

history + policy





THE CHALLENGE SERIES

TOWARDS A SUSTAINABLE FUTURE: MILLENNIUM WATER – VANCOUVER'S OLYMPIC VILLAGE

The Challenge Series is a celebration. It's a celebration of the planning, designing and building of Vancouver's first sustainable neighbourhood – Millennium Water: The Southeast False Creek Olympic Village. Stretching across the southeast shore of False Creek, this new community acknowledges and builds on the historic harmony between the region's founding peoples and the land, while recognizing and responding to the emerging challenge of climate change and its direct impact on how we live, work and enjoy the legacy of our natural environment.

Southeast False Creek (SEFC) is the last remaining large-scale waterfront property adjacent to Vancouver's downtown peninsula. From its historic role as a centre of heavy industry, the lands are being rejuvenated under the guidance of two decades of city authorities as a model neighbourhood founded on the four pillars of sustainable community building – acknowledging social, economic and cultural values alongside a deep respect for the environment.

The Challenge Series celebrates the achievements and expertise of all those who have contributed to this significant urban renewal, beginning with the historic vision and land assembly, through the concept development of a new sustainable neighbourhood, to the delivery of more than 1.5 million square feet of built space – all being undertaken in the context of a rejuvenated urban framework and new utility infrastructure.

The Challenge Series logo is an acknowledgement of the legacy of communication and cooperation that has been the foundation of the community, design and municipal process. This partnership has led to the creativity and innovation that will make this community the first completed Leadership in Energy and Environmental Design (LEED) certified Gold sustainable neighbourhood in Canada.



The Challenge Series is published through a sponsorship program funded by members of the Millennium Water development, design and construction team and agencies of the federal government. The eight chapters follow the community development from its early concepts through design and construction. Each chapter is researched and compiled from historic files, interviews with the participants and material relevant to the building industry's response to the challenges of climate change, carbon footprints and responsible resource consumption.

As the Vancouver 2010 Olympic and Paralympic Winter Games will challenge the world's athletes to achieve outstanding levels of personal performance, we anticipate that this publication will educate and inspire both the building industry and consumers alike to strive towards a more resilient living environment. Acknowledging the challenges and innovation inherent in this undertaking, The Challenge Series can build upon this knowledge and experience as the residential development industry moves into the coming decade. The knowledge gained demonstrates British Columbia's and Canada's commitment to a global future through the efforts of our people and our environmental and social policy.

I am reminded of my young nephew Steven, who, when learning that he had lost his lower left leg in a car accident after a day's skiing, announced to his mother that the challenge for him now would be to ski for New Zealand in the Paralympics. He went on to win a gold and two bronze medals at the Salt Lake City Winter Paralympics in 2002, creating personal opportunity from personal challenge.

Such is the opportunity for our designers, builders and communities to find new and innovative ways of working and living together that balance our present needs with those of future generations.

It is in this context of knowledge sharing that the Millennium Water team offers these insights into the challenges and opportunities gleaned from two decades of collaboration and mutual cooperation. Such is the collective spirit that lies behind the renewal of the SEFC lands and the construction of the Millennium Water Village, home to the Vancouver 2010 Olympic and Paralympic Winter Games.

Roger Bayley

Design Manager: Millennium Water –
The SEFC Vancouver 2010 Olympic and Paralympic Village

“On the south shore of False Creek, develop a neighbourhood that is the model of sustainability, incorporating: forward-thinking infrastructure; strategic energy reduction; high-performance buildings; and high transit access.”

This introductory chapter provides a glimpse into the history, policies and personalities that shaped the development of a sustainable community in Southeast False Creek (SEFC). Formerly an important industrial hub for Vancouver, SEFC occupies a key piece of waterfront real estate adjacent to the city’s downtown core. The future of SEFC became a focal point of discussion in the early 1990s, following the city’s decision to release the SEFC lands from the industrial land base. It became clear that the redevelopment of this 80-acre centrally located site presented an opportunity to make a statement about the direction of future development in Vancouver.

In 1991, Vancouver’s city council determined that the SEFC lands should be a model sustainable community: “On the south shore of False Creek, develop a neighbourhood that is the model of sustainability, incorporating: forward-thinking infrastructure; strategic energy reduction; high-performance buildings; and high transit access.” This proclamation marked a momentous achievement for the City of Vancouver, and a turning point toward a sustainable approach to urban design. In the ensuing years, city staff and countless people from local interest groups and the professional community became involved in the visioning process for the site’s redevelopment.

Chapter One of The Challenge Series describes SEFC’s past and future and discusses the importance of sustainable community development. It looks at the influences that led to the policy development and design of a new sustainable neighbourhood.

From industrial hub to vacant brownfield to sustainable community



Gordon Price on the Evolution of False Creek

On the shores of False Creek, the dreams of successive generations have been realized, often beyond their expectations, beginning with the greatest of them all: Canada's national dream of a continental railway. When the trains reached their destination here, not only were a nation, a port and a city willed into being, but the creek itself became an expression of our relationship with nature.

First came industry, belching soot into the air, sewage into the water and filling in three-quarters of the creek. (It would later be dredged by the federal government and used to create Granville Island.) Those industries built a city, provisioned a navy for war, brought jobs and prosperity in peace, and eventually declined as jobs turned from blue-collar to white.

Then came green. After the City of Vancouver acquired lands along the south shore of False Creek, the city council of the early 1970s –

Alderman Walter Hardwick in particular – conceived of an idyllic residential community that would express the ideals of a generation that rejected the harsh modernism of freeways and urban renewal for car-free village squares and bike-filled greenways; a place to raise children, with mixed uses and mixed incomes. It all seems so obvious now, but it was so radical then.

When it came time for the transformation of False Creek's north shore following Expo '86, the private and public sectors jointly built on the successes of the south shore by embracing a high-density, high-rise urbanism that eventually came to be called "Vancouverism." The iconic skyline exemplified by the residential high-rise "point-tower-and-podium" model spread around the world.

And so, when the Southeast False Creek brownfield site came up for consideration, a new consensus proffered an alternative vision, this one closer to the ground, motivated

as much by the challenges of sustainability as the desires of livability. This sustainable community would take on the critical problems facing us as producers and consumers on this planet and serve as a place of continuous learning and problem solving.

The look of the Olympic Village may be different than what came before, but the process is much the same. This combination of vision and public policy was discussed at a hundred public meetings, filtered through a dozen staff reports, redesigned by the architects, reconceived by the marketers and rehashed by the politicians. Now gracing the shores of False Creek, the Millennium Water Southeast False Creek Olympic Village is another expression of the dreams of another generation.

Gordon Price
Director, SFU City Program

Councillor for the City of Vancouver
from 1986 to 2002

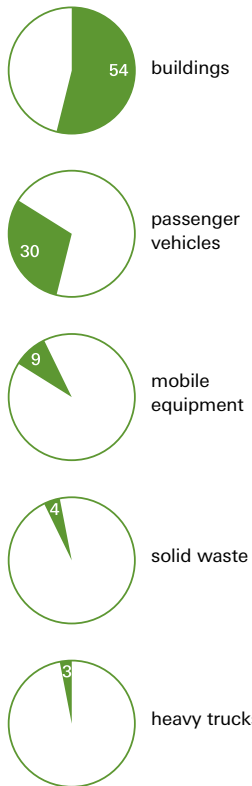
PROFILE

Ian Smith

BA, LEED AP
City of Vancouver SEFC Project Office

As a Senior Planner in the City of Vancouver's Central Area Planning Division, Ian led the planning process for SEFC beginning in 1997. He was instrumental in assembling the advisory group, commissioning consultant reports, facilitating meetings internally and with the public, creating the policy statement and the Official Development Plan and passing key reports through city council. Ian is currently the Manager of Development at the City of Vancouver's SEFC Project Office. Ian coordinated all aspects of the development between the city and Millennium – from the master plan and rezoning to permitting and construction. He is the city representative responsible for the construction of the affordable housing units and the community centre. Following completion and delivery of the site to Vancouver's Olympic Committee – after more than 12 years of working on SEFC – Ian plans to retire to Nova Scotia and focus on golf and kayaking.

Where Vancouver's greenhouse gas emissions come from (%)



Our development methods, sound as they seemed at the time, have wreaked havoc on our environment. Increased greenhouse gases (GHG), caused primarily by burning fossil fuels, threaten to heat the Earth to unprecedented levels. The world's top scientists predict erratic weather, rising sea levels, drought and agricultural failure as a result. In short, the way in which we have used the planet for our gain may also be a means to our own destruction.

Contrary to popular belief, cars are not the worst GHG culprits. According to the City of Vancouver, buildings contribute more than 50 per cent of the city's total GHG emissions. Most buildings, too hastily constructed, also waste valuable fresh water and have such poor indoor air quality and natural lighting that workers suffer from

mood disorders and lost productivity. In terms of waste, Industry Canada cites that about one-third of the material in Greater Vancouver's landfill is demolition, land clearing and construction waste.

However, nothing is keeping us from changing these conditions and establishing a healthy and vibrant way of living. All the technology necessary to make the shift towards environmentally conscientious methods of building already exist.

The industry has already proven that an incredible 90 per cent diversion rate for waste on construction sites is possible. Wind and solar technology is available and already serving foreign countries very well, slicing their GHG emissions by a remarkable amount. Products and building methods have been designed and implemented to

improve indoor air quality and make day lighting a reality. Communities in which people can work, play and live within walking distances are emerging globally.

The environmental challenge we're facing has been met with examples of astounding human innovation. Signs of a potential healthy future are emerging. It is possible to bring the building industry together to create sustainable communities that enrich lives today as well as those of future generations. Millennium Water, Vancouver's Olympic Village, is an inspired example of a model neighbourhood striving towards sustainability. It demonstrates new and progressive design and construction standards that will help redefine the building industry over the coming decades – and contribute to a healthier world.

BUZZWORD: LEED

LEED (Leadership in Energy and Environmental Design) is a voluntary certification system for projects seeking to meet an established level of environmental performance. The Canada Green Building Council oversees the LEED certification process in Canada. A LEED project must comply with a set of criteria to meet one of four levels of certification: Certified, Silver, Gold or Platinum. The City of Vancouver is pursuing Gold designation for SEFC in a LEED for Neighbourhood Development (LEED-ND) pilot study. The LEED-ND criteria integrate the principles of smart growth, urbanism and green building into a certification system for overall neighbourhood design.

A Design Charrette is no Small Undertaking

In October 1998, the City of Vancouver Planning Department and its consultants organized a multidisciplinary design charrette to imagine what a sustainable neighbourhood might look like at SEFC. The purpose was to discover different urban design options that realized the best-practice objectives, sustainability-based principles and performance targets of the SEFC policy statement. (See page 20.) Spread over three days, the charrette involved 28 professional architects, landscape architects, engineers, developers and planner-regulators and 12 students.

Participants were asked to keep an open mind and work collectively, bringing a diversity of expertise to the dialogue. Guided by the redevelopment policies for SEFC, the group responded to the following

questions: What do we want for the site? What is important? What does the neighbourhood look and feel like? The answers were communicated verbally, in writing and through drawings, ultimately creating four different designs or vision solutions.

The primary issues explored through the charrette included land and water (fresh water, open space, soil); the built environments (public spaces, community facilities, streets/parking, buildings); building design and performance (energy, heights, site size, views); and wastes (greywater, blackwater, household and green waste).

During the three days of the charrette, participants worked and ate together as they brainstormed, sought team consensus, explored policies, and generated and tested ideas in

preparation for team presentations on the final day. An open discussion followed the team presentations. It included reflections on various ideas presented and on the opportunities and constraints provided by the policies that informed the charrette. The discussion provided valuable feedback for city staff in their ongoing policy development work.

A commitment to the guiding principles of sustainability was common in all of the designs. Differences in designs fulfilled the charrette's goal of providing city council, staff, consultants and the larger community with various options. Recommended changes were made to certain city policies (including bylaws and regulations), plans, approaches and even to the mandates/functions of some city department/operational units.

A design charrette is no small undertaking; the successes and benefits are well worth the challenges and, when done well, can increase community learning about complex issues. For the City of Vancouver, this charrette successfully engaged a range of experts to collaborate and imagine how best to bring the vision for SEFC to life.

The strength of a charrette is that it brings together a diverse range of expertise and interests to collaborate on creating innovative design solutions that embody multiple objectives and mutual interests.

1880

1890

1900

1910

1920

1930

1940

First Nations History

First Land Development

Mount Pleasant is Developed

Sawmills & Shingle Mills

The Great War

Post-War Years

The Great Depression

Second World War

Southeast False Creek was frequented by First Nations peoples for at least 3,000 years, and likely for about 10,000 years. The area is part of the territory traditionally used by the Musqueam, Squamish and Tsleil-waututh peoples.

SEFC was subdivided into streets by Israel Powell in 1888.

In the 1890s, the city's residential development spilled south over False Creek, creating the city's first suburb, Mount Pleasant, but construction had not yet reached the area's shoreline.

Sawmills and shingle mills lined the shores of False Creek in this decade. In total, 17 sawmills were eventually built, employing 10,000 workers.

During the First World War, the city block at the foot of Columbia Street (the Canron site) was home to Coughlan's Shipyard, where a large contract to build 8,000-tonne naval ships made the company Vancouver's largest employer in 1918.

A number of new wood and coal yards appeared along the SEFC shore, while the sawmills and metalworking industries thrived.

Despite the Great Depression, SEFC was the site of new and increasing activity in the 1930s. In 1931, the Vancouver Salt Company constructed a new building at the foot of Manitoba Street.

During the war years, the Industrial Age peaked in False Creek as 5,000 union workers laboured at the Canron site. Thousands of other workers cranked out materials for the war effort at more than a dozen sawmills.

1950

Post-War Years

The main plants along the SEFC shore, from west to east, were the City Yard, Dominion Bridge, Western Bridge Steel Fabricating (later Canron), Sauder Lumber Company, Vancouver Salt Company and Ruskin Cedar Products.

1960

**1960s-1980s:
Industrial Decline**

In the 1960s, industry began to leave False Creek. In 1970, the City of Vancouver rezoned much of False Creek for housing and parks. Meanwhile in SEFC, workers in the Canron Building were fabricating steel for sites all over the world. Local applications include downtown Vancouver high-rises, the Alex Fraser Bridge, West Edmonton Mall, Canada Place, Seattle's Husky Stadium and the Boeing plant in Everett, Washington, which was at that time the largest free-standing building in the world.

1970

**False Creek
is Rezoned**

1980

**Expo '86
World's Fair**

In the 1980s, industry was cleared from the north shore of False Creek in preparation for hosting the Expo '86 World's Fair.

1990

**SEFC Planning
Process Begins**

In 1990, the City of Vancouver removed the SEFC lands from the industrial land base. Vancouver's city council adopted the "Clouds of Change" report, establishing pollution reduction targets. In 1991, the City of Vancouver proclaimed that SEFC would be the site of a model sustainable community. In 1999, Vancouver's city council adopted the SEFC policy statement, which established sustainable development principles for the site's development.

2000

**SEFC Official
Development Plan
Approved**

On March 1, 2005, Vancouver's city council approved the Official Development Plan for SEFC. In April 2006, Vancouver's city council selected Millennium Properties Ltd. as the developer of the SEFC Olympic Village site. Construction began in 2007 and is scheduled for completion in October 2009. Vancouver and Whistler host the 2010 Winter Olympic Games from February 12-28, 2010 and the Paralympic Games from March 12-21, 2010. The summer of 2010 marks the permanent occupancy of Millennium Water Olympic Village.

2010

**Vancouver 2010
Olympic and
Paralympic Winter
Games**

2020

MAYORS OF VANCOUVER

Michael Harcourt
1980-1986

Gordon Campbell
1986-1993

Philip Owen
1993-2002

Larry Campbell
2002-2005

Sam Sullivan
2005-2008

Gregor Robertson
2008-present

Natural History and First Nations

Before the arrival of the Europeans, the False Creek area was surrounded by a dense temperate rainforest of fir, hemlock, spruce and salal. Numerous salmon-bearing streams meandered through the trees, draining into the Pacific at False Creek. First Nations peoples, including the Musqueam, Squamish and Tsleil-Waututh, inhabited the area; evidence of early settlements on False Creek dates back 3,000 years. The "creek" itself was five times its present size and its boundaries reached well into areas now filled and urbanized. The east end of the creek was a large tidal mud flat. The creek's shallows supported a rich diversity of sea life: shellfish and crustaceans abounded while the waters off the tidal beach supported sole, perch and sturgeon. The rich ecosystem of the estuary attracted migratory birds, and the coniferous forest was home to bears, cougars, elk and deer.





Industrial History

The name “False Creek” was coined by English sea captain Captain George Richards in 1859, when, expecting to pass through the waterway to Burrard Inlet, he instead came to a dead end. In 1867, Julius Voight, another of the early Europeans to arrive in Vancouver, built a cabin adjacent to the SEFC site. The ensuing influx of European settlers marked the beginning of an industrial period that would last more than a century. The industrial period began with the harvesting of local forest resources, and the area soon developed into a busy centre for manufacturing and processing. Southeast False Creek became an important industrial hub beginning in the late 1800s. The site was used for a variety of activities and was occupied by shipbuilders, sawmills, foundries, metalworks, a salt refinery and a public works yard. Though few signs of its industrial past exist on the site today, its legacy is far-reaching. Much of the city’s early infrastructure, upon which modern-day Vancouver was built, was fabricated on this site.



- 1 Vancouver from the Lee block at the corner of Broadway and Main Street, 1913
- 2 Behind L.A. Hamilton’s campsite on the south side of False Creek, 1886
- 3 Looking east from the shore at the foot of Nicola Street, 1900
- 4 One of the last squatters’ shacks near the Burrard Bridge on False Creek, 1934
- 5 Hull No. 106 under construction at West Coast Shipbuilders Limited, 1942
- 6 West Coast Shipbuilders Limited site under construction, 1941

Vancouver is a young city, incorporated in 1886. Its natural boundaries – ocean, river and mountains – have influenced the evolution of the city's built form. With limited opportunities for peripheral growth, recent development in the City of Vancouver has grown upward instead of outward. Vancouver's downtown core sits on a small peninsula dotted with dense commercial and residential development stretching westward to Stanley Park, one of North America's largest urban parks.

Over the past 30 years, the city's downtown skyline has transformed dramatically, as has its demographic makeup. Recent years have seen a surge in the number of people who call downtown their home. New downtown residents live in a sea of high-rise condominium towers. Modern Vancouver has gained a reputation for dense urban living, so much a part of its identity that the model is often referred to as "Vancouverism."

Vancouver's Central Area Planning department developed the "Living First" strategy in the 1980s, emphasizing housing intensity and diversity; coherent, identifiable neighbourhoods; and regional architectural principles. Living First saw some eight million square feet rezoned from commercial to residential in the downtown core. Railyards and industrial zones along the waterfront were likewise earmarked for housing. This proactive planning agenda, combined with immigration patterns and the economic climate, contributed to a period of dramatic growth. Vancouver's downtown population doubled in the 20 years since the advent of Living First, reaching more than 100,000 residents. As communities such as North False Creek, Coal Harbour and CityGate are completed, more than 120,000 people will live in or adjacent to downtown.

South False Creek

STATS

AREA: 76 ACRES

UNITS PER ACRE: 64

POPULATION: 4,900

HOUSING UNITS: 2,811

PARKS/OPEN SPACE: 26 ACRES

PARK SPACE PER UNIT: 402 SQUARE FEET

South False Creek, east of the Granville Island Public Market, was the first housing development to appear on the shores of False Creek. The province acquired the land from Canadian Pacific Railway in 1928 and sold it to the City of Vancouver in 1968 at a time when industry moved

offsite. Development guidelines for the area were adopted by city council in 1973, requiring a range of housing to provide a social mix that reflected the city's income and social composition. Construction began in 1976 and continued through to 1990. The 76-acre site now contains 2,800 residential units, 1,040 of which are non-market units.

This low- to mid-rise, medium-density residential development was highly successful and is viewed by many to be one of the more desirable places to live in the city. Building heights range



1978



2003

The Changing City – Vancouver in 1978 and 2003: Downtown and False Creek from the Granville Street Bridge

from an average of three to six storeys up to a maximum of 13 storeys. The neighbourhood offers a mix of community services, public spaces, public transportation, marinas, 25 acres of parkland and 275,000 square feet of commercial space. Various housing alternatives co-exist, including housing cooperatives and public and rental housing. The development's approach to amenities and social diversity presented a new model for urban development.

North False Creek: Concord Pacific Lands

STATS

AREA: 166 ACRES
UNITS PER ACRE: 55
POPULATION: 13,000
HOUSING UNITS: 9,180
PARKS/OPEN SPACE: 42 ACRES
PARK SPACE PER UNIT: 200 SQUARE FEET

The north shore of False Creek was cleared of virtually all industry in preparation for the Expo '86 World's Fair. Following Expo, the provincial government sold the lands to the Concord Pacific development group and the area was rezoned to a comprehensive mixed-use

development. Concord Pacific has since built out 166 acres of inner city area on this site. The development, Concord Pacific Place, explored urban design strategies for high-density, high-rise residential living. Planning included a seamless integration of market and non-market housing. The development extended the streets of the downtown grid to meet the waterfront, allowing access to a body of water long cut off from the public realm.

Concord Pacific Place contributed to Vancouver's emerging reputation as

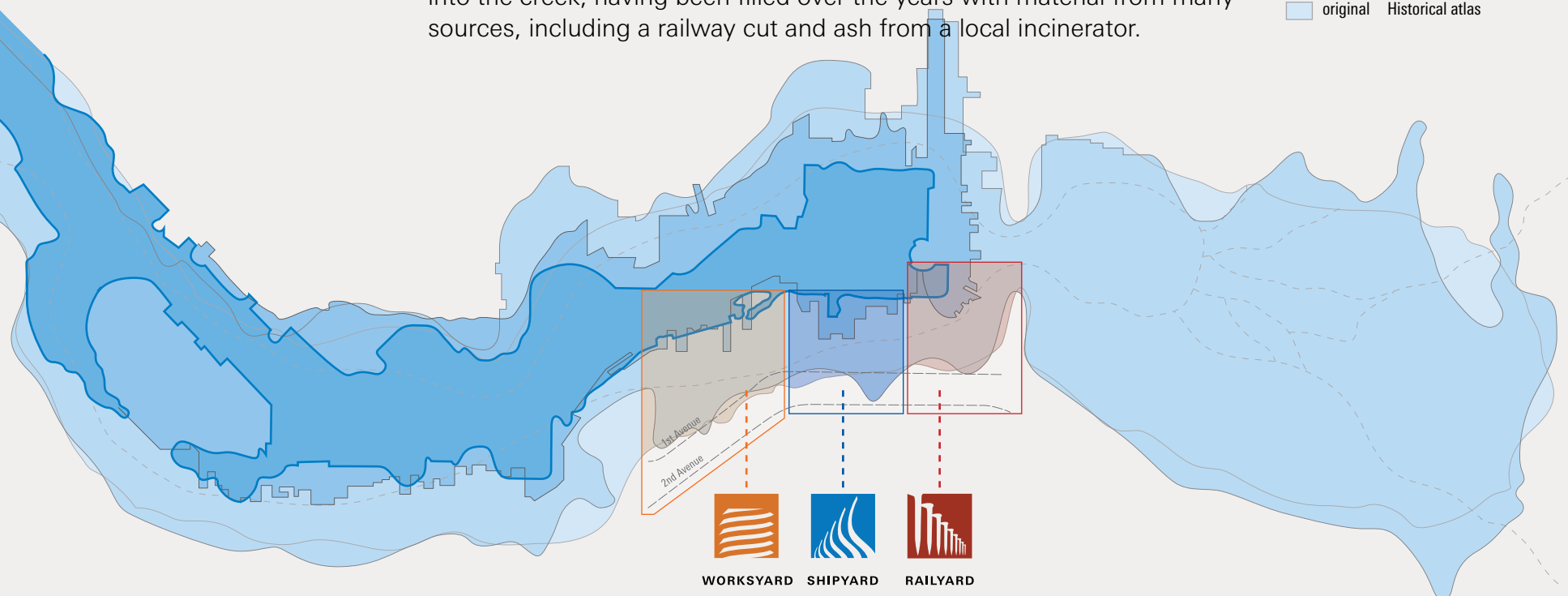
a leader in urban revitalization. The neighbourhood integrates a range of civic amenities as part of the rezoning process. These include 42 acres of public park space, a continuous waterfront walk- and bike-way, 25 per cent family-oriented housing, 20 per cent non-market housing, two elementary schools, four daycare centres and a community centre. The development also added space for more than 20,000 new residents downtown, bringing people's homes and workplaces close together, and breathing new life to the inner city.



Historical Changes to False Creek’s Shoreline

The original shoreline of Southeast False Creek was close to First Avenue. Today’s shoreline extends several hundred meters from First Avenue into the creek, having been filled over the years with material from many sources, including a railway cut and ash from a local incinerator.

- 2008 Google maps
- 1939 City of Vancouver
- 1906 Atlas of Canada
- original Historical atlas



The SEFC site is divided into three distinct districts, derived from the industrial activities that once flourished on its shores: Workyard, Shipyard and Railyard. Letterbox Design Group, a Vancouver-based graphic design firm, developed a brand identity for this new community that simply, yet dramatically, defines the neighbourhood’s character. The symbols are derived from the history of each place and the physical elements associated with it: bolts, screws and threaded pipes; the ribs of a ship’s hull; and railway spikes.

DEFINING NEIGHBOURHOOD CHARACTER

Highlights

SHIPYARD

The Millennium Water Olympic Village lies at the centre of the SEFC site on the site of the historic shipyard. During the First World War the shipyard was Vancouver's largest employer, with a 2,000-strong workforce. Called Coughlan's Shipyard, the site saw the construction of the largest tonnage of steel ships in the British Empire.

In 1935, a steel fabrication plant was built on the shipyard site. This three-acre plant came to be known as the Canron Building and was the site of the production of steel that was used to construct some of the region's major transportation routes, including the First Avenue Viaduct, the Pattullo Bridge and the towers of the Lions Gate Bridge.

With the advent of the Second World War, the shipbuilding industry re-emerged, employing another 2,000 steelworkers in the fabrication of large sections of 10,000 freighters to replace the ships sunk by German U-boats in the North Atlantic.

Following the two wars, the shipyard site remained operational, employing up to 5,000 workers. During this

period, the industry produced steel for iconic structures such as the Alex Fraser Bridge, Canada Place and the largest free-standing building in the world, the Boeing plant in Everett, Washington. Operations ceased at the Canron Building in 1990, and the building was demolished in 1998.

THE SALT BUILDING

The location of the historic Salt Building marks the original shoreline of False Creek. The 16,000 square foot building was erected in 1930 on exposed timber piles along the water's edge. Inside the Salt Building, elaborate roof trusses that support the structure are visible within a large, open space. One of the last industrial buildings at SEFC

that remains intact, the Salt Building has heritage designation.

The building was originally used as a salt refinery, storage facility and distribution centre. Salt arrived by ship from San Francisco, where it had been roughly processed, and would be cleansed, ground and packaged for use in the fishing industry for canning and

refrigeration. Once the salt industry moved out, in the 1980s, the building was adapted for use as a paper recycling plant.

Recently, under city ownership, the foundation and a portion of the structure of the Salt Building were upgraded in preparation for a rehabilitation project. A consortium of companies called The Vancouver

Salt Company is working to give the building new life. The Salt Building will be used as a social gathering place during the 2010 Games and following the Olympics it will continue to be a public amenity, housing a restaurant and brew pub.

"Built form in SEFC, including building height, character, massing and views, should create identifiable neighbourhoods which accommodate a wide range of land uses and a diversity of residents."

SEFC Policy Statement, 1999



Vancouver Salt Company, 1933

How do you find meaning from a brownfield? What is the shared vision for SEFC? How do you build an authentic community? These questions and others charted the course for an incredible learning journey for the enormous team of citizens, community groups and professionals involved in the visioning and decision-making process for the future of SEFC.

Following the removal of SEFC from the industrial land base in 1990, discussion arose about how the 80-acre site should be redeveloped. A variety of ideas were proposed, ranging from a large urban park to a high-tech office district to a residential community. From this diversity of views there arose a consensus that this unique piece of property should become a model of sustainability.

Clouds of Change: A Policy-Making Milestone

A significant policy move toward adopting sustainability as a guiding principle at the city scale was the “Clouds of Change” report, passed by council in 1990. “Clouds of Change” outlined a series of initiatives aimed at improving air quality in Vancouver. The report addressed emissions, transportation and energy and land use issues and recommended that the city commit to a 20 per cent reduction in carbon dioxide emissions from 1988 levels by 2005.

In 1995, city council determined that SEFC should be redeveloped into a residential neighbourhood that would be a model sustainable community. The city commissioned studies that would determine the most economically feasible and socially and environmentally sustainable use of the land. What type of neighbourhood would best express the commitment to sustainability?

Searching for Sustainable Solutions

A number of issues influenced the approach to redevelopment. These included heritage considerations, a desire for parkland, the economics of various densities of housing and social mixes and the cost associated with remediating the contaminated land. The City of Vancouver’s Property Endowment Fund (PEF) had a mandate to accomplish the city’s goal of developing a model of sustainability. The PEF commissioned local development consultant Stanley Kwok to develop and test concepts for the physical plan of the site based on the economics of redeveloping the site. Baker McGarva Hart/VIA Architecture were retained by the PEF as design consultants, tasked with proposing an approach to planning that would integrate the sustainability aspirations of the project.

In 1997, Stanley Kwok submitted a proposal for the site titled “Creekside Landing.” The proposed built form in Creekside Landing echoed to a large extent the development at North False Creek, which is characterized by tall residential towers built on a base of street-level retail amenities and townhouses. Opponents of Creekside Landing favoured a model more akin to the dense low-rise model of South False Creek. They preferred to develop smaller sites with individual character as an explicit contrast to the consolidated towers of North False Creek.

“It takes a village to raise a village.”

Scot Hein, Architect and Senior Urban Designer, City of Vancouver

PLAYERS, POLICY + PROCESS

NEIGHBOURING COMMUNITY GROUPS INCLUDING:
DOWNTOWN EASTSIDE
STRATHCONA
MOUNT PLEASANT
BREWERY CREEK HERITAGE SOCIETY
LANDOWNERS WITHIN THE SEFC STUDY AREA
GROUPS CONSULTED AND INFORMED

Policy Guidelines

In 1998, as the design debate continued to unfold, the city commissioned a report from the Sheltair Group called “Vision, Tools and Targets.” The goal of the report was to generate a set of performance targets and precedents that would influence the next phase of design proposals. This report talked about the concept of complete communities, where people live, work and have access to basic goods and services within a close radius of their homes. A notable outcome of the SEFC visioning process was a growing recognition that high-density housing and mixed-use communities are key ingredients of urban sustainability.

During the period of policy development, an advisory group was formed, representing many interest groups and professional associations. This multidisciplinary group worked with city staff to integrate the findings of “Vision, Tools and Targets” together with recommendations from the 1998 SEFC design charrette into what would become the SEFC Policy Statement. The policy statement would serve as a guide to the sustainable development of the site.

CITYGATE
RANDVIEW WOODLANDS
VANCOUVER PARK BOARD
VANCOUVER RICHMOND HEALTH BOARD
VANCOUVER CITY PLANNING COMMISSION
URBAN DESIGN PANEL
BICYCLE
SCHOOL BOARD
GREATER VANCOUVER REGIONAL DISTRICT
BC HYDRO
URBAN DEVELOPMENT INSTITUTE
BC CONSTRUCTION ROUNDTABLE
PLANNING INST
SE CREEK WORKING GROUP
ENVIRONMENTAL YOUTH ALLIANCE
SCHOOL OF COMMUNITY AND REGIONAL PLANNING
SCHOOL OF LANDSCAPE ARCH
SCHOOL OF ARCHITECTURE
S
NATIVE EDUCATI
RECYCLING COUNCIL OF BC
SPEC & ENVIRONMENTAL

PROFILE

Mark Holland

BLA, MSc, MCIP, LEED AP
HB Lanarc Consultants Inc.

Mark Holland was instrumental in building the sustainability agenda for the City of Vancouver in the late 1990s in his role as the sustainable development planner and project coordinator for SEFC. Mark was integral to researching and writing the SEFC Policy Statement as well as three of the ensuing action plans: The SEFC Energy Strategy, The SEFC Water and Waste Management Plan, and The SEFC Urban Agriculture Strategy. Mark co-founded Holland Barrs Planning in 2001 and is currently a Principal at HB Lanarc, a planning and design firm in Vancouver.

CHALLENGE For policy-makers and authorities at all levels of government to implement planning policies and green building strategies in support of sustainable community development.

Raising the Bar: From Plan...

Years of studies, consultation and community involvement culminated in the production of a milestone document: The SEFC Policy Statement. Normally, policy statements are created to provide general planning principles to guide a site's development. The policy statement for SEFC, however, pushed the boundaries by describing a vision for the development of a sustainable community.

The policy statement included 14 principles of sustainable development to guide the creation of a sustainable community. These principles would carry on throughout the course of development, helping to inform decision-making throughout the design process.

...to Action!

Following the adoption of the policy statement by city council in 1999, it came time to turn the plans into achievable actions. The city engaged a suite of consultants to develop action plans describing how to achieve sustainability targets.

Principles of Sustainable Development for SEFC

1) IMPLEMENTING SUSTAINABILITY

Promote the implementation of sustainable development principles in an urban setting.

2) STEWARDSHIP OF ECOSYSTEM HEALTH

Ensure that the development improves the ecological health of the False Creek basin.

3) ECONOMIC VIABILITY AND VITALITY

Aim to achieve economic viability with opportunities for employment and investment to ensure long-term prosperity.

4) PRIORITIES

Set social and environmental performance targets that can be met in an economically viable fashion.

5) CULTURAL VITALITY

Encourage vitality, diversity and cultural richness, respecting the history and context of the site.

6) LIVABILITY

Enhance the social and natural environment by creating a walkable, safe and green neighbourhood.

7) HOUSING DIVERSITY AND EQUITY

Create housing opportunities for a range of income groups and social and physical infrastructure for people of all ages.

8) EDUCATION

Encourage awareness of the principles of sustainability and how these are implemented on the site.

9) PARTICIPATION

Encourage public involvement in decision-making processes.

10) ACCOUNTABILITY

Promote accountability by monitoring impacts using post-occupancy studies and community consultation.

11) ADAPTABILITY

Ensure that the community can adapt to new social and economic conditions, policies, programs, legislation and technology.

12) INTEGRATION

Promote integration with the city through planning, design, community involvement and public amenities.

13) SPIRIT OF THE PLACE

Promote planning and development guidelines that celebrate the unique natural, social and historical context of SEFC.

14) COMPLETE COMMUNITY

Develop a complete community where residents live, work, play and learn within a convenient walking, cycling or transit-riding distance.

Innovation: Spin-Off Achievements

- The city chose to adopt a green building rating system to ensure a high level of environmental design at SEFC. The LEED standard was adapted for use in Canada so that it could be applied to the SEFC project. The Canadian version of LEED led to the development of the LEED Canada certification system and ultimately the formation of the Canada Green Building Council.
- The development of a Green Building Strategy to guide the development of SEFC led to the creation of a city-wide green building strategy and ultimately to the creation of the City of Vancouver's Office of Sustainability.

“The praise needs to go to the councils of the day who stepped up to do the ‘Clouds of Change’ report and then supported SEFC through its steps ... It was a combination of strong leadership, commitment, clear vision, excellent technical knowledge and community buy-in.” Mark Holland, Principal, HB Lanarc and former Planner, City of Vancouver



This drawing is taken from a plan submitted to council by development consultant Stanley Kwok at the behest of the City of Vancouver Real Estate Department. Kwok's submission featured residential towers of 20 or more storeys, mimicking

in many ways the pattern of development on the north side of False Creek. The logic behind this high-density plan was that the proposed model would be the only way to generate enough capital to pay for the cleanup of this polluted site.

PROFILE

Graham McGarva

MAIBC, AAA, AIA, LEED AP
VIA Architecture

As Principal of BMH/VIA, Graham McGarva has worked on the development of SEFC from 1996 to the present. Starting as Stanley Kwok's urban design consultant for the initial concept and policy stages, Graham and his team continued as prime consultant from the Athletes' Village Olympic bid process through to the approval of the SEFC Official Development Plan in 2005. Since then, VIA has rezoned the triangular Hinge Park site at First Avenue and Columbia Street for the post-Olympics phase of Millennium Water, continuing Graham's full SEFC cycle from planning inception to architectural execution.

An early development plan application for SEFC submitted by VIA Architecture, PWL Partnership and Hay & Company contained a suite of poems as part of its urban design principles. The following excerpt paints a picture of the ever-changing landscape at SEFC:

Tidal flats and inlet,
Life dug from the ooze,
Ship slips, loading docks & rail tracks.
Salt, Best, Cannon.
Remembering and reusing stuff,
Keeping on trucking,
Working life amid the revelation of water.
Peeling back the industrial wall,
Renewing access denied for a century,
Building future on firm ground.

— Graham McGarva



This rendering, a watercolour painted by architect Bob Worden, was created following the 1998 SEFC design charrette. It shows a view along First Avenue, demonstrating its development as a mixed-

use high street. The image captures the renovated Salt Building and features light rail transit with residential towers in the background.



Stemming from the visioning statements in the urban design guidelines for SEFC, this drawing emphasizes a range of different housing types and building forms. Borrowing from Vancouver's successes in South False Creek, the West End and downtown, Baker McGarva Hart/VIA Architecture's proposed peaks and valleys support the diversity of lifestyles

and life cycles within a community. The drawing stems from the idea that one key to a successful urban community is the experience of the "sweep of the sun," which requires a full repertoire of open spaces, building shapes and solar access – both direct and reflecting off walls and windows.



- 1 First Avenue 'High' Street
- 2 Naturalized Shoreline
- 3 Salt Building Reuse

This illustration, submitted to the City of Vancouver by Baker McGarva Hart/VIA Architecture, depicts the character of the pedestrian mews. The fundamentals of patterning the street network as envisioned by the designers were “Pizza, Grandma

and Garbage.” These keywords capture the essence of the diverse activities that contribute to the vibrancy of a pedestrian street: chance social encounters, ball games, storm water management and pizza delivery.

FEATURE PROFILE

City of Vancouver SEFC Project Office

The City of Vancouver created the SEFC Project Office to oversee the development of the SEFC city-owned lands, representing the city as a property owner, developer and development partner. The SEFC Project Office plays a unique role, acting as a liaison internally – between the city’s planning, development, engineering and sustainability departments and the Vancouver Park Board – and externally, between the various developers, architects and consultants who would develop the land over the course of several years.

Established in May 2005 at an on-site location, the SEFC Project Office initially focused on the development of Area 2A, the site of the Olympic Village. Its first major tasks included the consolidation and subdivision of the city-owned lands, procurement of environmental approvals for the foreshore and uplands development, selection of a developer for the building sites, and direct coordination of designers and contractors for the public spaces. The SEFC Project Office has also acted as the city liaison with Vancouver’s 2010 Olympic Organizing Committee (VANOC) for all matters related to the Vancouver Olympic Village. Learn more about the role of the Project Office in Chapter Two: Planning + Olympics.

Acknowledgements

Fiona Crofton, Scot Hein, Mark Holland, Norm Hotson, Lance Jakubec, Hal Kalman, Barb Lindsay, Stu Lyon, Graham McGarva, Robin Petri, Ian Smith

Contributors

THE CHALLENGE SERIES TEAM

Roger Bayley
Principal, Roger Bayley Inc.

Sarah Cheevers
Writer and Project Manager

Gilian Dusting
Editorial Consultant

Sarah Hay
Communications Coordinator

Amanda McCuaig
Writer

Mizu Creative
Graphic Design

Gordon Price
Writer

Rachel Moscovich
Writer and Project Manager



roger bayley inc

© 2009
Printed in Canada on 100% post-consumer paper
[FSC logo]



PLATINUM



Millennium Southeast False Creek Properties Ltd.

Millennium Group is an award-winning Vancouver-based team of professionals and the developers of Millennium Water Olympic Village. They are renowned for their disciplined commitment to high quality architecture and luxurious design. At 1.4 million square feet, Millennium Water is the largest single-phase development in Canada. It is designed to be Canada's largest LEED Gold neighbourhood and a leading model of how to build a sustainable residential community.



Metro-Can Construction (OV) Ltd.

Metro-Can Construction is among the top 50 general contractors in Canada and the top five in British Columbia. Focusing on turning visions into buildings and delivering value to their clients, Metro-Can has completed over 280 institutional, commercial and multi-family residential projects. Since placing the first foundations on the Millennium Water project in June 2007, Metro-Can has proceeded to construct 10 LEED Gold buildings incorporating 540 condominiums, 250 social housing units, 60,000 square feet of retail space and a LEED Platinum community and boating centre.



ITC Construction Group

ITC Construction Group has proven capabilities in multi-unit residential, commercial and social housing construction projects. Established in 1983, they have successfully completed over 100 projects for private developers and public initiatives in BC and Alberta. ITC is proud to be the General Contractor of the eight luxury waterfront towers at Millennium Water. These LEED Gold certified structures consist of 315 condominiums and will be complemented by 13,619 square feet of commercial/retail space at the ground level. Quality Counts.



Rennie Marketing Systems

Rennie Marketing Systems (RMS) proudly leads the sales and marketing campaign for the residential component of Millennium Water. Led by Bob Rennie, RMS works closely as 'Millennium's representative' to bring to market the most innovative sustainable community in North America. Maintaining the project's identity of environmental awareness, RMS utilizes eco-friendly elements throughout the marketing campaign. RMS marketing objectives extend beyond sales achievements and include increasing global awareness of a new standard of development.



Durante Kreuk Landscape Architects

Durante Kreuk is an award-winning landscape architectural firm with over thirty years' experience in the private and public realms of design and development. A broad perspective and diverse thinking are the key to creating a wide range of sustainable, people-focused urban places. At Millennium Water, the unique challenge of creating a sustainable neighbourhood through an integrated design process was both complex and rewarding. The result speaks for itself.

GOLD



VANOC



Merrick Architecture



Gomberoff Bell Lyon Architects Group



Cobalt Engineering Co. Ltd



Nemetz (S/A) & Associates Ltd.



Keystone Environmental Ltd.



PacBlue Printing



SunProject Toro Inc.



VIA Architecture

SILVER

Nick Milkovich Architects Inc.

Walter Francl Architecture Inc.

Robert Ciccozzi Architecture Inc.

Glotman-Simpson Group of Companies

GeoPacific Consultants Ltd.

KD Engineering

Letterbox Design Group

Morrison Hershfield

PWL Partnership Landscape Architects Inc.

Quoin Project and Cost Management Ltd.

Recollective Consulting

Vector Engineering Services Limited

FVB Energy Inc.

Femo Construction Ltd.

Horizon Landscape Contractors Inc.

Jeda Mechanical Ltd.

Pitt Meadows Mechanical

Power Drywall Ltd.

Sentrax Mechanical Contracting Ltd.

William Kelly & Sons Plumbing Contractors Ltd.

BRONZE

Aqua-Tex Scientific Consulting Ltd.

Blue Mountain Technologies, Inc.

Commonwealth Historic Resource Management Ltd.

IBI Group

Levelton Consultants Ltd.

Fraser Milner Casgrain LLP

Pioneer Consultants Ltd.

Conrada Enterprises Ltd.

Energy Aware Technology Inc.

Sandwell Engineering Inc.

FAMA Industries Corp.

Inform Projects Partnership

PricewaterhouseCoopers LLP

Trane



Olympic International Inc.

Olympic International creates comfortable, healthy and energy-conscious indoor environments. As a manufacturers' representative, they are committed to bringing the world's most innovative and sustainable technology to local markets. The Millennium Water project utilizes radiant heating and cooling technology, which will substantially reduce energy consumption and system noise, increase available ceiling height and improve overall thermal comfort and indoor air quality.

PARTNERS

Canada Mortgage and Housing Corporation

Environment Canada



Enerpro Systems Corp.

Enerpro Systems Corp. are market leaders in intelligent energy management for new construction and infrastructure upgrades to existing buildings. Since 1996, BC's only customizable energy management programs have been providing no-cost, full-service solutions that maximize efficiencies in energy and water use, reduce consumption and provide numerous economic benefits. This groundbreaking innovation has spurred a series of firsts in energy management, such as the ability to view a real-time display of all energy and water consumption within 1,100 housing units at Millennium Water.



Keith Panel Systems

Keith Panel Systems (KPS) is North America's leader in the design, manufacture and installation of rainscreen wall systems. They are proud to be part of constructing Millennium Water. The wall systems installed by KPS will preserve the performance integrity of the exteriors, reduce the heating and cooling loads, provide an extended service life and are virtually maintenance free. Alucobond®, Swisspearl® and specialty glass are the quality exterior finish products featured on proprietary systems by KPS.



Wilco Landscape Westcoast Inc.

Wilco has become expert in the construction and delivery of built landscapes. Offering project management and landscape construction services for civil, parks and development projects, Wilco is a leader in successfully delivering complex projects to its clients. Wilco thrives on diversity and challenges and seeks out projects that require the depth of experience and knowledge that they have accumulated through the vast array of projects the company has built throughout BC and Western Canada.

Next Chapter: Planning + Olympics

Chapter Two looks at the creation of the Official Development Plan for SEFC. When Vancouver wins the bid to host the Olympics, a number of conditions are imposed upon the Olympic Village site, and a timeline is set to complete construction of eight city blocks of development. This chapter is about shifting into high gear as Millennium and its design team are chosen to develop the site.

Subscribe

Be part of this historic resource. Subscribe to The Challenge Series e-bulletin to follow the story of Millennium Water: The Southeast False Creek Olympic Village.

www.thechallengeseries.ca/subscribe



Image Credits

front cover: City of Vancouver Archives, CVA Map 547; inside front cover and page 01: Danny Singer, 2009; page 04: City of Vancouver SEFC Project Office; pages 08-09: City of Vancouver SEFC Project Office; pages 10-11: #1 – City of Vancouver Archives, Pan N161C, photographer W.J. Moore; #2 – City of Vancouver, Dist P35, photographer L.A. Hamilton; #3 – City of Vancouver Archives, P53, artist Will Ferris; #4 – City of Vancouver Archives, WAT P128; #5 – City of Vancouver Archives, M-7-50, photographer W.J. Moore; #6 – City of Vancouver Archives, M-7-9, photographer W.J. Moore; pages 12-13: top and bottom – City of Vancouver Community Services; background – City of Vancouver Archives, M-7-9, photographer W.J. Moore; page 15: City of Vancouver Archives, CVA 99-4317, photographer Stuart Thomson; page 17: Fiona Crofton, 1998; page 19: both images – Stanley Kwok, 1997; page 20: left – Bob Worden, 1998; right – Taylor, Baker, McGarva, Hart/VIA Architecture, 1998; page 21: all images – Taylor, Baker, McGarva, Hart/VIA Architecture, 1998; back cover: Danny Singer, 2009

Information Sources

page 06: City of Vancouver Sustainability Office, www.vancouver.ca/sustainability/climate_protection.htm; page 07: Dr. Fiona Crofton, www.4sustainability.com/pdfs/WSEFC2.htm; page 08: City of Vancouver Community Services, www.vancouver.ca/commsvcs/planning/history.htm, www.vancouver.ca/olympicvillage/timeline.htm



FRONT COVER This early (and somewhat idealized) map portrays Vancouver as a busy industrial hub, and shows the size of False Creek at the time. Bridges left to right are: Westminster Avenue Bridge (now Main Street), Cambie Street Bridge, Granville Street Bridge, and Kitsilano Trestle.

BACK COVER Southeast False Creek seawall, tufts and granite.



THE CHALLENGE
SERIES