

## **Portland Loo Information Document**

This document was assembled due to the recent number of municipalities requesting information about the Smithers Portland Loo and the Town's experience installing and maintaining it. The document's purpose is to provide general information and lessons learned during and since the installation of the Second Avenue/Main Street Portland Loo.



**Date Installed**      July, 2017

### **Link to Portland Loo Interview with Mayor Bachrach:**

<https://portlandloo.com/portland-loo-smithers-ca-interview-with-mayor-taylor-bachrach/>

### **Costs:**

Madden Fabrication: One Loo w/ delivery: \$ 101,400 USD → Approx. \$ 140,000 Cdn (2017 conversion)

Canyon Contracting Install Contract:      \$ 38,600

Public Works Hook-up (internal cost):      \$ 3,500 (estimated only)

Electrical Contractor (Power Calculations): \$ 150

Lock and Key Replacement:      \$ 170

Project Mgm't./Design Details:      Internal and not tracked.

Total capital cost approximately \$182,400. The loo was paid primarily through gas-tax funds.

**Maintenance Costs:**

The loo is checked and cleaned three times per week in the summer and once per week in the winter. Additional crew time was required during the first few months of operation to sort out minor issues and glitches, for example, door adjustments, winterizing, etc.

We do not separate out operating costs for the Portland Loo. Operating costs for the Loo are included with other downtown operations (garbage collection etc).

The biggest maintenance concern the crew has is during very cold spells – the floor drain can freeze resulting in a layer of ice build up on the floor. This is worsened when users leave a mess in the loo and it is difficult to clean as everything is frozen. This issue has resulted in increased maintenance time over the winter. It has been handled by melting the ice with a torch, and using salt and other additives to keep the drain from freezing.

Between 2017 and 2020, minor vandalism has included spray paint (once); damage to the brackets of the baby table (third party add-on), presumably caused by people sitting on it, which require welding to repair (several instances of this); a purposely bent door closer that required replacement (once), and a purposely damaged door lock that required replacement (once). All damage was fixable with local parts and did not require parts delivered from Madden Fabrication.

**Connections and Physical Install: (also, see drawing final page).**

**Water Connection:** 8.5m 38mm PVC

**Sewer Connection:** 10m 100mm PVC

**Electrical Connection:** 25m buried.

Sewer and water connections included excavation and replacement of existing red brick sidewalk and concrete driveway. Electrical connection included excavation and replacement of an asphalt lane and red brick sidewalk. The cost was included in the Canyon Contracting Install contract, (which also included craning and construction of the concrete foundation slab).

**Additions:**

We installed a baby change table and a sharps container, both purchased from a third party.

We did not consider the solar power option. In discussions with another (further south) municipality, we were told that in their case the solar setup did not generate enough power to fully operate the loo.

**Electrical:**

We are on fixed-rate billing, approximately \$73.00/month.

Also see related notes in the “Various Issues” section below.

**Winterization:**

The standard Loo installation with the standard cold-weather kit is rated by Madden Fabrication to -15 C degrees. Winter weather in Smithers can have extreme lows of approximately -25 to -30 degrees C for up to a week or two at a time. (The published average winter low temperature is -13 degrees C).

Madden Fabrication will provide the plastic vent cover sheets (see them installed in the photo on page 1) but they had to be ordered separately.

The first winter (2017/8), PW closed the loo due to cold weather for about 10 days when the temperature fell below approx. -18 C, at which point the water in the toilet bowl froze. Prior to the second winter (2018/9), Madden Fabrication provided a second, "extra" winterization kit that has worked well so far, and the loo has not needed to close due to cold weather since it was installed. The second kit, which had to be installed by a plumber, consists of a plumbing modification that allows a very small amount of water to run through the system at all times. The water is not on a loop, it is more like a continuous mini-flush, but with such a small amount of water the flow is not really noticeable. When it gets cold, some ice still forms in the bowl around the edges, but the moving water keeps it from completely freezing and keeps the pipes from freezing. The actual flow level is adjustable with a valve, so it can be increased during periods of more extreme cold.

The exterior hand-washing tap still does need to be shut-off for the winter; neither the standard nor the additional cold-weather kit addresses that issue.

In addition to the two cold weather kits, Town crews have added heat-tape around the water pipes and insulated the storage area, and they keep a portable electric heater running in the storage area during the winter months (electrical plugs in the storage area are included in the standard loo package).

Madden Fabrication had previously mentioned they were working on a couple other cold-weather solutions, including an anti-freeze injection kit and/or some type of wire mesh that would run a current to physically warm the toilet bowl, but we haven't followed up, and we're not sure if these options were ever developed.

PW has discussed installing a radiant heater in the main area, but has not spent much time researching the Document options.

If the intention is to heat the loo, ensure enough plugs/power are installed at fabrication, depending on the number and type of heating units planned.

***Additional Cold-weather Note added Feb. 2020:***

*This year we had temperatures down to -25/-30 and closed the loo for 10 days. The reasons for the closure were:*

- 1. Water in floor drain froze – caused a buildup of ice on the floor.*
- 2. Difficulty cleaning due to cold.*
- 3. Volume of flow water required to keep the toilet bowl water from freezing was becoming a concern. (Flow is adjustable and gets increased as temperature goes down; it is not on a loop).*
- 4. Public use of the loo was low.*

*PW considered the possibility of installing a space or radiant heater in the unit, but decided against it (for various reasons), and opted for closure instead.*

**Various Issues we Encountered:**

1. We were not happy with the lock mechanism in the door. What we really wanted was a slide latch with “occupied/vacant” similar to what you get on an airplane, and un-lockable with the Town’s standard key. Consequently, we replaced the lock and key after installation.  
Another reason for replacing the door lock was that the standard lock allowed users to push the mechanism into a ‘locked’ position and then shut the main door behind them when leaving, such that the door stayed locked until opened with a key from the outside.  
We should have asked Madden Fabrication to install our preferred lock and key during fabrication, instead of trying to do it after install. (MF says they will do this on request).
2. Prior to installation there was a lot of confusion with BC Hydro regarding what type of power hookup was required/most advantageous. (i.e., metered/unmetered and where the meter would be physically installed.). We were originally told by Hydro the loo could be unmetered, but they changed their mind after it was installed. The problem was there was no space on the loo structure to mount a meter. And, unfortunately, we had already installed the conduit and backfilled, so it was too late to mount one on the nearest pole. The conduit type was direct-bury and could not be changed. Hydro really resisted going to a fixed rate - we had to hire an electrician to work with Madden Fabrication to determine the loads in order for Hydro to accept the fixed rate option and to calculate the monthly cost.
3. You do not get the cool-looking poster holder that is shown in some of Madden Fabrication’s advertising. They are not including it anymore. Minor issue, but we were a bit disappointed.
4. We had no serious issues with Madden Fabrication, especially pre-delivery and during delivery. There was a hang-up where the loo was delayed for a few days crossing the border, which was traced to the delivery company not having their paperwork in order. Madden Fabrication covered all the expenses related to the delay and made it a priority to deal with. Once the loo arrived it was installed on the same day without glitches. Post-installation we struggled a little to get a timely response from MF to our cold-weather concerns, and the cold-weather solution kit did not arrive in time for the first winter. However, once the cold kit was installed it functioned well.

**Public Perception:**

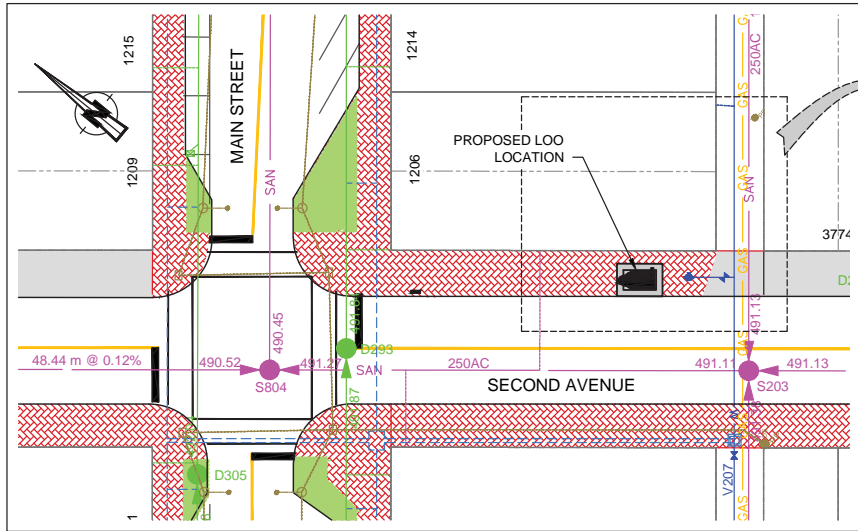
Our general impression is that the Loo has been quite well received. It is right next to a coffee shop and when there I sometimes overhear people comment on the thing, or have read comments in the coffee shop's guest book, and the comments are typically positive.

While installation was being planned the Town received several calls and letters of concern, particularly regarding the location and the cost. We handled a couple of complaints about location that were quelled by drawing an outline on the ground showing where it would be positioned - once people saw the size and how it would fit into the surroundings they felt better about it. There were also letters (pre-install) expressing concerns about the swinging door and other technical issues that were resolved by forwarding design details or referring them to the company's website. I did not respond to the more 'political' complaints (cost, etc.), so I'm not sure how many of those came in. My understanding is those complaints centered around the loo being over-priced and not locally manufactured.

The loo comes with a counter but the counter is unreliable (it is triggered by the motion detector), and we have not used it or done any other investigation as to how often the loo gets used, so its hard to make any meaningful statements regarding amount of use.

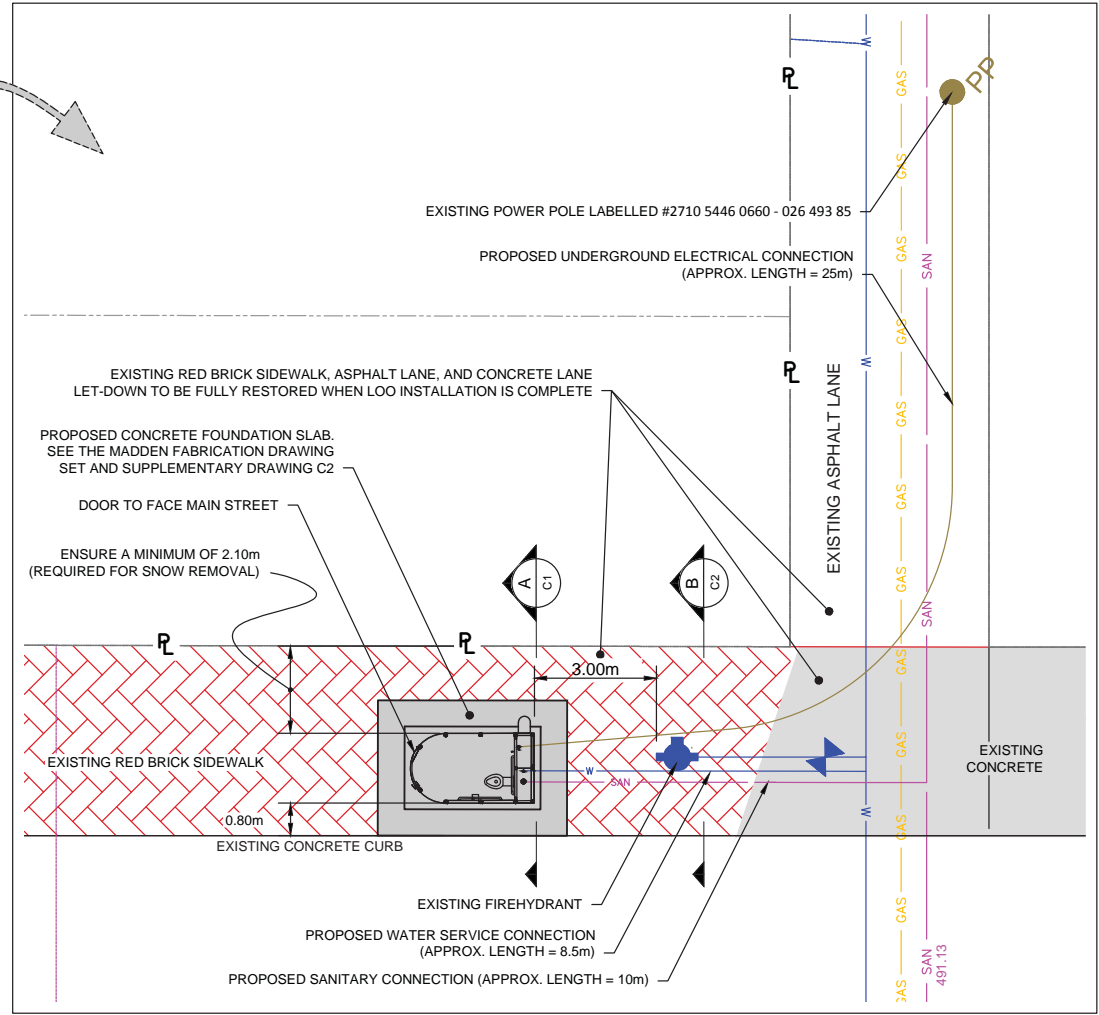


*Installation, July 2017*



- NOTES:**
1. LOCATIONS OF ALL EXISTING UTILITIES TO BE CONFIRMED IN THE FIELD.
  2. CLEAR SPACE BETWEEN OUTSIDE EDGE OF LOO AND EXISTING FIRE HYDRANT TO BE 3.00 m.
  3. CLEAR SPACE BETWEEN PROPERTY LINE AND OUTSIDE EDGE OF LOO TO BE MIN. 2.10m.

REV. 0 - ISSUED FOR TENDER



TITLE:  
**SUPPLEMENTARY DRAWING C1  
EXISTING CONDITIONS AND  
GENERAL ARRANGEMENT**

- LEGEND:**
- WATER LINE
  - SANITARY LINE
  - STORM LINE
  - IRRIGATION LINE
  - PROPOSED PORTLAND LOO
  - EXISTING EDGE OF ASPHALT
  - LEGAL PARCEL / LOT
  - / — POWER POLE / LINE
  - EXISTING PLANTER

- EXISTING RED BRICK SIDEWALK, ASPHALT LANE, AND CONCRETE LANE LET-DOWN TO BE FULLY RESTORED WHEN LOO INSTALLATION IS COMPLETE
- PROPOSED CONCRETE FOUNDATION SLAB. SEE THE MADDEN FABRICATION DRAWING SET AND SUPPLEMENTARY DRAWING C2
- DOOR TO FACE MAIN STREET
- ENSURE A MINIMUM OF 2.10m (REQUIRED FOR SNOW REMOVAL)
- EXISTING RED BRICK SIDEWALK
- EXISTING CONCRETE CURB
- EXISTING FIREHYDRANT
- PROPOSED WATER SERVICE CONNECTION (APPROX. LENGTH = 8.5m)
- PROPOSED SANITARY CONNECTION (APPROX. LENGTH = 10m)

SCALE: AS SHOWN	SUP. DWG. C1
DRAWN BY: A.O.H.	DATE: MAR, 28, 2017
APPROVED BY: M.F.A.	DATE: MAR, 28, 2017
DRAWING PATH: O:\ENGINEERING\PROJECTS\2017\CONTRACTS\2017\2017-05 Portland Loo\2 - ACAD\2 - Issued for Tender\C1 - General Arrangement.dwg	





Barcode sticker with the number 38824.



WARNING  
24 VOLTS