



2869 White St, Val Caron, Ontario, P3N1B2

## **I.J Coady Memorial Arena**

13 Second Avenue North, Levack, ON, P0M 1R0

Domestic Water Lines – Lead Contamination

15 November 2010

# I.J. Coady Memorial Arena

## 1. Purpose

To provide a written report complete with a proposal on the installation of new domestic water lines including the following relevant information:

- Written Proposal to supply and install new domestic water lines in the arena beginning at the incoming service.
- The new water lines will be installed using the Canadian certified pro-press fittings. These fitting do not require any soldering because they are compression type fittings.

## 2. Problem

The domestic water shows high concentration of lead content. Lead is a toxic metal known to be harmful to human health if ingested. Lead soldered fittings are the common cause of high concentrations of lead in water lines.

It is important to note that at this point, we are unable to determine if the source of contamination is in the existing municipal water system. If the municipal system is the cause, replacement of water lines in the arena would not alleviate your problem. Should the source of lead be a direct result of the water lines, replacement will eliminate the lead content.

### Causes

*Why is lead believed to be present in the water lines?*

- Corrosion is the most common cause.
  - Created by a reaction between the water and the soldered fittings.
  - Dissolved oxygen, low pH(acidity) and low mineral content in water are common causes of corrosion.
- Hot water will dissolve lead joints more rapidly than cold water.
- Water sitting in the lines for long periods of time will increase lead content.

## 3. Solutions

The following solutions can be done to minimize or eliminate lead content in drinking water.

- Before using water for drinking or cooking, “flush” the cold water faucet until the water feels as cold as it will get. This must be done to all drinking water faucets. Flushing is important because the longer water stays sitting in the water lines, the greater the possible lead contamination.



- Installation of new water lines including pipe and fittings. Please make reference to the attached quotation and photos.

#### 4. Recommendation

*Should the lead contamination be a direct result of the lead present in the solder of the existing pipe joints, we propose the following:*

- Independent Energy Services Co Ltd (IES) recommends the installation of new water lines. The existing water lines were installed during the stage of construction and are no longer accessible as they run very high in the ceiling space. IES proposes to run new water lines from the water meter room to the mechanical room using the space available under the bleachers on the South and East sides of the Arena. These water lines include cold, hot and hot water recirculation lines. Any solder used for any reasons will be lead-free. Please see below for our quotation to provide this work.

Mechanical Quote:

Labour and material as per our scope of work.

New domestic water lines (hot/cold/recirculation) from existing incoming water main down to each plumbing fixture.

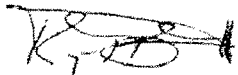
**PRICE:** ----- \$84,700.00 + H.S.T.

Price includes:

- Removal and re-installation of ceiling tiles.
- Breaking, patching and painting of block walls to access pipe chases.
- Replacing shower valves with single lever valves with reno-plates, new basin faucets and kitchen faucets.
- Pipe insulation

Note: Drinking fountain to remain as well as flush valves.

Thank you for the opportunity to quote this project.

Signed:  \_\_\_\_\_



## 5. Supporting Information

*Please see below for various photos taken during the site visits.*

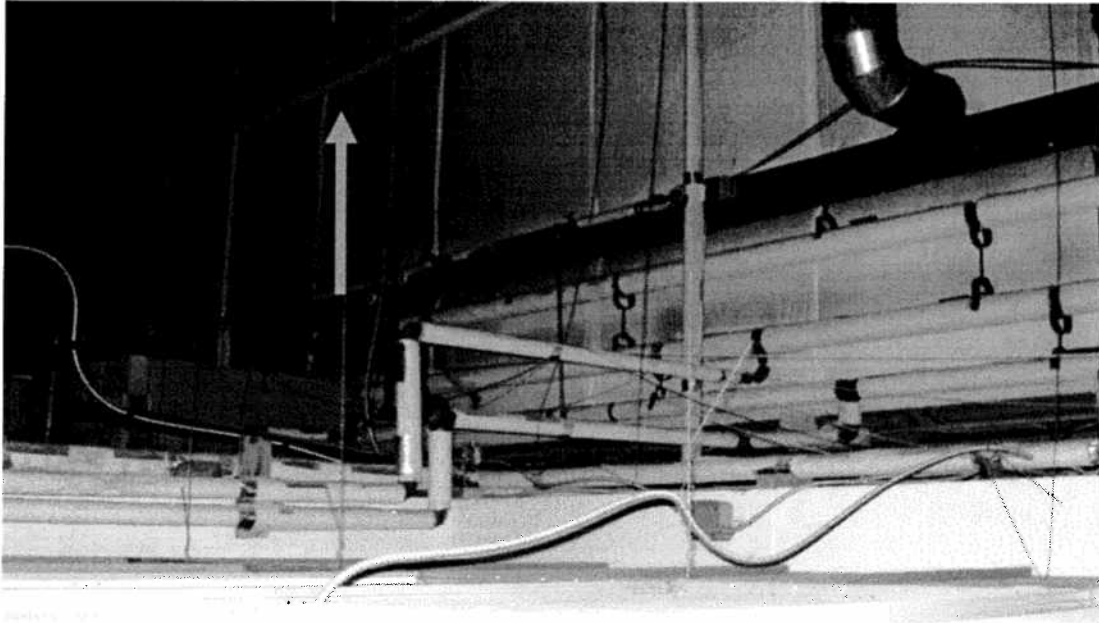


Fig 1.1 – Water lines located roughly 20'-0" above dropped ceiling

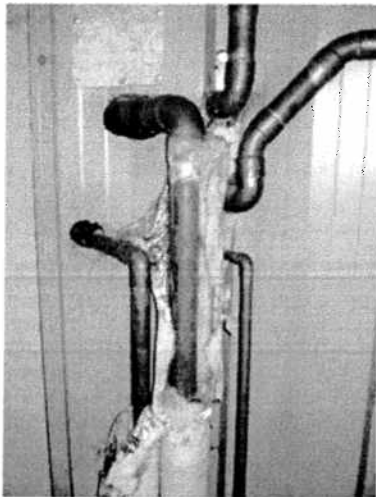


Fig 2.1 – Lead soldered joints

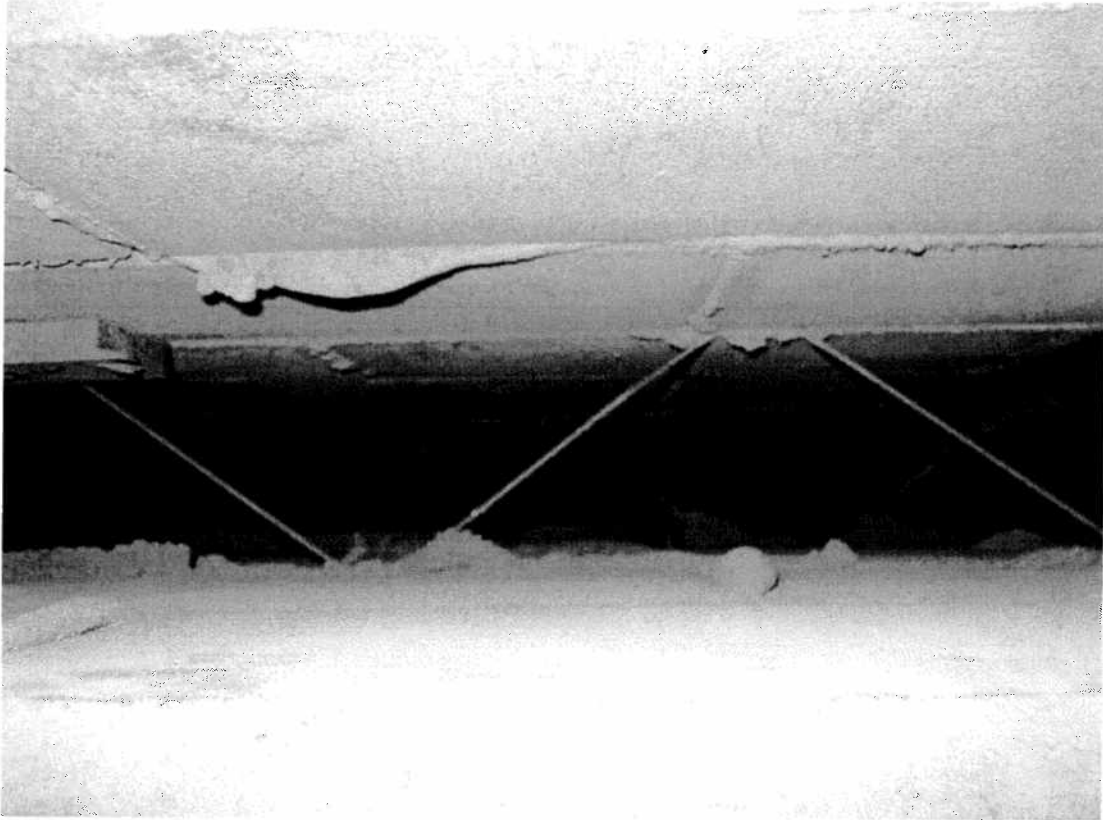


Fig 3.1 – Block wall separations with chase that will be utilized to install new water lines to fixtures.



Fig 4.1 – Water lines above suspended ceiling.

# Bruce Tait Construction Ltd.

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BOX 4, SITE 16, R.R. 3  
SUDBURY, ONTARIO P3E 4N1  
TELEPHONE: 522-5001  
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## QUOTATION ONLY

**TO:** Rick LeBouthillier- City of Greater Sudbury

**RE:** Levack Arena

**DATE:** June 6, 2011

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- 1) To install new 4 inch water service from existing 4 inch valve to water meter. Quote includes consulting engineer, all required testing and restoration of the site.

**Price \$24,500.00 plus HST**

**This quote is valid for 30 days**

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**Thank you for the opportunity to quote you on the above needs.**