Canadian Brownfield Case Study

Watson Island Redevelopment

Source: Pembina Pipeline Corporation

(fig.1) A 2021 photo of the Watson Island site, now Prince Rupert Terminal and international LPG shipping facility.

PROJECT SUMMARY

The Watson Island Redevelopment is located within the boundaries of the City of Prince Rupert. The previous occupant, the Skeena Cellulose pulp mill (see *fig.2*), was once a vehicle for opportunity and economic improvement. However, in 2009, a tax sale resulted in the City of Prince Rupert becoming an unwilling owner of the mothballed site.[1] Shifting the perspective on contaiminated sites, the City developed an innnovative strategy using a Separate Municipal Incorporation (SMI) to surpress liability and attract investment. The redevelopment plan addressed the over 3 million litres of mill fluids and many vessels of unknown origin/condition. The new tenant, Pembina Pipeline Corporation, opened a fully operational liquified petroleum gas port in 2021 linking the oil and gas industry in Alberta to the coast of B.C *(fig.1)*. The recovery of Watson Island is a profound example of turning decay into economic opportunity and shines light on how municipalities can deploy unique tools to accept liability to enable brownfield redevelopment.

Site Characteristics

The small port City of Prince Rupert has a population of about 12,000 people and is located on the coast of northwest British Columbia.[2] Watson Island was home to the Skeena Cellulose pulp mill from 1955 to 2001. Prior to Skeena's operation, the island was used by the Canadian military as a weapons storage facility. During its successful operation, the mill directly employed nearly 1,000 community members of Prince Rupert.[3] During this time, Watson Island was a beacon of economic resilience for the community. Layoffs and the decline of commercial fishing in the '80s and late '90s left the pulp mill operating on Watson Island in a precarious state.

The scale of Watson Island is enormous. This 300+ acre site is located south of Prince Rupert and just north of Port Edward. Adding to the complexity, it included a mature built form. This consisted of over 60 structures, some reaching heights of over 250 feet tall.[4] Its direct access to the Pacific Ocean and the Canadian National rail line contributes to many of its strengths as a logistics hub. In addition, the Trans-Canada Highway is within close proximity.

QUICK FACTS

Location
City of Prince Rupert, British Columbia

Project type
Industrial remediation

Site size
370 acres

Land uses
Logistics and Shipping Hub, Future use

Keywords/special features
Pulp Mill, In-situ remediation, LPG Exports, Community Revitalization

Website
https://www.princerupert.ca/
https://www.mcelhanney.com/project/watson_island/

Project address
Watson Island
Prince Rupert, B.C.
54.23581N, 130.29565W

Awards
Brownie Awards 2022: Best Large Project

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If you are aware of any errors or updates to the case studies, please contact chris.desousa@ryerson.ca. The opinions expressed in this case study are those of the authors only and do not represent the opinions and views of either Toronto Metropolitan University, the School of Urban and Regional Planning, or the Canadian Brownfields Network.

Plannning and Regulatory Concerns

Getting Watson Island back to business had been a challenge for previous councils in Prince Rupert. Bob Long and city staff took a different perspective on the value that the island has to the city. This included transforming the island into an area for the primary sector, attracting export and international investment. City staff led by city manager Bob Long helped council and Mayor Lee Bryan take a dramatically different approach to dealing with the vacant lands on the island. Rather than courting potential buyers like previous councils, the City chose to reimagine the rather costly site (~$90,000 a month) and explore potential leasing options.[5]

As the site was acquired through a tax sale under the *Contaminated Sites Regulation,* the City did not attract environmental liability. This unique situation helped manage contaminants risk-free while providing a huge degree of certainty to Watson Island's mainstay tenant, Pembina. Prince Rupert delegated leasing power to a separate municipal institution (Legacy Inc.) to enter into a lease agreement with Pembina.[6] This partnership allowed the City to successfully separate the political and bureaucratic processes from business decisions that have the potential to hinder infill development and economic investment within a municipality. In addition, this unique business model envisioned Watson Island as a trade and logistics hub entirely owned by City entities but leased to private operators. Driven by innovation and investment, Watson Island has the potential to bring great social, economic, and environmental benefits to the community and Canadians at large.

The presence of over 50 potential Area(s) of Potential Environmental Concern (APECS) (see *fig.3*) would have proved to be a planning and regulatory nightmare for some. However, the City and its partners welcomed the challenge, gaining the necessary approval prior to the beginning of Pembina's tenancy.

Source: The Northern View

(fig.2) Pictured above is the former condition of Watson Island. It was home to a pulp mill that served the community and surrounding area for forty-six years.

From a planning perspective, the lands known as Watson Island have strategic value for the City of Prince Rupert. The Long-Range Land Use map in the *Quality of Life - Community Plan Bylaw 3236, 2007* labelled the island as business industrial use for the foreseeable future. A key indicator of a "diverse economy & jobs close to home" is a thriving Watson Island. Furthermore, this area was identified as a space to continue to support the industry as expressly identified in the plan (3.2[4]).[7] Additionally, the updated *Official Community Plan* (2021), Bylaw 3460 reinforces this ideal as the lands are still reserved for industrial uses.[8] Such identification within the Official Community Plan has made the redevelopment of Watson Island easily supportable.

Cleanup

In addition to planning concerns that address the APECs, multiple regulatory approvals were needed to accommodate redevelopment. Prior to the redevelopment of the Pembina site, the BC Ministry of Environment and Climate Change Strategy (ENV) required a Certificate of Compliance (CoC) to be issued. This involves meeting standards under B.C. Reg. 375/96, *Environmental Management Act* (EMA), and *Contaminated Sites Regulation* (CSR) 12. B.C Reg. 375/96 outlines remediation standards and options as well as the requirements when addressing a brownfield site in B.C.[9]

Source: The Northern View

(fig.3) The Skeena Cellulose pulp mill. Clearly visible from an aerial view are potential environmental hazards including large lagoons, landfills, and an active railyard.

The remaining lands that went undeveloped were subject to an Approval in Principle (AiP). In the case of Watson Island, an AiP was required to confirm that a remediation plan is in place, reviewed and confirmed by the ministry.[10] Under most circumstances, it makes obtaining a CoC much easier.

The demolition of the former pulp mill began in 2015, marking the start of a 6-year redevelopment process. To address the current environmental state of the site, the City of Prince Rupert worked closely with the ENV, McElhanney, Stantec and Pembina. Potential hazards that were identified stemmed from the site's mill and rail history. These areas included landfills, marine discharge areas, lagoons with unidentified materials, infill, and an active railyard. The partners identified over 50 APECS. Contributing to these APECS included 13 million litres of mill fluid and unidentified vessels.[11]

The demolition (*fig.4*) led to an astonishing 95% recycling rate.[12] Additionally, the pulp chemicals left on site were sold to operations in Prince George, B.C. contributing to a successful recycle rate and yet another stream of revenue for the City.[13] A unique proponent-driven process approved by the ENV assisted in huge cost savings. Rather than transporting nearly 100,000 m^3 of dirty soil for ex-situ disposal, it was reused on-site.[14] In addition to cost savings, this remediation strategy mitigated the harmful effects of ex-situ removal that accompany long-haul trucking of large quantities of contaminated soil. This first of its kind, collaborative remediation strategy has set a precedent for the future of proponent driven projects in British Columbia that partner with the ENV.

Cleanup Financing

As noted, the City of Prince Rupert gained control of the site through tax sale. Nearly $7.5 million was owed to the City in back taxes from the previous owner, Sun Wave Forest Products.[15] To recuperate losses the City entered into a redevelopment partnership with Pembina.

The brunt of the remediation cost was absorbed by the industry. Pembina originally planned to spend $12-15 million on remediation. This would have involved moving the 100 000 m^3 of soil for disposal elsewhere.[16] However, through soil reuse techniques and a meaningful partnership, remediating 12% of the 50+ acres on the site was drastically cheaper. The City estimated actual remediation to industrial standard cost around $8 million. Pembina and the City reached an agreement that resulted in an $8 million loan to the City from Pembina. The money was used by the City to pay for the cost of cleanup. In return, the City provided a temporary reduction of lease payments until the totality of the loan was repaid.[17]

Source: Clearview Demolition Ltd.

(fig.4) Demolition process leading to a 95% recycle rate.

Development

The drastic change of use was only made possible through a partnership with Pembina Pipeline Corporation. Prince Rupert Terminal on Watson Island is Pembina's first liquefied petroleum gas (LPG) export facility (see *fig.3*). The total capital budget provided by Pembina for the project was $250 million, resulting in an international export hub enabling western Canadian hydrocarbons to reach international markets.[18] Fully operational on April 9, 2021, the terminal directly transfers 20,000 barrels of LPG from rail to sea and off to international destinations daily. [19]

Pembina's commitment to more sustainable solutions and social development is visible when evaluating project outcomes. The company invested $350K into community and emergency programming, created 25 permanent positions, established an operator training program, and added additional rail infrastructure (5km). [20]

Lessons Learned

The Watson Island redevelopment illustrates how unwilling ownership can be a vehicle for economic and social opportunity rather than a municipal budget burden. Through a meaningful partnership with the private sector and the creation of an SMI, Prince Rupert was shielded from liability while attracting investment.

This project sets an excellent precedent for municipalities looking to revitalize land in their portfolios gained through tax sales. In addition, it outlines the key components of business certainty that are central to a successful partnership with private companies.

Endnotes

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