the wood joists. The structure is supported by concrete blocks resting on a soil. The wood joists as well as the edge beams are of quality SPF No 1/No 2. The edge beams are water treated.

2 FLOORS ANALYSIS

2.1 Type A floor

Type A floor is built out of 2"x 4" resulting in a surface load capacity of 120 lbs/ft². The capacity of the beams versus the capacity of the joists is well balanced.

The floor's capacity is well above the requirements of a residential floor. The quantity of elements used (i.e. the spacing of the joists, the size of the beams, or the number of concrete blocks) could be reduced to limit the capacity of the floor to a more conventional 40 lbs/ft². The floor is capable to support a concentrated load of 750 lbs over a surface of 24"X24" anywhere on the floor.

2.2 Type B floor

Type B floor is built out of 2"x 6" resulting in a surface load capacity of 8 lbs/ft². The capacity of beams versus the capacity of the joists is not well balanced. The edge beam of 132" long controls the capacity of the floor. Several alternatives are possible to increase the floor's capacity, such as increasing the capacity of the edge beam or number of supports. The floor is capable to support a concentrated load of 300 lbs over a surface of 24"X24" anywhere on the floor.

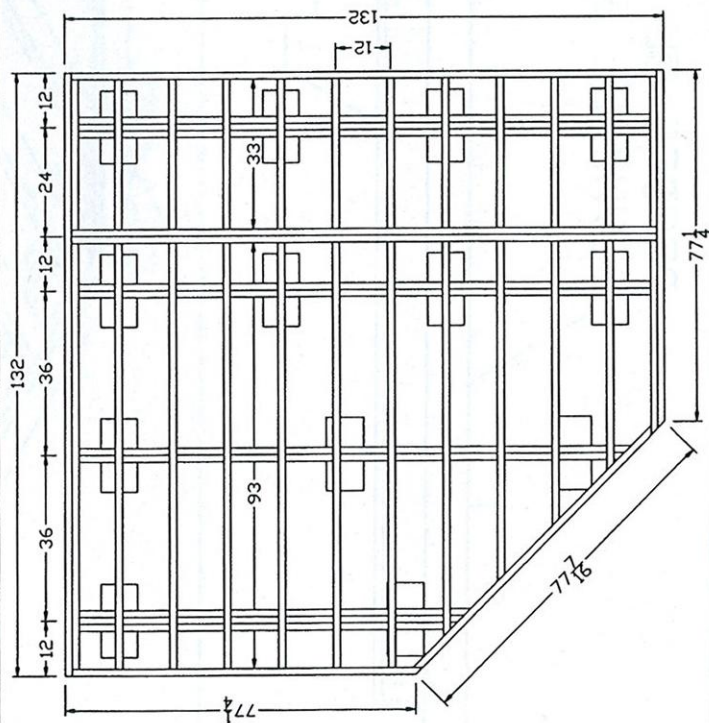
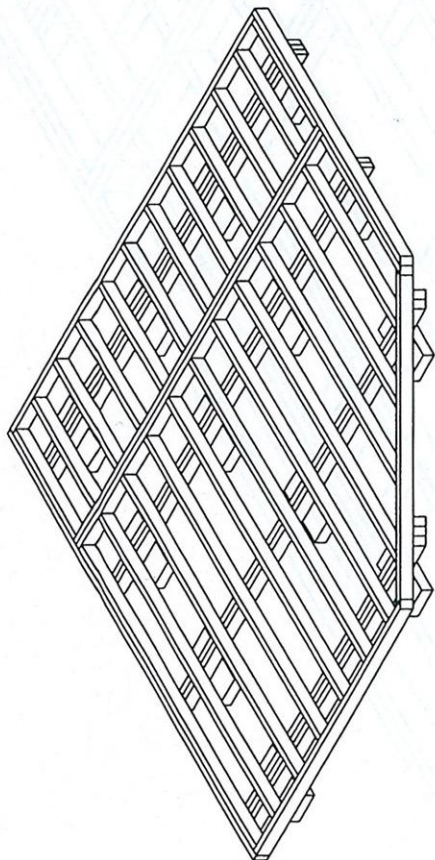
3 CONCLUSION, RECOMMENDATION

In conclusion, we evaluate the capacity of the type A floor as being too large while the capacity of the type B floor as too small in comparison to the surface load of a residential floor which is 40 lbs/ft².

We recommend that a structural analysis be performed in order to optimize the structural layout of the floors in order to obtain a capacity of 40 lbs/ft².

Appendix A

TYPE A



TYPE B

