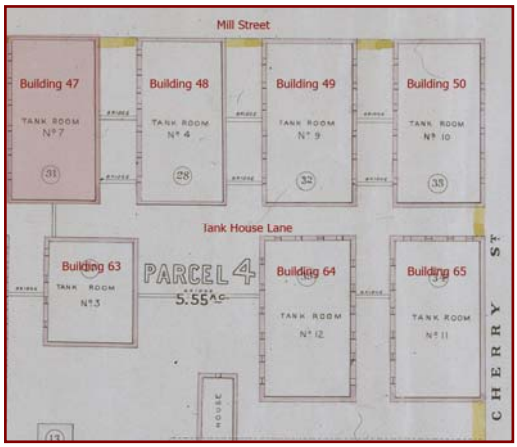
Building Histories
Buildings 47 & 47A: Storage & Denaturing

Cleared of storage tanks, Building 47 awaits post-industrial life, 1997
Steven Evans, with permission

Mixing penthouse, 1937
Alcohol in Industry

As Gooderham & Worts expanded, the need for alcohol-storage space increased, as well. The need for more tank and rack (or barrel) houses became acute in 1885 when the Government of Canada enacted a new regulation requiring whisky producers to age their product for at least two years. (Prior to this, whisky could be – and in the early days often was – sold and consumed raw.) Overnight, Gooderham & Worts had to double storage facilities.

The result was the construction of about a dozen buildings between the mid-1880s and early 1890s, all but two located to the east of Trinity Street. Of the dozen, ten remain in whole or as bases for modern structures. Their common size and form (mostly one-storey, 20-foot-high, red-brick boxes with gently sloping rooflines and few windows) and their regular spacing all contribute to the Distillery District's distinctive Victorian industrial character. Most remained as alcohol storage houses throughout their industrial lives.



Building 47 and nearby storage buildings 1889 (labels added) *DHD*

Building 47, now generally known as the Denaturing Room, was part of this group, but evolved over time from storage to cooperage to denaturing. The precise timing of these phases remains unknown. But the sequence is clear.

Designed by David Roberts, Jr. and built as Tank House 7 in 1887, Building 47 was probably filled with large copper alcohol-storage tanks, such as the ones that remained in neighbouring Buildings 48, 49 and 50 until well into the twentieth century. (Two of the "Tank Houses" located along the south side of Tank House Lane were converted into barrel storage – or rack – houses, but continued as alcohol storage facilities.) Alcohol – mostly whisky – would have been pumped from the Stone Distillery, across Trinity Street in the pipe bridge, up to the Scale Tank Loft for weighing and then distribution to Building 47 or other locations via a network of overhead pipes.

Pipes & Roberts' brickwork today

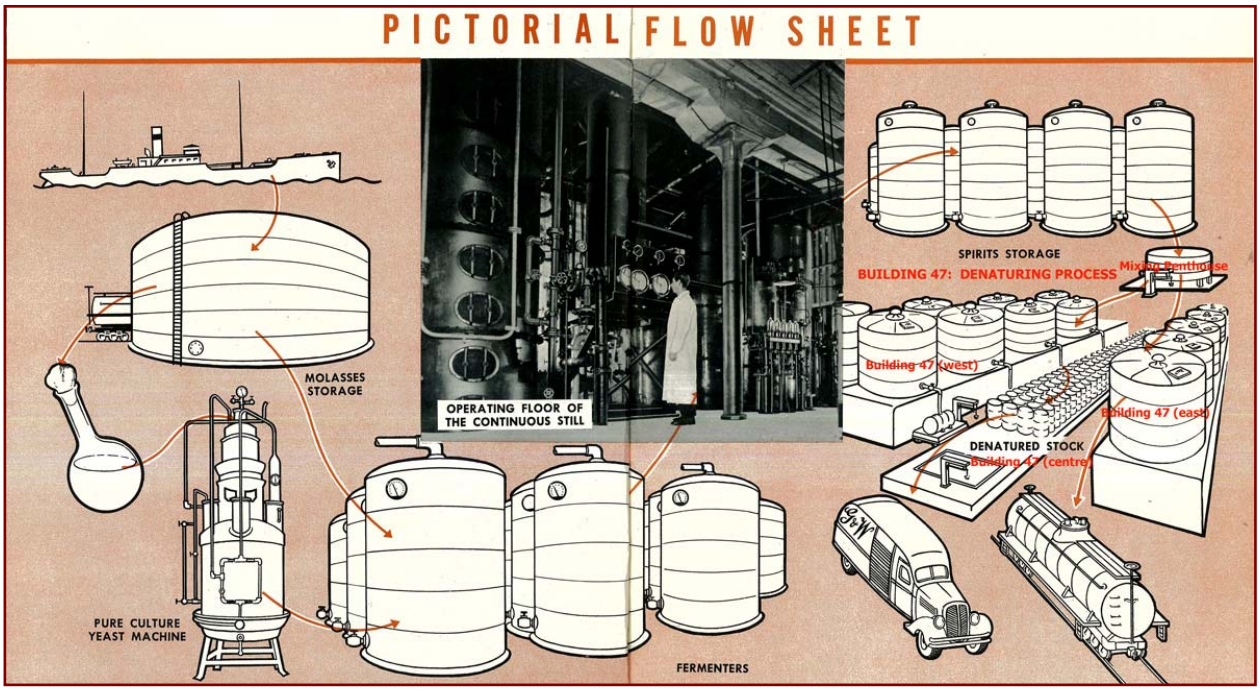
By 1924, Building 47 had been transformed into a "Cooper's Shop." Just when or why this occurred is unknown, but it may have been during the First World War when British Acetone made a number of alterations to the site. In 1924, there was a single water tank, little other equipment in the building, and no description of its use as a cooperage.

In August 1920, the Canadian Department of Inland Revenue announced that nine distilleries, including Gooderham & Worts, would be allowed to produce "denatured alcohol" – i.e., non-potable, industrial alcohol. Before then, alcohol denaturing had been done at a single denaturing plant in Ottawa. Clearly, this opened the way for G&W to transform Building 47 into its own denaturing room. It appears that the transformation occurred after Harry C. Hatch purchased the company from the Gooderhams in late 1923, but exactly when it occurred also remains unknown.

By the 1930s, however, the production of industrial alcohol was in full swing, both pure alcohol sold directly to companies for manufacturing ingestible products, such as cough medicines and prescription drugs, and denatured alcohol used in non-drinkable products, such as antifreeze. For the latter purposes, Building 47 was transformed into the Denaturing Room that it remained until the distillery closed in 1990.

Here chemicals like "bitrix" and "benzene" were added to pure alcohol to render it undrinkable, untaxable, but eminently profitable. Not only were the chemicals unpleasant, they were also poisonous. If consumed, they could cause blindness or death. So great care was required in handling and mixing the various grades of denatured alcohol. While antifreeze became the major industrial alcohol produced in the 1930s and '40s, many other products were also created, such as window washing fluid, cleaning fluids, solvents and varnish. Each required a different formula that was carefully followed by the "mixer" located in the mixing penthouse 12 feet above the tank and drum floor.

A 1938 flow diagram published by Gooderham & Worts in its *Alcohol in Industry* illustrates the creation of industrial alcohol from delivery of molasses at the docks, through distillation at the Stone Distillery, to denaturing in Building 47, and shipping out to waiting customers.



from *Alcohol in Industry*, 1938, with labels added to highlight Building 47 *DHD*

Focusing more precisely on the Denaturing Room, the operation ran as follows. Pure alcohol was received directly from the scale tank loft atop Building 61 or from one of the tank houses via overhead pipes that are still visible. Since this alcohol was gravity fed to Building 47, there was no way that denatured (and poisonous) alcohol could flow back up the system or contaminate the drinking alcohol. Pure alcohol was received in the mixing penthouse where it was weighed on the Fairbanks Scale Tank No. 17 that can still be viewed through the wooden-slat walls.

Then, based on customer orders, the mixer would prepare the proper grade of industrial alcohol, carefully following formulae that had evolved over time. After agitation in a mixing kettle, the denatured alcohol was gravity fed to one of the storage tanks located on wooden decks along the east and west walls of Building 47. As required, various size drums would be filled from the appropriate tank and shipped out. These drums, by the way, were rolled across Tank House Lane from Building 63 where containers were repaired, washed and painted. A metal ladder-bridge was swung down from the side of Building 63, where it can still be seen, and rested on the threshold of the square door directly across the roadway in Building 47.

Copper Mix Kettle

Denaturing continued until the distillery was closed down in mid-1990. According to Jim White, two of the major customers were Lever Brothers, which made cleaning products, and Alberto-Culver, which made hair care

products. One small but regular customer was celebrated Canadian author Farley Mowat, who purchased denatured alcohol to power his vehicle.

Photographer Larry Turner documented the Denaturing Room around this time. Note the overhead skylights that had to be added when the building was transformed from a relatively dark tank house into a busy denaturing facility. The supervisor's office was suspended along the south wall so he could survey operations below. The tops of the tanks were accessible from a network of catwalks that can still be seen overhead. And the central area was reserved for drum filling and storage.

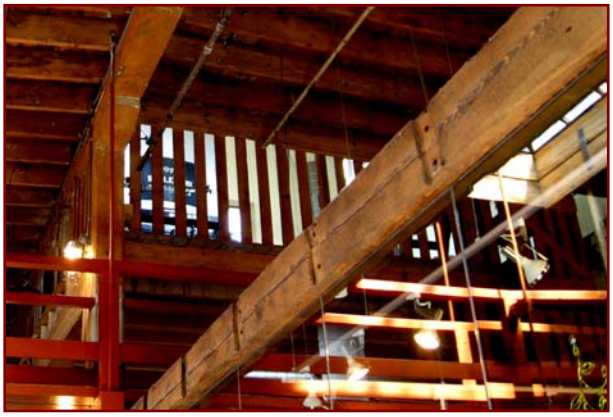
Looking south, across filled drums, toward supervisor's office, ca. 1986 *Larry Turner*

The Denaturing Room presented a large, complex space to be transformed from industrial use into the range of galleries, restaurants, and one-of-kind retail spaces now located here.

Adapting heritage space, 2002 *Thane Lucas*

Re-adapting heritage space, 2008 *SG*

In the adaptive-reuse process, many industrial features were retained and highlighted, ranging from the concrete floor below to the skylights above. Be sure to look for the remnants of the curved wooden tank decking, the supervisor's office on the south wall, the catwalks and mixing penthouse overhead. A number of industrial heritage artifacts are also located here, some moved from other locations like the drill press formerly in the machine shop and a fragment of the belt-and-line shafting once used to drive machinery all over the site, and some found in this very building, like a Worthington duplex pump, riveted-copper mixing kettle, and Fairbanks scale tank.



Distinctive overhead features in today's Building 47
Mixing penthouse with scale tank no. 17 **Catwalk and skylight**

Buildings 47 and 48 were originally free-standing tank houses, designed by David Roberts, Jr. and built in the 1880s. In 2006, a completely new "Link" building was inserted into the laneway that used to separate these two Victorian buildings. Building 47A was designed by architects Jamie Goad and ERA to complement and have the lightest possible impact on adjacent heritage building. The new building is basically a roof with two end walls. The structure of glass and steel has been through-bolted to Buildings 47 on the west and 48 on the east. The glass entry wall and canopy defer to the heritage

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"Link Building" 47A between two tank houses **"Exterior" wall, Building 47A**

buildings while expressing a contemporary character in line with the nearby Young Centre for the Performing Arts and the industrial design store contained inside. The concrete floor reflects the industrial character of adjoining buildings, and the restored brickwork invites close inspection of both original forms and later alterations. All in all, a richly inviting contemporary experience.

Thanks to industrial heritage archaeologist Chris Andreae for sharing an article, "Distillers who may denature Alcohol," in *The Canadian Chemical Journal* of November 1920; and to Jim White for mentioning Farley Mowat's regular visits.

Please send your comments or questions to Manager of Heritage Services, Sally Gibson, sg@thedistillerydistrict.com.

For more about the history of the Distillery District, visit www.distilleryheritage.com