

**EDWARDSBURGH COMMUNITY CENTRE**

**SPENCERVILLE, ONTARIO**

**STRUCTURAL REVIEW**

**OF**

**ARENA BUILDING**

**July 2022**

**Prepared by**

**FIELD CONSULTANTS LIMITED**

**Structural Design Engineers**

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**Attachment:**

- July 2017 Structural Review (Includes 2012 Review)

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**Field  
Consultants  
Limited**

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***Structural Design Engineers***

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July 20, 2022  
Our File: 12136

Township of Edwardsburgh/Cardinal,  
18 Centre St.,  
P.O. Box 129,  
Spencerville, Ont.  
K0E 1X0

Attn: Mr. Mike Spencer  
Facilities Manager

Re: **Spencerville Arena / Edwardsburgh Community Centre,  
Spencerville, Ont.  
2022 Structural Review**

Introduction:

As requested, we have carried out a review of the structure at the above referenced facility. Two previous structural reviews have been performed by this office, the first in 2012 and the second in 2017. At each time, a further review was recommended within a five year period and consequently, this current review is a follow-up to the previous and is to be read in conjunction with the previous reports. The June 2012 and May 2017 reports are attached hereto for current reference. The purpose of this review is to assess the ongoing adequacy of the structure and to note any changes that may have occurred that now require remedial measures. As our findings are very similar to previous observations, much of this report is a duplication of the previous documentation.

### 2022 Arena Structural Review:

The undersigned visited the arena site on June 22, 2022 and conducted a review of the structure in the presence of Richard Lahaie and Jeff Hopkins, both members of the Township's recreation staff. A mechanical lift was made available for access to the higher levels of roof structure. The staff reported that no additions or alterations to the facility have been made within the last five years and consequently the building description remains as noted previously, as does the original design configuration of the structure.

### Existing Conditions & Findings:

Based on our visual review, our findings with respect to the various areas of the structure are as follows:

#### Main arena structure:

As an insulating ceiling membrane is in place over the main arena area, it was not possible to review all areas of the structure. However, representative areas above the ceiling membrane were reviewed in order to assess the general condition and adequacy of the structure. In most areas, our findings are similar to our previous observations and, as such, are partially repeated below:

- Roof Deck and Purlins:

The steel roof decking spanning between purlins appears to be in reasonable condition and no indication of structural deficiency was observed.

The roof purlins spanning between the main structural frames are of cold-formed light gauge steel material and appeared to be in reasonably good condition. Our 2017 report noted that some areas of paint peeling were observed, and maintenance of these areas was recommended. The paint peeling from surfaces of the roof purlins now appears to be a general condition (photos 2022-A3 & A4) and, again, maintenance and recoating is recommended. This, however, has not yet had a detrimental effect on the structure.

- Main Arena Frames:

The main arena frames appear to be performing satisfactorily with no indication of deterioration or deficiency. The roof line was observed from the adjacent grandstand structure on the east side, and there appeared to be a slight deflection downwards from a straight line alignment from the east wall to the building centerline. This appeared to

be uniform along the length of the building and is considered to be a normal deflection, within anticipated limits, of the main frames due to the building dead loads.

- Steel Cross Bracing:

The steel cross bracing in the roof and exterior wall planes was found to be in good condition with no indication of deficiency. The wall bracing was found to be tight with no indication of slackness, therefore performing adequately.

- Exterior Walls:

The exterior walls are of steel siding supported on cold-formed steel girts. These are generally in satisfactory condition with no structural deficiency observed. Some minor impact damage was noticed at some locations and some rusting of the exterior siding seams was observed. This does not affect the structural integrity of the wall system, but maintenance of these areas is recommended to ensure longevity of the system.

#### Front Lobby Area:

The structure for the front lobby was reviewed and found to be in good condition with no significant indication of deficiency. Specifically, no cracking, settlement or movement was observed in the concrete block walls thus indicating good performance of the foundation elements. The exterior brickwork is generally in good condition although some aged areas were observed on the front elevation (photo 2022-A5) and one brick has become dislodged at the south-west corner (photo 2022-A6). The damaged areas should be repaired with epoxy mortar fill and the dislodged brick should be appropriately reinstalled.

The second floor areas are accessed via a walkway from the main arena, and, as in previous reports, we stress that the gathering of spectators along the walkway be prohibited. Signage indicating this should be posted.

#### Refrigeration Room, Workshop, Change Rooms and Meeting Room at North End:

The structure at this end of the building remains in reasonably good condition with no indication of any major deficiencies.

**Bleachers:**

The wood framed bleachers are generally in good condition and the previous support upgrades remain satisfactory. The repair and replacement of the concrete slab under the north-west corner of the bleachers was reviewed and no deficiencies were observed.

**Summary of Recommendations:**

1. Provide maintenance and recoating to the areas of paint peeling or surface rusting on steel roof structure components.
2. Ensure that signs prohibiting the gathering of people on the walkway to the second floor are installed and clearly visible.
3. Consider repainting of the rust areas on the exterior siding.
4. Repair brickwork as noted.

**Conclusion:**

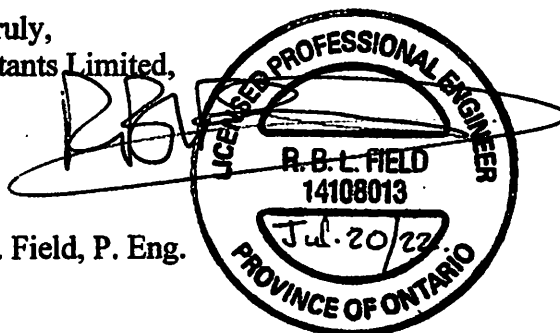
In general, we have found the building structure to be in reasonably good condition and, with the completion of the recommended items noted above, will continue to give satisfactory performance. The previous reports on the structure have assessed its adequacy to perform to the requirements of the 1970 National Building Code of Canada and if all components were in good condition, continued adequacy at this level could be expected.

As noted above, a review of the arena structure should be carried out at a maximum five year period and a further review is therefore required prior to or during the summer of 2027.

We trust this to be satisfactory but would be pleased to respond to any questions arising out of the above.

Yours very truly,  
Field Consultants Limited,

Per: R. B. L. Field, P. Eng.



**EDWARDSBURGH COMMUNITY CENTRE**  
**SPENCERVILLE ARENA**

**STRUCTURAL REVIEW OF ARENA BUILDING**

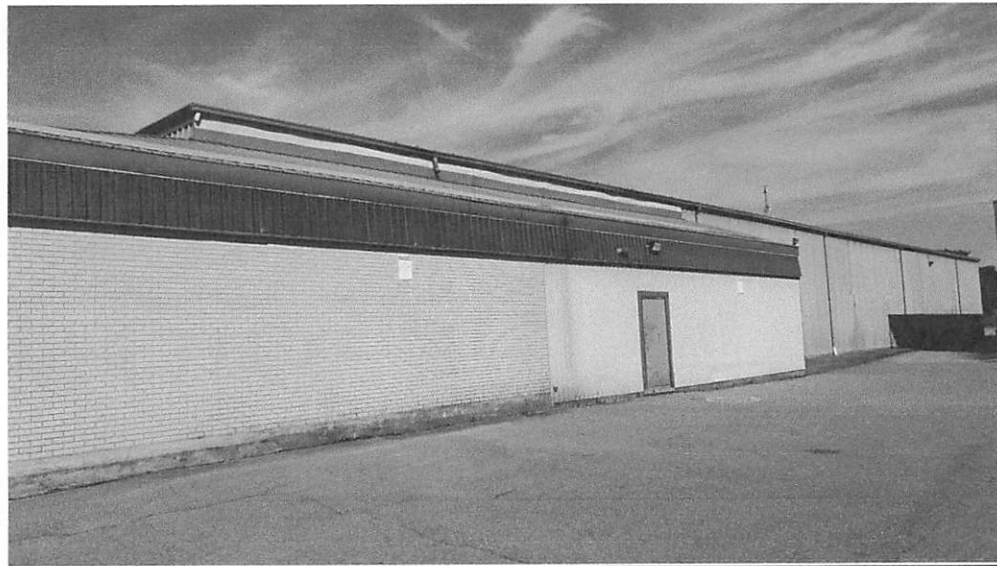
**July 2022**

**APPENDIX 2022-A**

**Photos**



2022-A1 – Front (South) Elevation

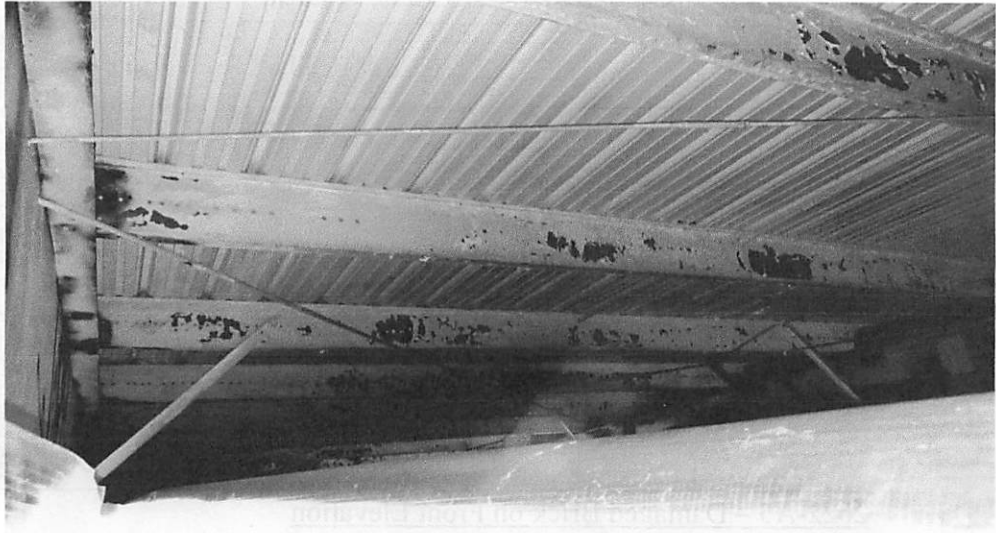


2022-A2 – East Elevation

4/18/2022

photo





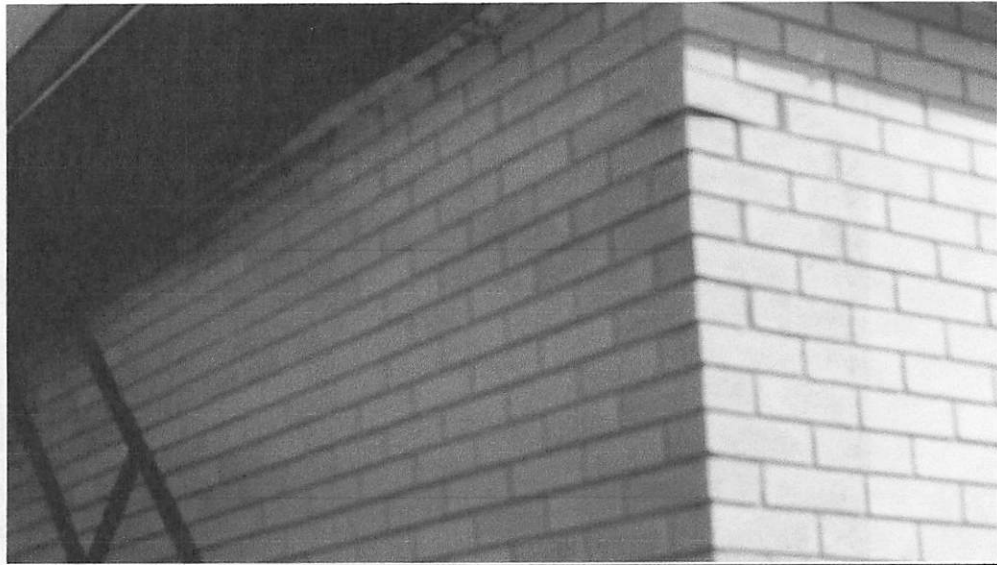
2022-A3 – Paint peeling from Roof Purlins



2022-A4 – Paint peeling from Roof Purlins and Main Girder



2022-A5 – Damaged Brick on Front Elevation



2022-A6 – Dislodged Brick at South-West Corner

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**APPENDIX 2022-B**

**2017 Arena Review Report**  
**(Including 2012 Review Report)**