OUTFALL

a digest of hidden sights

The large, empty hall that once housed the #4 paper machine at Norampac.

See Inside:

- Fraser Shipyards
- UBC's Spiral Drain
- Norampac Mill
- Bells of St. James

Welcome to the first issue of Outfall.

Here's a look at a few places in the Vancouver, BC, area that captured my interest over the summer and winter of 2013. These places have, for one reason or another, dominated my thoughts for months and I wanted an outlet. After the visits and photo taking, I've created this zine to pass some collected information and digested thoughts back into the stream.

This is something I do because I find it enriching- wandering, seeing things, linking the past with the present, and recording my experiences with place. Call it trespassing, call it tourism, call it urban exploration, but I can't pretend to any greater purpose beyond "That looks interesting, I'd like to see and know more about it."

The places in this issue are somewhat unknown, but I think they are worthy of attention. Some might ask, what's the attraction? Well, abandoned, decayed buildings are places that can't be intentionally created or built, they can only happen over time. Interesting because they're rare in Vancouver's fast-changing cityscape that tramples the old to make way for the new. When I visited these sites I was thinking a lot about my working life, and these old industrial buildings are charged with decades of labour. I also have a fondness for most things related to sewers, hence the title and some of the content.

This zine was created in the hope that you might find something of value or interest in these pages. With the aim of reaching a wider audience, this will be free to download from my website, www.drainsofmycity.com, but I think it looks better on paper. Share this zine if you want, but please don't modify it.

I helped create an 'urban exploring' zine a few years ago, which connected me to like-minded people and showed the fun and challenges of self publishing. I can't promise any future issues of Outfall, but if you like this one, please write and let me know: reduxzero@drainsofmycity.com

Thanks for reading.

- Reduxzero
Vancouver, BC, June 2014

Above: Catwalk across the large aeration tank, at the back of Norampac, near the Fraser River
Bottom: The stripped-out Norampac Mill in 2013, looking NE at #5 machine building

CONTENTS **#1 June 2014**

The Fraser Shipyards -

The former Star Shipyards, once an active waterfront industrial site, now exists as a picturesque ruin. Abandoned by its last tenants, decades of use are etched into the form of worn and rotted wood buildings, contaminated soils, and rusty abandoned machinery.

The first time I snuck into the Shipyard was a hot afternoon in August 2013. Unknown to me, several months earlier the Fraser Shipyards had auctioned off its equipment and were moving out, but all I saw was a cluster of decrepit buildings that looked abandoned. I could hear grinding wheels and workers in the machine shop at the far end of the yard, so I did my best to stay hidden as I walked through the open alleys between buildings. I kept thinking I'd run into a worker- scattered tools and calendars indicated recent use- but the buildings looked so worn and decayed.

I've never been to a ship building and repair facility, so this place held a certain mystery- of process, of strange machines and layout- and was obviously quite old. After my first visit, I did some research to help me understand the ship yard's operation and current condition. Knowing the history encouraged me to sneak back in several times to help connect the past to the present.

The oldest building on site is likely the Carpenter shop, dating from 1925 (which was always locked up tight), and the ancillary sheds and offices. The boat buildings at the water's edge were built in the 1940s, and portions of these extending over the water have already been mostly demolished, probably due to rot. The site was assessed in 2009 by Donald Luxton & Associates for heritage value, and is still some time away from demolition, reclamation and subsequent redevelopment.

The shipyard is a cluster of buildings- five large structures and several smaller offices and sheds- along the Fraser River in Queensborough. The most striking feature of the site is the ever-present wear and decay. Unlike many buildings in Vancouver that appear maintained (if only to keep up appearances) until their demolition, the shipyard looks as though it has been slowly falling apart for decades. No object or structure is remotely new, and only the carpentry shop looks well-kept.

Already so decrepit as to be hazardous, the buildings sag and drip, the rot must have been impossible for the last tenants to ignore. Wandering through the site, underneath sagging roofs, beside splintered pillars and the collapsed employee locker room, I can't imagine how anyone worked here even three years ago.

The buildings are interesting because they were all built before 1950, employ large-scale timber construction, and each was modified and added to over the years. Structural members and exterior cladding are mostly wood, supported and braced in interesting ways. A small alley separates the waterfront boat sheds from the small offices and shops, which are supported on shallow pilings. A musty smell of old wood pervades a warren of small rooms, scattered paper and junk lying amid dusty shelves. A mysterious apartment area is set up on the second floor- a living room with moldy couches, and carpet and a kitchen- next to wood-paneled offices with rolls of old engineer's drawings. Decades of "Harbour & Shipping" magazines decompose in the loft.

The difference a year makes. The #3 cradle boathouse used to extend much further, covering the slipway into the water, but has been taken down as parts rotted away over the years.
The intact interior of the boathouse is pictured at left.

Wooden walls in the fab shop. The ladder leads up to the second-storey mystery apartment.

Outside, a giant steel grid dips into the water- what is this thing? After some research, I learn that the easiest and most efficient way to dry-dock a ship of medium size is with a Patent Slipway. Basically, at high tide a ship floats onto a support cradle that rests on guided rollers, which is then winched up an incline until the ship sits out of the water- simple and easy. I'm fascinated by these large, steel structures, two of which remain here from an apparent four that once existed.

Essential to the slipways are the winches that do the pulling. A big electric motor drives belts, connected to gears and 2ft drum, to winch several tons of cradle and vessel up out of the water, and lower them safely back down. Each large slipway has its own winch, but when I visited only the larger #1 and #3 were still in place. The #3 is tucked in a small greasy shed that was rapidly being overrun by blackberry vines. The gearshafts were coated in a thick layer of black grease, and a couple levers looked to be some sort of transmission/ gear engagement system.

I heard a shout from behind me. A guy had suddenly appeared on the Carpentry shop balcony and spotted me walking across the #4 cradle. Figuring there was no

The employee lunchroom. Beer and girlie posters on the walls, beaten-up chairs and scuffed floors. Just out of frame at left, the wall is caving in from water damage.

The #4 patent slipway cradle. There are rock-filled ballast compartments at each corner. The cradle rests on rolling trucks that follow two big rails down into the water. Carpentery Shop in the distance, Upholstery shop on the second floor.

harm, I went over to assure him that I just wanted a few photos. He operates a business, Superior Custom Upholstery, from the space above the old shop, and was worried about vandals. He let me wander away with a warning to "Be careful." On subsequent visits, the doors to his shop were always locked, and the Shipyard felt totally silent and deserted.

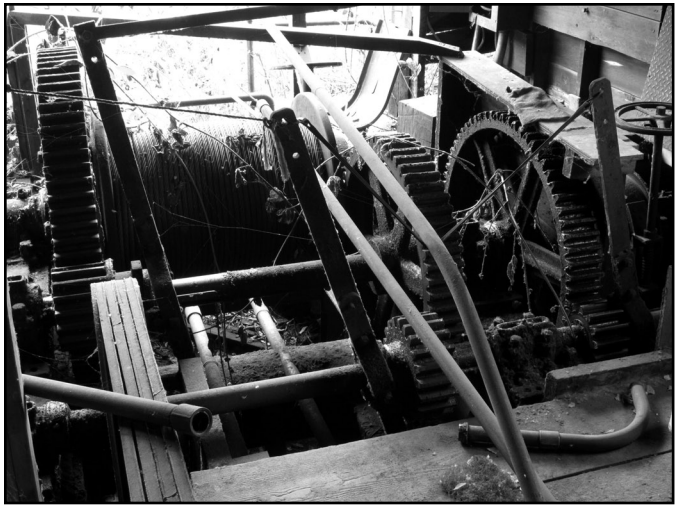
Before this site is finally covered with condos, I wonder what dirty, rusty pieces will be removed, cleaned up, and re-used to showcase 'industrial history'? ■

Further Reading:

City of New Westminster, Rezoning of 41 and 175 Duncan Street
Heritage Assessment of Star Shipyards, Donald Luxton & Associates, Oct 2009

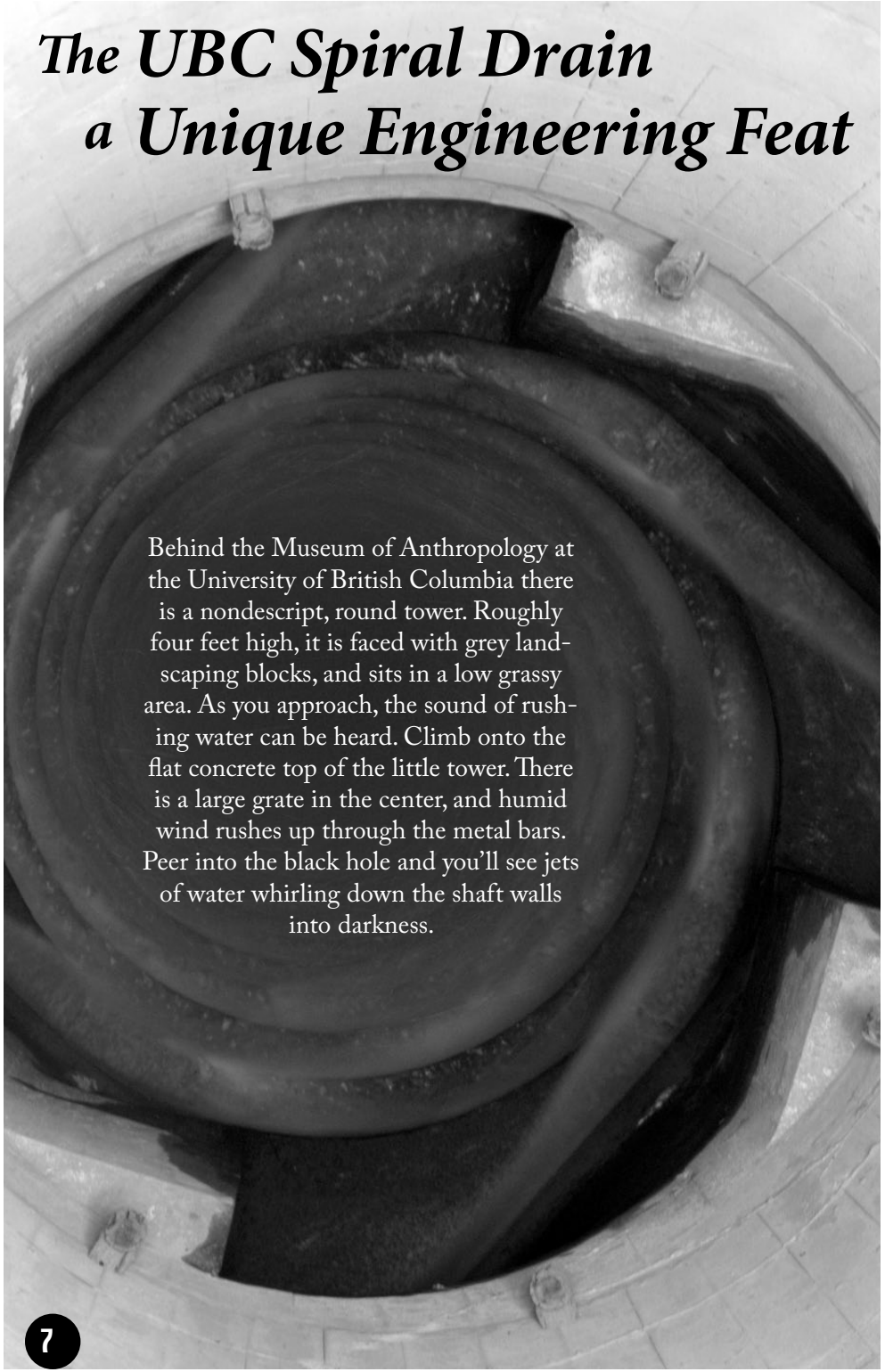
http://ernestartist.org/April06_2008_01.htm

http://www.shipbuildinghistory.com/history/canada/star.htm



The #3 winch lives in a little shed. Belt drive at bottom left, connects to transmission shaft and gears, and winch drum for 2300' cable.

The UBC Spiral Drain a Unique Engineering Feat



Behind the Museum of Anthropology at the University of British Columbia there is a nondescript, round tower. Roughly four feet high, it is faced with grey landscaping blocks, and sits in a low grassy area. As you approach, the sound of rushing water can be heard. Climb onto the flat concrete top of the little tower. There is a large grate in the center, and humid wind rushes up through the metal bars. Peer into the black hole and you'll see jets of water whirling down the shaft walls into darkness.

One of a kind in Canada, second on the continent

Since moving to Vancouver years ago I'd heard about UBC's one-of-a-kind vortex, but like most people my investigation of the mysterious structure was limited to looking into its depths from the surface. But what is this ominous vortex? Why is it here? And what else is beneath the surface?

My curiosity eventually drew me out of the house on a cold, clear night, prepared with the usual exploring gear: rubber boots, several flashlights, and a camera. I'd come to find out what secrets lay below the manholes next to the shaft.

The manhole lid was heavy but not hard to open. Down the ladder I went, somewhat dismayed by the prospect of crawling into the small pipe at the bottom. 30 inches in diameter, while technically a "trunk" storm sewer, is an uncomfortable, if not claustrophobic size of pipe to traverse. It wasn't far to the spiral shaft but it took a long time to cover the distance. I shuffled a few meters at a time, stopping every so often for a rest. Soon I heard flowing water ahead. I looked forward to the main attraction, where I hopefully would be able to stand upright.

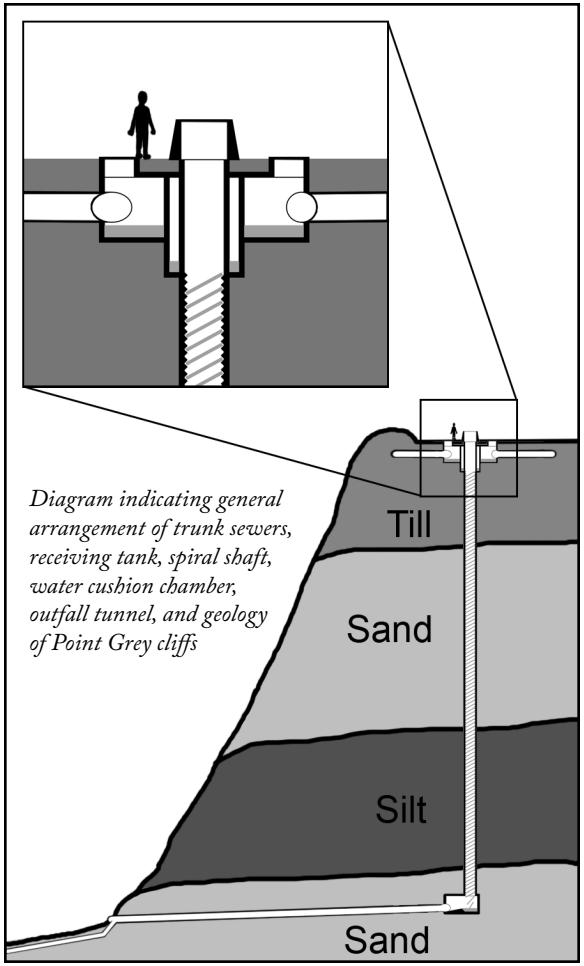


Diagram indicating general arrangement of trunk sewers, receiving tank, spiral shaft, water cushion chamber, outfall tunnel, and geology of Point Grey cliffs

The 30" pipe joined a donut-shaped room with stained white walls and wisps of fog hanging in the air. Murky water lapped into the central column through a grid of thick metal bars. I cautiously dipped a foot, and when I touched bottom the water was luckily just below the top of my boot. I slowly uncurled from the pipe into the chamber, but the ceiling was only about five feet high, so I still couldn't stand up straight. 90 degrees around the donut, another pipe came out of the wall, and as I walked over to examine it water began to lap into my boots. Determined to look around, I quickly resigned myself to wet feet. Several pipes dumped into the donut-room,

but all were about the same 30" size as the one I'd come out of. Peering into the pipes with a flashlight did not reveal anything that seemed worth the effort of crouch-walking their concrete lengths.

The 'donut hole' had four equally spaced chambers guarded by thick rusty bars. Fed by falling water, each of these pits had a small nozzle exit into the unseen 200 foot drop-shaft in the centre. The humid air made it difficult to get clear photographs of anything.

There were two manhole shafts into the room, which were the only spots where I could stand upright to give my back muscles a rest. Both manholes were bolted down at the top; no hope for an exit except backtracking down a pipe.

It didn't take long for my water-logged toes and cramped back muscles to encourage my exit. The return was another long, painfully cramped shuffle down the small pipe, and it was exquisite relief to finally stand upright in the manhole chamber. My exit was quick and dirty, the manhole cover kicked easily back into its seat. I sat on frosty grass and wrung smelly water from my socks, my pants soaked from the knees down but warm and steaming in the cold night air.

Although I didn't explore beyond the spiral chamber, leaving the collection trunk pipes unknown, my curiosity was satisfied for the night. The bottom of the shaft and the outfall tunnel are inaccessible, but I hoped some research at the archives would provide answers.

Four trunk sewers connect into the circular receiving tank.

The "Grand Campus Washout" occurred at the end January 1935. Frosty conditions, a high snowfall, and record-breaking precipitation overwhelmed the drainage ditches at the north end of the campus. Jordan Creek became a river that quickly eroded the soft, sandy ground near the cliffs. The ravine banks collapsed, taking down a bridge, many trees, and washed a huge plume of sand down to the ocean. Roads were closed, sewer lines were severed, buildings perched perilously close to the newly enlarged gully, and something had to be done.

To avoid another disastrous washout, the Provincial Government (responsible for the University Endowment Lands at the time) contracted the Vancouver & Joint District Sewerage & Drainage Board to solve the problem. After examining the options, the V&JDS&DB designed a system of collection sewers and ditches to collect runoff, and a shaft to drop the water straight down to an outfall tunnel which would carry the water safely away. Modeled on the design of an existing drainage shaft in Boston, Mass., the shaft would be lined with helical threads to dissipate the energy of the falling water.

Construction of the spiral drain shaft and outfall tunnel began midway through 1935, and were the key structures of a larger project to lay new sewers and fix washout damage. At first the shaft was dug quickly, a rate of 14 feet a day, but 146 feet down a layer of quicksand was reached and the shaft had to be continued under an air lock. During excavation a piece of fossilized wood was discovered and later identified as being from a spruce tree that lived 100,000 years ago.

Water flows past these metal bars, over the edge into one of four central wells.

The bottom of the shaft and outfall tunnel were driven in a layer of fine, dry sand which "ran like cornmeal", necessitating tight sheeting of the walls. The ground conditions caused some delay and extra cost but the tunneling work was completed satisfactorily, after which a foot of concrete was poured in between wooden forms and the outer liner plates. The helical grooves in the 4 foot diameter shaft were created using a special wooden form built by the Canadian Wood Pipe and Tank Co.

The works were completed on May 12th, 1936; final cost of the outfall and tunnel $16,160, the shaft and receiving chamber $39,655.

The north catchment area of the UBC campus is presently drained by four trunk sewers, each about 30 inches in diameter, that feed into the receiving tank of the spiral drain. This tank, shaped like a donut, is approximately 20 feet across with an 8 foot diameter center column that has four grated openings for water to fall through. The water goes into the chambers in the column and is directed tangentially into the shaft. After swirling all the way to the bottom, there is a 'water cushion' to absorb energy, and the water is discharged down the outfall tunnel.

Further improvements to the drainage structures have been carried out since initial construction. Rock fill was dumped to build up the beaches to slow erosion on the lower cliffs. The original outfall discharged above the high tide mark but caused a fair amount of erosion and required additional shoring. Eventually a pipe was laid under the beach, diverting the stormwater out into the ocean, and the old outfall was permanently sealed.

After some minor flood erosion in 1994, earth berms were constructed above the cliff edge to contain surface water and grates installed in a nearby roadway. The shaft has been capped with a vent tower to raise the grate opening above flood level.

Man posing next to a helical form used to cast the shaft, Feb, 1936. From the GVRD Archives.

Erosion of the sand banks underlying the north end of campus continues to be a significant issue, and poses a threat to nearby historic buildings like Cecil Green House. The University has commissioned many studies of the problem, and stormwater management continues to be a priority as the campus develops. Almost 80 years after its construction the unique spiral drain continues to be the key structure that prevents another disastrous campus washout. ■

References:

V&JDS&DB Correspondence
City of Vancouver Archives, Box 64-A-3 Folder 5

V&JDS&DB Newspaper Clippings, 1930-
City of Vancouver Archives, Box 63-C-3 File 4

V&JDS&DB University Endowment Lands Project Correspondence
City of Vancouver Archives,

The Grand Campus Washout, by Dr. M. Y. Williams, Prof. Em.
UBC Alumni Chronicle, Volume 20, No. 4, Winter 1966
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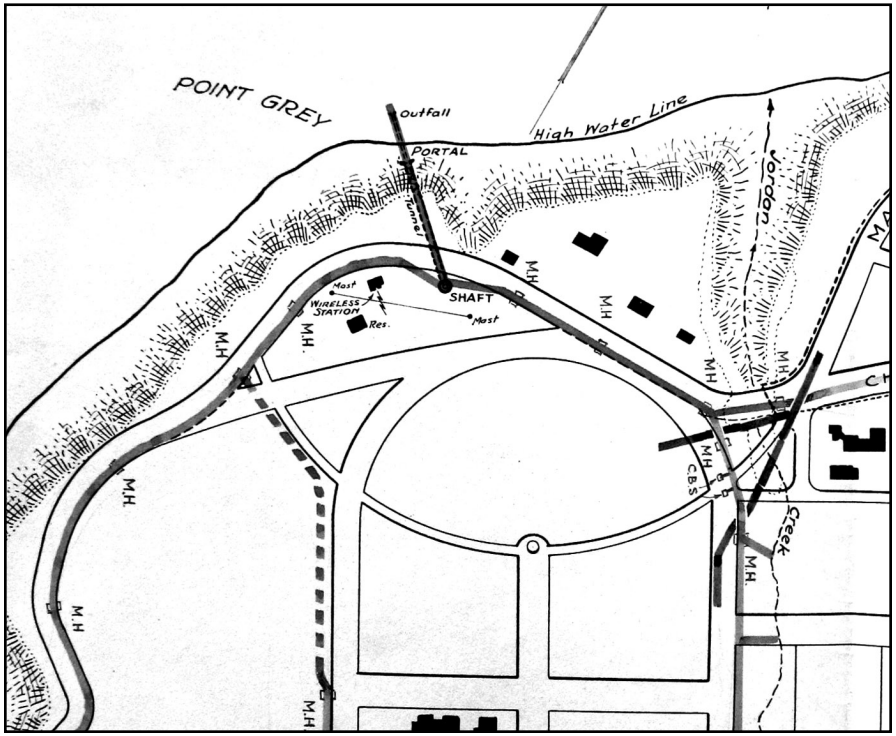


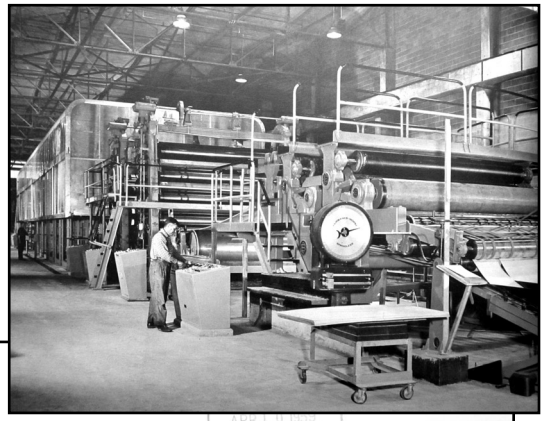
Map from 1936 showing location of completed sewer works.

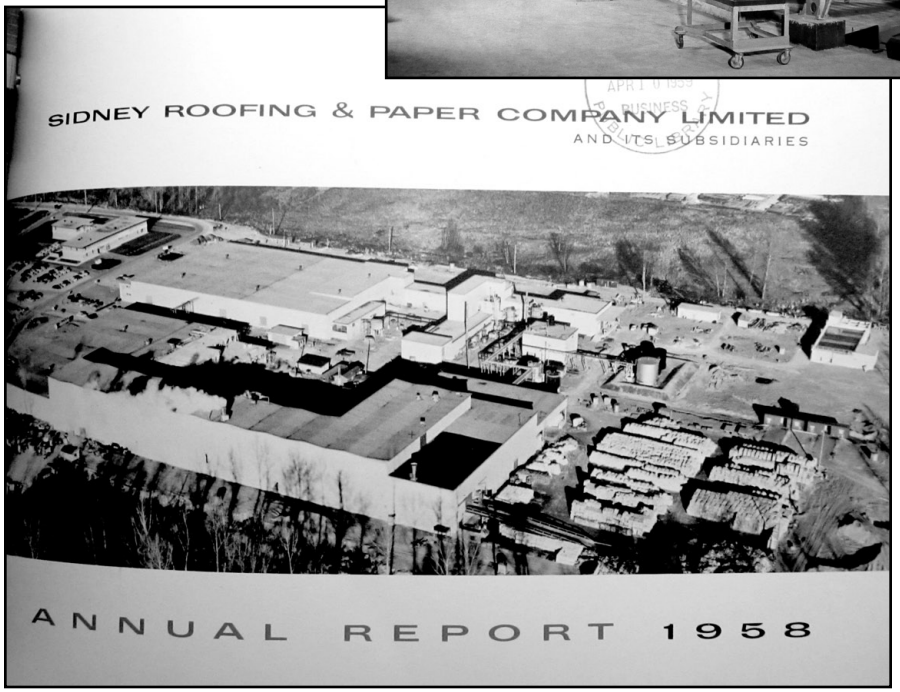
The ~~Sidney Roofing~~ Norampac Burnaby Paper Mill

Construction 1958 - Abandoned 2012 - Demolition, 2014

In the summer of 2013, I was infatuated with the former Norampac Mill. The large industrial site, a cluster of boxy white buildings, was hidden down at the end of Wiggins Street in the Big Bend industrial area at the southernmost tip of Burnaby, BC. The paper mill was vacated over a year ago but only recently was I able to take a look inside- and afterward I couldn't get it out of my head.

When the mill's permanent closure was announced for December 2011, I became more interested- given the limited number of old, heavy industrial plants left around Vancouver, it's worth paying attention when one disappears. A hundred good jobs lost, another long-standing industrial producer of forest products vanishes from the the rapidly changing cityscape. Leaving a big, empty building that I'd always wanted to visit.





Covers of the 1958 annual report featured shots of the paper machine and an aerial photo of the newly-built plant in early 1959. Looking NE: office building at top left, paper machine #4 in middle of mill building at bottom center, roofing plant at top, stacks of waiting fibre bottom right. Fraser river is just out of sight at far right.

Looking S down the cavernous #5 paper machine room, stripped nearly bare. Control booth at left, open pits to the right.

I missed my chance to attend the auction held at the mill that liquidated the paper machine, the leftover inventory, and scrap metal. About a year later I passed by and noticed gaping black holes knocked through the concrete walls, a flimsy temporary metal fence cordoning off the empty hulk. Stripped of its valuables and condemned, the building was waiting to be wiped from the landscape, and I knew this was my last chance to see inside the mill.

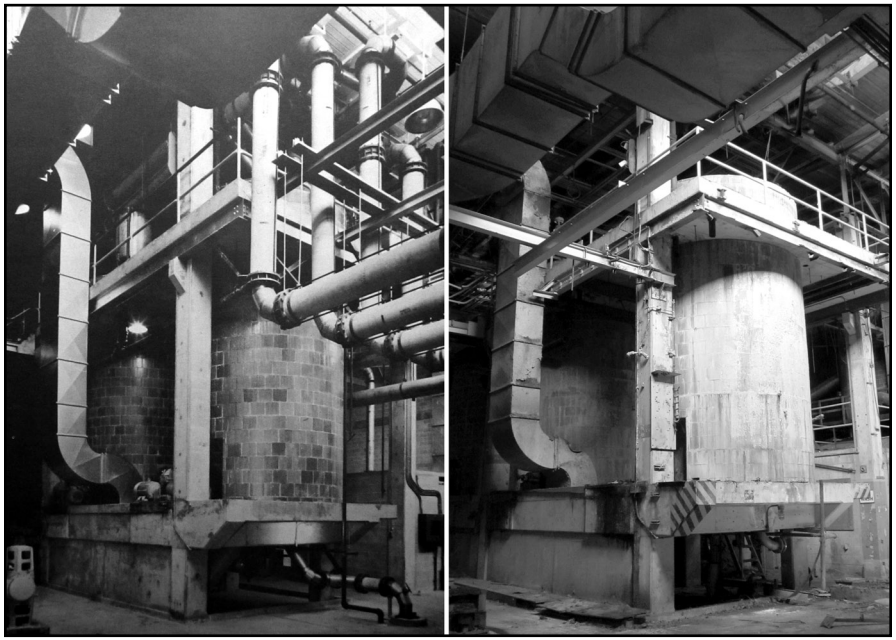
During the summer of 2013 I went down for a clandestine visit. A couple security guards were on-site, but they couldn't be everywhere at once. It took a bit of stealth and a lot of patience, but I managed to dart through a gap in the blue fence line, and ran into the dark concrete space beyond.

Huge freight elevator at the north end of the paper machines, beside the main warehouse

I stayed away from the gaping holes in the walls, sticking to the cracked, dirty floors and empty, dim rooms. I stood inside the cavernous empty halls that used to house the paper machines, and the little control booths where the operators would shelter from the machine's heat and noise between rolls. I went through the stock prep area, where concrete pads used to support pumps and huge tanks of chemicals amid a complicated network of pipes and valves. Downstairs, slivers of sunlight squeezed through the gap under loading bay doors in the vast, empty finished roll warehouse. Even the store cages and laboratory offices had been emptied out.

The only remaining trace of the workers were some old union notices tacked to a bulletin board. CEP Local #1129 had their "Last Hurrah" dinner and social on 25th Nov 2011; everyone responsible for their own bar charge.

Because of the security, I wasn't free to go everywhere I wanted to see (notably, the rooftop) and my explorations felt somewhat limited. Although at first I was excited to be inside the building, my mood went sombre after seeing the union notice board. It was a strange silent place, all the effort and industry that had steamed and clanged and toiled for 50 years stripped away, jobs and production facilities gone forever. After I left the mill, these thoughts stayed with me.



'Hydracycle chests' in the stock prep area, near the #4 machine. At left, 1958, at right, 2013.

I had to know more- surely a site like this had some recorded public history. The Vancouver Public Library archives do indeed have some very informative brochures from the late 1950s detailing the mill's construction, but not much from the 50 years of ups and downs since then.

Around 1955, the Sidney Roofing and Paper Company decided to transfer and expand its manufacturing operations from Victoria to Burnaby. Construction began in 1956, with site leveling, utility installation, and a warehouse completed by the end of the year. Employees and equipment were moved over from Victoria, and in late 1957 the #4 paper machine was installed in its new home. By 1959, the operation was up and running, complete with a new office building, steam plant, and roofing plant, and #3 paper machine on the way.

The mill expanded in the following decades, adding the #5 paper machine, the waste water clarifier tanks, and a nearby box manufacturing facility. Waste paper and fibre were recycled at the mill into several paper types: the #3 paper machine made roofing felt, the #4 coated boxboard, the #5 container board for corrugated boxes. The mill sold its products to the neighboring roofing paper plant and corrugated packaging plant, among others.

Above: A hook from the overhead crane in the #4 paper machine room

Below: Looking from the finished end of the #5 paper machine room, through the loading door to stores/ warehousing

Stock prep area on the upper level, stripped clean of its pipes, pumps and tanks.

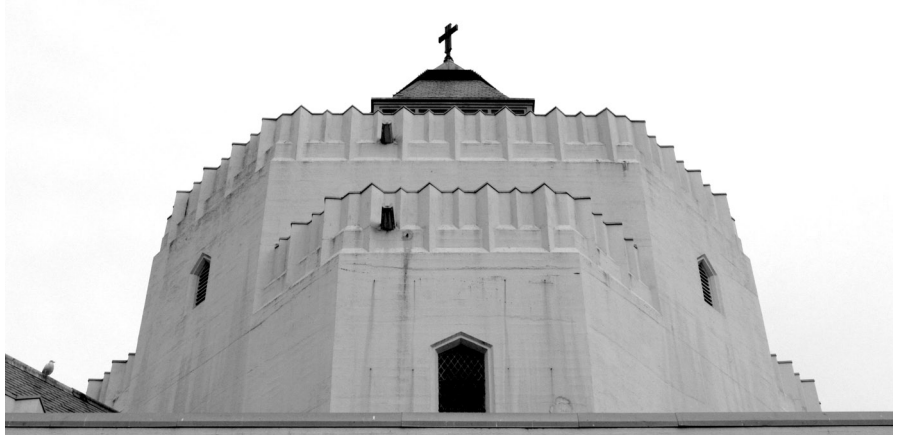
The Burnaby paper mill was owned by a succession of companies through the past 50 years. In rough order; Sidney Roofing sold to MacMillan Bloedel in the early 1960s, who sold to Belkin Packaging in 1968, acquired by Paperboard Industries in 1987, Crown Packaging in 1993, and finally Cascades Norampac.
Citing rising recycled fibre pricess, higher per-unit labour costs at the aging Burnaby operation, and a high Canadian dollar, Norampac finally shut the mill in December 2011.

After any items of value were auctioned off in 2012, the property sold to Oxford Developments. Clearview Grinding demolished the buildings and cleared the site through the winter of 2013-14.

I have a reasonably good picture of the Mill's birth and its death, but its life is a mystery. My perspective of this site is of contrast: past images and words of construction, big plans, and hope for the future, against the reality of today's salvage, empty shell, and impending demolition. This split reality, seeing the birth and death of a place simultaneously, makes this huge, concrete industrial buiding seem almost ephemeral.

Although I never got inside again, I returned a few times to see the buildings slowly deconstructed; walls removed to reveal insides, structural lumber and metal salvaged. As I write this in June 2014, the mill is no more- concrete foundations ground up and hauled away- all I have left are images of birth and death; if not for the fact that I did stand in those dim, dirty halls the place might be from a dream.

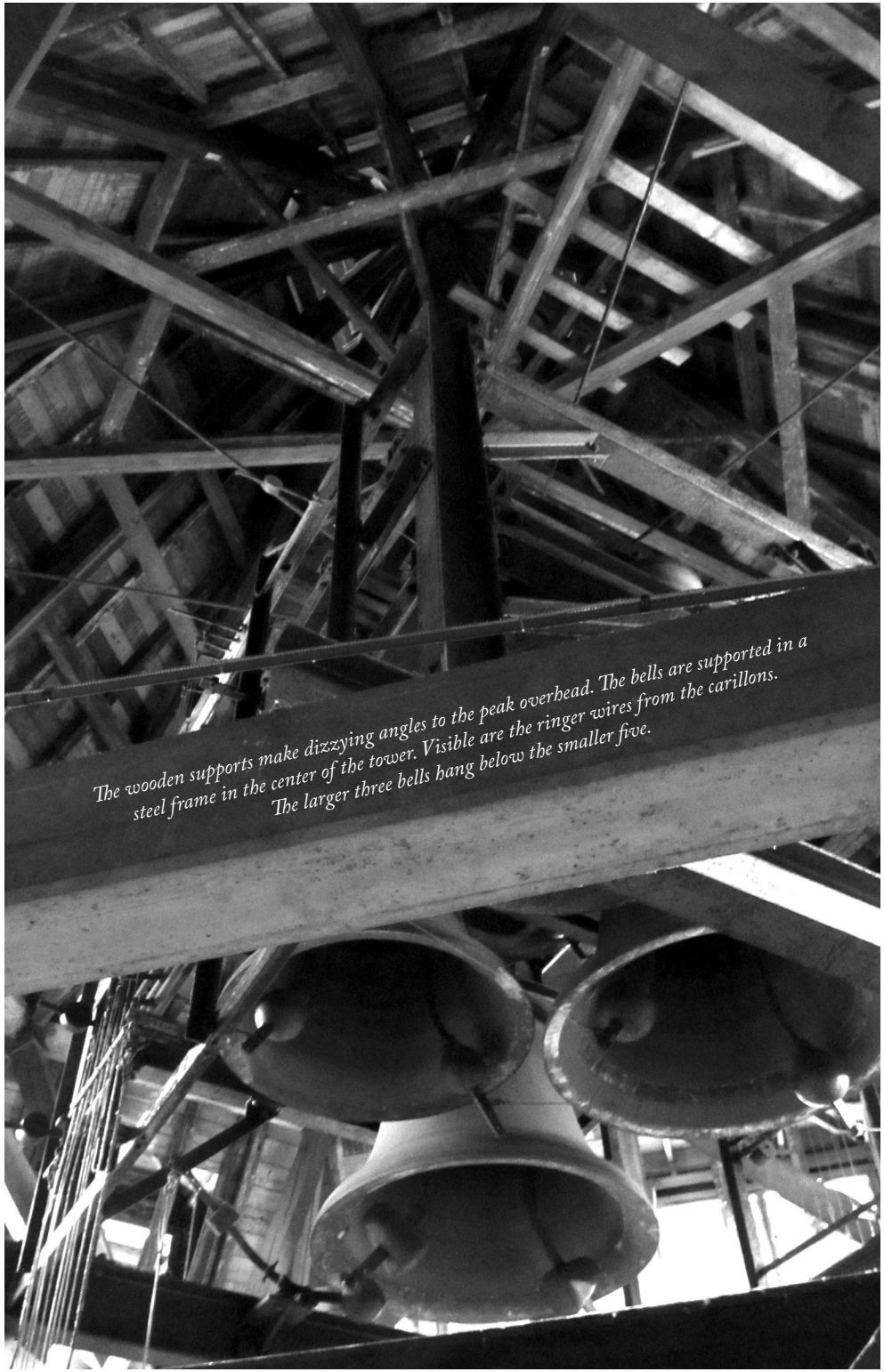
In two years new warehouses will stand on this parcel of land, and workers will toil inside them, and the mill will disappear from the city's memory. ■



The Bells of St. James

It's hard to miss the byzantine-styled white monolith at the corner of Gore and Cordova in Vancouver's downtown eastside that is St. James' Anglican church. The imposing building has stood on this spot since 1935, and today the ring of the church bells is still heard throughout the neighbourhood. Although the congregation has diminished significantly since the church's founding, the poured concrete edifice remains strong. Luckily for us, the man holding the keys to the fortress-like church is very friendly and generously offers to share the view from the top.

Tight wooden stairs wind up inside a concrete shell to the bell tower



The wooden supports make dizzying angles to the peak overhead. The bells are supported in a steel frame in the center of the tower. Visible are the ringer wires from the carillons. The larger three bells hang below the smaller five.

The present church was built in 1936.

The interior of the church is striking and lovely, but not lavishly ornate. At the back of the main room a thick rope is tethered to the wall, its top disappearing into the ceiling high above. This rope, if pulled, rings the big bell- the "G" note. These are the bells whose sound reverberates through the streets of the Downtown Eastside.

Next to this rope is an inconspicuous door that when unlocked reveals ascending steps. Bare concrete walls tightly enclose the spiral staircase, which is made entirely of wood, and ascends 92 steps to the top. Mid-way, a landing leads into a claustrophobic area filled with wooden bracing that supports the organ's pipes. At the top of the corkscrew we pass through a small door and step onto the roof, where we're treated to a good view of the surrounding streets and the peaked, slate roofs of the church below. Step around the puddle of water, go through another door and enter the bell tower.

It's a dim, dusty space but the ceiling rises into a peak high above, making the tower seem large. Straight ahead is a room, with wood walls framed by huge concrete columns supporting a steel cage full of bells. The floor is grey wood planks, and we're warned not to step on certain weak spots.

There is a small hand-cranked winch that is used to raise and lower the chandeliers in the hall 50 feet below. The 10x10 foot room in the the tower houses two carillons, which flank a wooden plug that is the center of the hall ceiling.

The bells were cast by John Taylor & Co, Loughborough. The metal has a greenish patina. Visible at lower right is the rope and striker used to ring the big bell from the church floor.

The rope we'd seen in the main room below passes through the floor, over a couple of pulley wheels, and is attached to the ringer of the biggest bell in the group. Look, the rope's moving- BONGGGGG! It's just past one o'clock and standing next to them we're treated to a deafeningly loud live show, the bell dancing in the enclosed tower. The last peal fades away, and we're silent for a moment. Thanking our friendly host, we make our way back down to the unholy streets outside. ■

Top Right:
To ring the bells in the old days, someone had to climb the stairs to the room in the belltower, and use this carillon. Each of the eight levers pulls a wire connected to a striker that hits a bell. Today, with the push of a button in the church below, the automated carillon installed in the opposite corner does the job.

Bottom Left:
Thick concrete columns, splayed like a starburst, brace the roof and support the bells above the ceiling. The sloping roofs are wood protected by slate tiles.