

Eco-Street Working Group



Foundation Document September 2012

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Acknowledgements

We would like to acknowledge the contributions and support of those who have participated in the Eco-Street working group meetings and preparation of this document:

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Executive Summary

The School of Construction and the Environment seeks to apply leading edge technology to the challenge of achieving a **four to ten-fold reduction in energy and materials** consumption of a portion of the BCIT Burnaby Campus known as the “Factor IV Area.”



This area has been selected for a number of reasons: the buildings are all part of the School of Construction and the Environment, they are intense energy and material users, and they represent the entire range of buildings, from industrial, to commercial, to residential. In addition, by working in a concentrated area changes have a greater impact.

The goal of the Factor IV initiative is to promote sustainability, and advance the state of practice at BCIT. The Factor IV initiative has four components, one of which was called **Street Repair, renamed Eco-Streets**. The goal of the Eco-Streets project is to find **quick win** projects with **high visibility**. The intent is to **psychologically prepare people for changes that support the objectives of a Factor Four and/or Factor Ten reduction in energy and materials consumption levels**. These projects will improve the look and feel of this area of campus by making small changes to highly visible (outdoor) elements within the area, while increasing sustainable practices.

Two main corridors (or streets) are located in the Factor IV area. The Eco-Street Project focuses on these two main corridors: **Guichon Alley** and **Smith Street**.

The **themes** of the Eco-Streets Project are:

- Celebrating Guichon creek (Guichon alley);
- Celebrating the industrial vibe (think of Granville Island).

The working group is comprised of faculty and staff from within the School of Construction, as well as representatives from Facilities and Food Services. The Eco-Street group has embraced the SOCE Sustainability Framework, and made those goals a part of our guiding principles. In addition we have highlighted a few other key concepts that will guide the work of the Eco-Street Group.

The projects of the group will be in accordance with at least one of the following **principles** (and not in opposition to any of the principles):

- a) Creates learning opportunities for students
- b) Enhance the look and feel of the Factor IV area, and prepare people psychologically for change.
- c) Celebrate our history, heritage and trades
- d) Support opportunities for improvement and enjoyment
- e) Design for deconstruction
- f) Achievable within a short timeline and tight budget (i.e.: creates quick wins)
- g) Protect and strengthen assets
- h) Balance use and renewal of resources
- i) Account for all costs and benefits
- j) Reduce waste and eliminate toxics
- k) Ensure safety and access to services

The projects that will be looked at will all fall it the followings **categories**:

- Rethink Fencing Options
- Pedestrianization of Smith Street
- Cleanliness of Smith Street
- Architectural Ecology and Vertical Landscaping
- Façade improvements
- Student space

Key stakeholders, including Program Heads and Chief Instructors, Director of Campus Planning, Director of Sustainable Development, and Dean of the School of Construction and the Environment are involved. Their approval of the projects is a necessary component in our plans.

There are two components to the next phase of this project, the creation of an overall design scheme, and implementation of initial quick-win projects. For the quick-win projects we will be choosing activities that are by definition harmonious, and don't need a lot of planning. These projects will leverage the available resources and interest of faculty and students.

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Eco-Street Working Group

1 Factor IV

The Factor IV project looks at the challenge of living within earth’s carrying capacity, while still providing necessary goods, services, and training. The majority of global population lives in urban areas, and the built environment accounts for 30% of global energy and 40% of global materials consumption. Canada is one of the most urbanized cultures in the world, with 80% of its population living in cities. Although blessed with an abundance of natural resources, Canadians also use more energy and materials per capita than almost any other nation. Nevertheless, British Columbia is a leader in green building technologies, and BCIT’s School of Construction and the Environment (SOCE) is integral to this success. SOCE is a leader in sustainability education that is concerned with the natural environment, the built environment and the relationship between them.

1.1 The Challenge

In the interest of achieving ecological sustainability, meaning use of ecological goods and services within nature’s carrying capacity, the scientific community is calling for a four to ten-fold reduction in global levels of energy and materials consumption. Growing concerns about energy security coupled with evidence of anthropocentrically induced climate change, habitat degradation and species loss, global fisheries decline, desertification and water shortages point towards the relevance of the scientific community’s challenge despite perceptions that such targets are “unrealistic.”

1.2 Strategic Vision

The Factor IV area is located in the Northeast sector of the Burnaby campus, comprising buildings NE1-NE8. Applied research in reducing the ecological footprint of campus operations, while maintaining existing service levels, will serve as a key theme to align the concept of BCIT campuses as living laboratories of sustainability with SOCE’s research activities located within the Factor IV area.

The School of Construction and the Environment seeks to apply leading edge technology to the challenge of achieving a **four to ten-fold reduction in energy and materials consumption of a portion of the BCIT Burnaby Campus known as the “Factor IV Area.”**

This area has been selected for a number of reasons: the buildings are all part of the School of Construction and the Environment, they are intense energy and material users, and they represent the entire range of buildings, from industrial, to commercial, to residential. In addition, by working in a concentrated area changes have a greater impact.



Figure 1: Factor IV Area

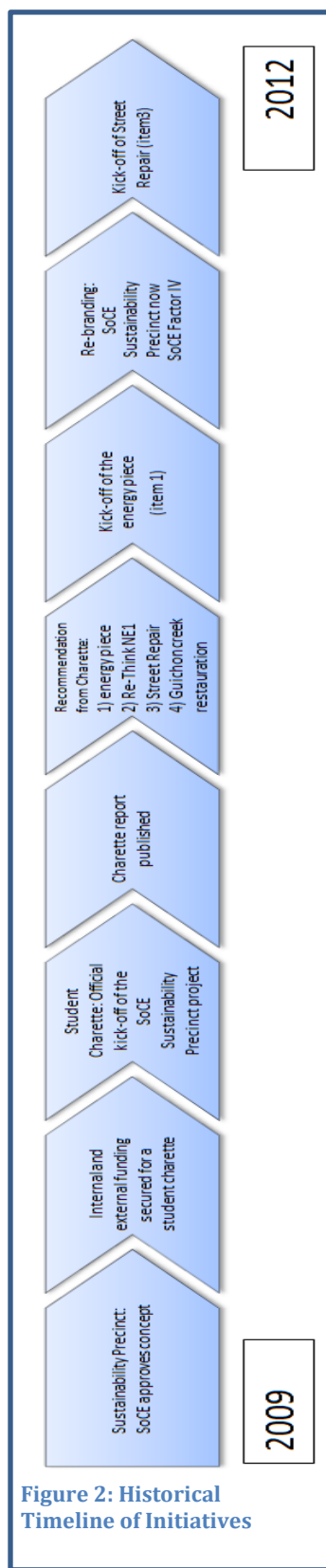


Figure 2: Historical Timeline of Initiatives

1.3 Research Opportunities and Initiatives:

Participation in research and learning activities in the following areas are proposed: building practices that approach net zero performance, technologies applicable to the Living Building Standard that is being developed by the Cascadia Green Building Chapter, integrated design solutions to showcase the potential for wood in construction, and performance-based development protocols that achieve “One Planet Living,” a concept affiliated with EcoDensity, Ecocity, Ecological Footprint Assessment practices, and biomass emissions.

1.4 Outcomes

The Factor IV initiative consists of four main categories of activity:

- Energy and Materials in NE2 – NE8
- Re-Think NE1
- Street Repair (the Eco-Street Project)
- Guichon creek restoration

A focus of attention on these initiatives within the “Factor IV Area” of the Burnaby Campus is recommended as a means to facilitate collaboration among SOCE research centres and between centres and programs, and between the School and the Administrative functions of the Institute. Such a focal point of activity may also help draw attention to the School’s leadership capabilities in advancing the state of practice toward sustainability by industry, media and prospective students. A longer-term goal is to utilize the Factor IV area as a catalyst for achieving similar levels of performance across all BCIT campuses.

2 Eco-Street

The goal of the Factor IV project is to promote sustainability, and advance the state of practice at BCIT. **The goal of the Eco-Street project is to find “quick win projects with high visibility”**¹. Eco-Street will engage student and get them involved on the changes taking place on the campus.

“The intent is to psychologically prepare people for changes that support the objectives of ... a Factor Four and/or Factor Ten reduction in energy and materials consumption levels without compromising services.”² These projects will improve the look and feel of this area of campus, while increasing sustainable practices. Eco-Street will also highlight the ongoing projects that make the Factor IV area groundbreaking.

BCIT is known for providing students with real-life training, and the Eco-

¹ Jennie Moore, *BCIT Sustainability Charrette: Details about Implementation of Recommendations*. April 20, 2010: 9

² Jennie Moore, *BCIT Sustainability Charrette*, 9

Street project can offer opportunities for student involvement. In addition to engaging the students in the discussion about sustainability, these projects will encourage student pride by adding to the look and feel of campus. The following suggestions are taken from the Charrette, and provide ideas about the ways students could benefit and be involved in these projects:

“Students from Interior Design, Fish Wildlife and Recreation and/or Ecological Restoration and Environmental Engineering could collaborate to map and then draw the flow of Guichon Creek across the northeast portion of campus where it is currently underground and in a culvert. Students from Ecological Restoration and Environmental Engineering could also work with the Rivers Institute at BCIT to prepare a long-range plan for the day-lighting and rehabilitation of Guichon Creek.

Students from Interior Design, Fish Wildlife and Recreation and/or Ecological Restoration and Environmental Engineering could collaborate to map and then draw pedestrian and bicycle right-of-ways on campus and/or identify areas for ecological restoration and public meeting/seating places interspersed with a greening campus strategy sponsored by Campus Planning.

Students from Interior Design, Steel Fabrication and/or Joinery could work collaborate to design and build bicycle shelters and street furniture such as benches and tables to populate appropriate meeting/seating places and or bridges and viewing areas associated with a day-lit Guichon Creek.”³

These are only a few examples that were discussed during the Charrette, and many of the Talking Wall Panels created by the Architectural Science students during the Charrette are referenced in this document. For a more complete list of ideas and projects please refer to our section on **Projects**.

2.1 Guiding Principles of the Eco-Street Group:

The Eco-Street group has embraced the SOCE Sustainability Framework, and made those goals a part of our guiding principles. In addition we have highlighted a few other key concepts that will guide the work of the Eco-Street Group.

Guiding Principles

- a) *Creates learning opportunities for students*
- b) *Enhance the look and feel of the Factor IV area, and prepare people psychologically for change.*
- c) *Celebrate our history, heritage and trades*
- d) *Support opportunities for improvement and enjoyment*
- e) *Design for deconstruction*
- f) *Achievable within a short timeline and tight budget (i.e.: creates quick wins)*
- g) *Protect and strengthen assets*
- h) *Balance use and renewal of resources*
- i) *Account for all costs and benefits*
- j) *Reduce waste and eliminate toxics*
- k) *Ensure safety and access to services*

Design for Deconstruction
Designing for Deconstruction supports the goal of creating zero waste. This ensures that projects can be disassembled and materials re-used.

³ Jennie Moore, BCIT Sustainability Charrette, 20, 2010, 9

All action items will be tested against these principles. Actions must be in accordance with at least one principle and must not be in opposition to these principles. These principles will be discussed at greater length for each project in our section on **Projects**.

We are looking to create the hands on experiences for students that BCIT is known for, and enhance the Factor IV area of campus. By designing for deconstruction and meeting student learning outcomes our projects will have value regardless of their lifespan. Even if the BCIT Campus Development Plan eventually dictates a different use for the area, these projects will benefit the students who work on them, the students who enjoy them and the environment during their lifetime. By designing for deconstruction we ensure that the project is judicious even if it has a short lifespan.

**In all projects we will be conscious of risk management and liability issues and proceed with those considerations in mind.*

3 The Process

Street Repair was identified as one of the main four categories of activity in the original sustainability Charrette in October of 2009, as discussed in the previous section. In 2012 Richard Register returned to the campus and presented a Lunch and Learn on the Ecocity Concept to faculty and staff. A presentation was given on the progress of the first activity undertaken by the Factor IV project, the energy and materials piece. In the workshop following the Lunch and Lean staff expressed a desire to pursue the Street Repair activity

and form a working group as the next piece in the Factor IV project.

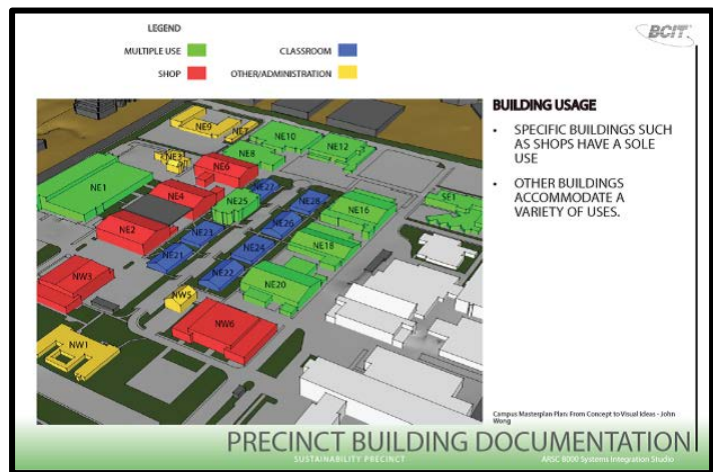


Figure 3: Architectural Science Class 2009, Building Usage, Talking Wall Panel

The staff that attended the workshop met five times to discuss the way they would like to forward the Street Repair project. This included brainstorming sessions, a poll on which ideas interested the group, touring the Olympic Village with a Vancouver City Senior planner, and touring Granville Island. This document encapsulates the outcome of those discussions, and incorporates a review of past documents that relate to our goals. The working group also changed the name to Eco-Streets feeling that better reflected the goals of the group.

As part of this process we have collaborated with the Centre for Architectural Ecology, and hope to continue our work in collaboration with other Centres at BCIT when our projects correspond with their expertise or priorities.

Campus Development will also be an essential stakeholder in this process. We have met with the Director of Campus Development to get early feedback on the Eco-Street Project, and will continue to work closely with Campus Development as potential projects emerge.

Key stakeholders, including Program Heads and Chief Instructors, Director of Campus Planning, Director of Sustainable Development, Director of Facilities Management, Food Services, and Dean of the School of Construction and the Environment will continue to be involved as this group evolves, and their approval of the projects is a necessary component in our plans. We will be involving these stakeholders as our project plan is created.

3.1 Sources Reviewed in the Creation of this Document

This document draws from the following sources of information:

- The Sustainability Precinct: Design Charrette and Report in Consultation with Ecocity Builders and Support from BC Hydro
- BCIT Sustainability Charrette: Details about Implementation of Recommendations
- Guichon Creek—Sustainability Charrette Final Report
- Campus Master Plan: From Concept to Visual Ideas
- BCIT Campus Master Plan: A Living Laboratory for Sustainability
- Student work from the Charrette
- Greening Campuses Strategic Plan (Draft)
- BCIT 2009-2014 Strategic Plan
- Implementation Plan 2009 – 2012
- “Sustainability Framework” BCIT Website

This documents draws from work done at the Charrette. In the original Charrette document it is noted that “a typical result is the discovery of what needed data is still missing. This exercise was no exception. In general, the process revealed that due to somewhat antiquated systems and utility networks, it was impossible to determine exact measurements, for example, for energy and water use per building. Additional uncertainties were revealed when it came to measuring other resource throughputs.”⁴ While these sources provide an excellent starting point for the discussion further investigation may be needed.

3.2 Next Steps:

There are two components to the next phase of this project, the creation of an overall design scheme, and implementation of initial quick-win projects. For the quick-win projects we will be choosing activities that are by definition harmonious, and don’t need a lot of planning. These projects will leverage the available resources and interest of faculty and students.

4 Institutional and School Mandates

4.1 BCIT at Institute Level

⁴ Ecocity Builders, *The Sustainability Precinct: Establishing the Science of Ecocity Building at the British Columbia Institute of Technology – Burnaby Campus* (Oakland, CA: Ecocity Builders, 2012), 7

The 2009-2014 Strategic Plan, section 23 is Environmental Sustainability which states BCIT will “operate by integrating sound environmental practices into our business decisions; and by establishing quantifiable goals and accountabilities for environmental performance in accordance with the *BC Climate Action* plan.”⁵

In addition to the goal of Sustainability this project is in keeping with the Strategic Plan in other ways. The Strategic Plan states that BCIT will seek to engage in grassroot sustainable activities⁶, the Eco-Street group is strongly grassroot based. The Mandate states that BCIT will promote awareness and behavior change that supports the principles of sustainability,⁷ again a strong goal in this project. Finally the Mandate highlights the importance of BCIT as a teaching environment, stating “BCIT offers experiential and contextual teaching and learning with the interdisciplinary experiences that model the evolving work environment. BCIT conducts applied research to enhance the learner experience and advance the state-of-practice.”⁸

4.2 School of Construction and the Environment

The School of Construction and the Environment (SOCE) has made the Factor IV project a major initiative of their Strategic Plan.

The SOCE has embraced the principles of sustainability, and created a Sustainable Framework. “The School of Construction and the Environment has adopted a Sustainability Framework to inform all educational programs, research and operational activities.”⁹ The Eco-Street group has drawn on this framework in the creation of its guiding principles. These themes are:

- *Protect and strengthen assets*
- *Balance use and renewal of resources*
- *Account for all costs and benefits*
- *Reduce waste and eliminate toxics*
- *Ensure safety and access to services*
- *Support opportunities for improvement and enjoyment*¹⁰

In 2007 the SOCE signed a memorandum of understanding (MOU) with the Department of Administrative Services. This MOU focused on BCIT campuses as Living Laboratories of Sustainability. Ten action areas were identified including:

- *Involving faculty and students in creating examples of new technologies, methods, and approaches and demonstrating and documenting those as part of the educational and research interests of the Institute.*
- *Making provisions to involve faculty and students in the day-to-day operations of facilities and related construction projects.*
- *Providing input to master planning of the Burnaby campus and to specific development activities related to the plan’s implementation.*
- *Promoting BCIT’s activities in environmental stewardship and sustainability practices within the Institute and to external audiences.*

⁵ BCIT, *BCIT 2009-2014 Strategic Plan*, <http://www.bcit.ca/files/about/pdf/stratplan.pdf>, 22

⁶ BCIT, *BCIT Implementation Plan 2009 – 2014*, March 31, 2012: 62 (*internal document*)

⁷ BCIT, *BCIT Implementation Plan 2009 – 2014*, 62

⁸ BCIT, *BCIT 2009-2014 Strategic Plan*, 12

⁹ School of Construction and the Environment, “Sustainability Framework”, BCIT Website, accessed September 12, 2012, <http://www.bcit.ca/construction/sustainability/>

¹⁰ School of Construction and the Environment, “Sustainability Framework”, BCIT Website

- *Assisting to advance each other's interests in delivery of respective mandates.*
- *Developing a "green" plan for the campuses belonging to the Institute and those managed in partnership with other institutions.*
- *Disseminating information throughout BCIT campuses to inform, educate, promote and encourage best practices in sustainability and environmental stewardship by staff, faculty and students.*
- *Assessing the ecological footprint of the Institute and developing the means and methods to minimize and/or repair that impact while achieving economies and adding value to the Institute and industry clients.*¹¹

4.3 Student Support

Student involvement was instrumental to the Charrette, and the ideas they generated over the course of the project give us insight into the needs and wants of students at BCIT. During the Charrette students identified a lack of green space and areas for students to gather, and a built environment that discouraged an engaging student culture.¹²

The Eco-Street group will consider many of the recommendations from the "BCIT Sustainability Charrette: Details about Implementation of Recommendations" report, including:

- Design competitions and collaboration between departments.¹³
- Adding street furniture and creating bicycle lanes to "create a new sense of place."¹⁴
- Increasing the number of water fountains.¹⁵
- The restoration of Guichon Creek is important from both an ecological and design perspective.¹⁶
- An increase in green space. "More greenery, more parks and better placed green spaces will not only help BCIT become a healthier environment overall but will make the campus environment more livable."¹⁷
- Offer student spaces that take advantage of the view from the roofs.¹⁸

5 Long-Term Planning for Factor IV Area

In the previous campus plan two buildings in the Factor IV area are slated for demolition, NE3 & NE6, while NE1 is listed as requiring Adaptive Renewal. The other buildings are listed as needing major renovations. While this plan is no longer current, it is important that we acknowledge that these areas may undergo large-scale changes.

¹¹ Jennie Moore and John Wong, "BCIT Campus Master Plan: A Living Laboratory for Sustainability" in *Campus Design and Planning: Culture, Context and the Pursuit of Sustainability*, ed. Brian Sinclair (Ottawa, Canada: Green Building Council, 2008), 5-6 http://www.bcit.ca/files/sustainability/pdf/bcit_campus_living_lab_for_sustainability.pdf

¹² Architectural Science Class 2009, *Public Space at BCIT*, Talking Wall Panel in Education and Social Issues: 23

¹³ Jennie Moore, *BCIT Sustainability Charrette*, 7

¹⁴ Ecocity Builders, *The Sustainability Precinct*, 13

¹⁵ Jennie Moore, *BCIT Sustainability Charrette*, 16

¹⁶ Ecocity Builders, *The Sustainability Precinct*, 18

¹⁷ Ecocity Builders, *The Sustainability Precinct*, 18

¹⁸ Ecocity Builders, *The Sustainability Precinct*, 18



Figure 4: Campus Master Plan: From Concept to Visual Ideas

The potential changes aren't a reason we shouldn't go forward with the Eco-Street project, they are an argument for it. The goal is to create excitement and engage students in the change process. In addition, if learning outcomes are met and students receive a valuable experience then the projects will not need a long life span to have value (i.e., the principle of designing for deconstruction).

It is important that the Factor IV area look like it is a show case for sustainable practices. We want to be able to tour interested groups through the project, and garner positive press coverage and attention for BCIT as a center of sustainability. These goals will be furthered by having the Factor IV area look like a proper showcase for sustainable ideas. Each of these projects can work to improve the sustainability of the area, but they will also increase the appeal and recognition of the Factor IV area activities. As planning waits on the long-term changes we miss valuable opportunities to promote BCIT, and create positive student learning experiences.

6 Projects

6.1 Guichon Alley

6.1.1 Background

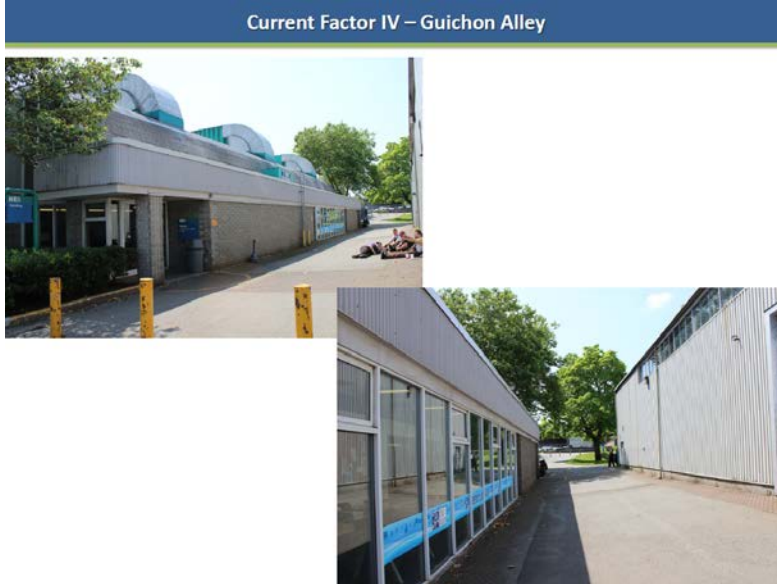
The goals of the Guichon Alley project is to prepare students and faculty for the eventual day lighting of Guichon Creek, and highlight it's ecological importance, even in the areas where the creek runs underground.

During the discussions "it was generally agreed that natural features, including Guichon Creek, need to be appreciated, cared for restored, and taken advantage



Figure 5: Architectural Science Class 2009, *Natural and Man Made Water Courses*, Talking Wall Panel on Site Analysis

of as amenities.”¹⁹ Many of the plans incorporate daylighting the whole creek pathway.



Daylighting the creek was not only important for environmental restoration efforts on campus, but in many of the plans as a prominent natural design feature. The creek, with its meanders and bends, helped soften the hard lines and edges of the buildings, streets and pathways, providing a much-needed visual balance between gray and green.²⁰

This exceeds the current scope of the Eco-Street project, especially as the creek runs under a number of buildings. Within the Eco-Street project scope we suggest a preliminary project to identify the

path of the creek, and indicate where it runs through the Factor IV area. The pathway that has been identified also runs very closely to the alley between Smith St. and English St., this alley could be re-named Guichon Alley and become an attractive highlight of campus. Currently the alley offers no amenities, despite being used during breaks by students, and as a common pedestrian pathway.

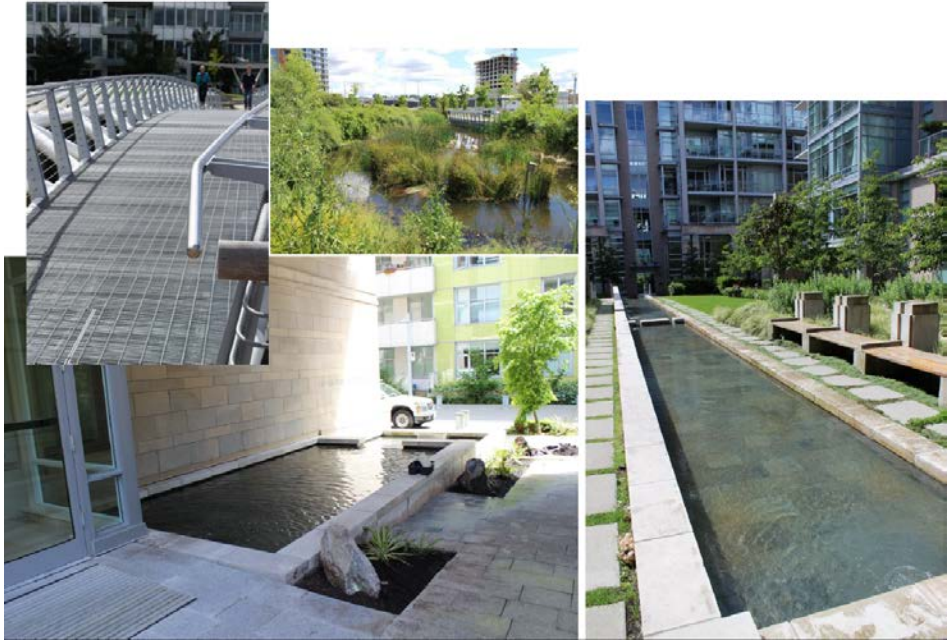
The alley is an opportunity to educate students, faculty and visitors about the role Guichon Creek plays in the BCIT and Burnaby ecosystem.

¹⁹ Ecocity Builders, *The Sustainability Precinct*, 17

²⁰ Ecocity Builders, *The Sustainability Precinct*, 17

6.1.2 Inspirations

Vancouver Olympic Village – Guichon Alley



Vancouver Olympic Village – Guichon Alley



Granville Island – Guichon Alley



6.1.3 Potential Projects

- Naming the alley and creating signage to indicate the new name
- Marking yellow fish on storm drains
- Creating signage explaining the creek and ecosystem
- Marking the creeks path.
- Work with grants from the Real Estate Foundation to create and document best practices on Urban Stream renewal.
- Install metal panels on the outside of the plumbing building that represent the creek. These could include natural/historic images of the creek or something similar. We could also have panels with a water design background (to keep consistency) and a variety of artistic fish designs, with different art styles on different panels.
- Install vegetated panels on the outside of the buildings in Guichon Alley.
- Create manhole covers that celebrate the creek
- Improve the lighting down the alley.

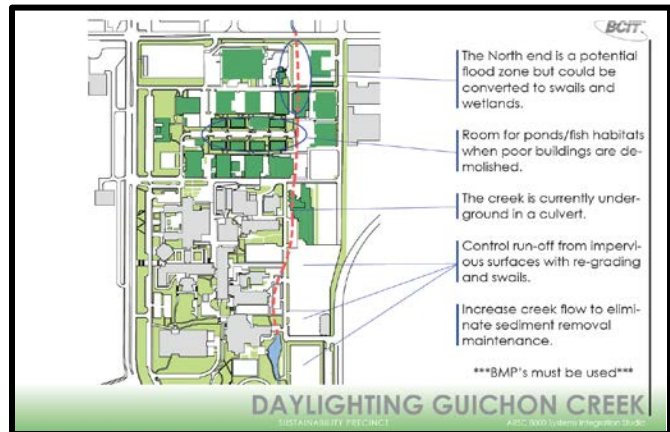


Figure 6: Architectural Science Class 2009, *Daylighting Guichon Creek, Talking Wall Panel on Site Analysis*

- Act as clients for students in Interior Design and have them come up with concepts for Guichon Alley. Winning project / ideas will get implemented.
- Have Interior Design plan a “park” day around Guichon Alley.
- The water feature could be placed next to the plumbing building; plumbing students could help with the design and implementation of the water feature.
- Build one small water cascade to pay tribute to the covered creek and combine this “real water” feature with the creek markings and yellow fish idea.
- Work with the Rivers Institute, or promote the project on World Rivers Day.

6.2 Architectural Ecology and Vertical Landscaping

6.2.1 Background

Architectural ecology and vertical landscaping is already a part of the Factor IV area of campus. The Center for Architectural Ecology is located in NE3, and there is an Elevated Research Platform on NE4, above the carpentry building. The Eco-Street group would like to collaborate with the Center to increase the architectural ecology in this area of campus, and to promote greater understanding of the research that is already underway. Outside NE3 there are three research installations: a section of living wall, three roof top evaluation modules (currently used for urban agriculture and material research), and a rainwater harvesting project, in addition to the Elevated Research Platform, on which a green façade installation has been approved.



Figure 7: Green Wall outside NE3

Increasing architectural ecology promotes sustainability, soil permeability, environmental awareness, and adds attractive green space to the campus.

The creation of living fences is one way to re-think the fencing options in the Factor IV area.

Current Factor IV - Greening



Currently wisteria grows on the chain link fence between NE3 and the parking lot. This plant is surviving without irrigation support, and while not native it is not invasive either.

There is also a need for increased information and an improved management plan for the NE1 green façade. Currently a Parthenocissus species of plant is growing on the façade. This plant is considered attractive by many of the faculty, but concerns have been raised about the long-term effect on the building. This may need more investigation.

6.2.2 Inspirations

Vancouver Olympic Village - Greening



Granville Island - Greening



6.2.3 Projects Ongoing at the Centre

These are projects that are currently ongoing, which could be supported by the Eco-Street group.

- Increase awareness of the green roof through signage.
- Green roof demonstration evaluation modules at NE3 demonstrate and collect data on urban agriculture – possibly in collaboration with BCIT Food services.
- Have railings and stairs added to the green roof.
- Add educational signage explaining the Centre for Architectural Ecology.
- Move the green roof research facility from Great Northern Way to the Factor IV area.

6.2.4 Potential Projects

- Meet with Maureen Connelly to discuss short-term solutions to create living fences and NE1 facade, find a suitable solution and maintenance plan.
- Trees could be used to green the area, and green a building façade.
- Plant short-term climbing flowers on the fences in front of Piping
- Plant short-term climbing flowers on the fence in Guichon Alley
- Plantings in Guichon Alley that will re-direct ground water.
- Use planters instead of direct ground planting.

6.3 Rethink Fencing Options

6.3.1 Background

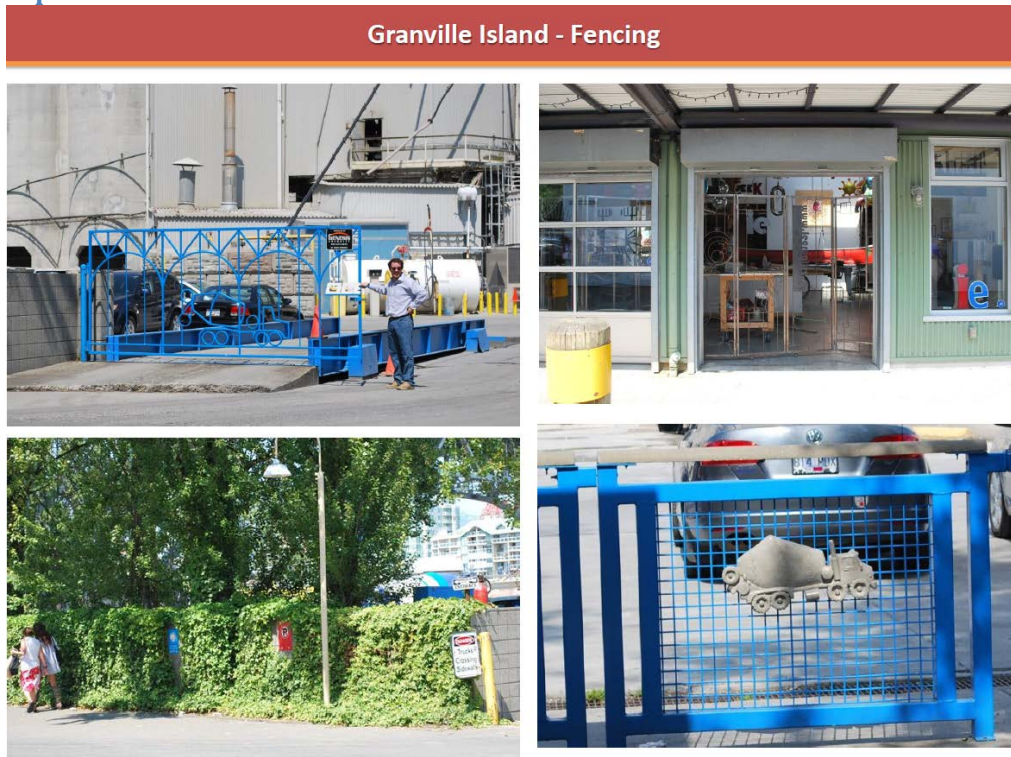
The Factor IV area is the home of a number of the SOCE trades, including Piping, Joinery, Carpentry, and Welding. Due to the nature of these programs safety and security must be considered. It is important that some of these areas be blocked off, either to secure valuable equipment, or to protect the safety of those passing by. However, there are many ways to implement barriers, and a number of ways that do not detract from the sense of place.



For many fencing may seem like a cosmetic issue, rather than a sustainability issue. However, like the cleanliness of the street this project has the ability to change how students feel and act. The current fencing is unfriendly, it doesn't encourage pedestrian usage. It also detracts from the pride

and enjoyment students take in spending time in this area, and detracts from visitors' appreciation of the Factor IV area.

6.3.2 Inspirations



6.3.3 Potential Projects

- Rethink the chain link fences around NE6, NE3, and NE4, find a more attractive and friendly solution than the current chain link, consider CPTED principles.
- Plant short-term climbing flowers on the fences in front of Piping
- Plant short-term climbing flowers on the fence in Guichon Alley.
- Have interior design / architecture students design new fencing.
- Have metal fabrication students create a gates or fencing panels that are both decorative and effective.
- Fences could represent the trades in a stylistic manner based on their design.

6.4 Pedestrianization of Smith Street

6.4.1 Background

Despite being a main walkway for BCIT Smith Street remains very focused on automobile traffic. In the design Charrette the students note that "Pedestrians are secondary

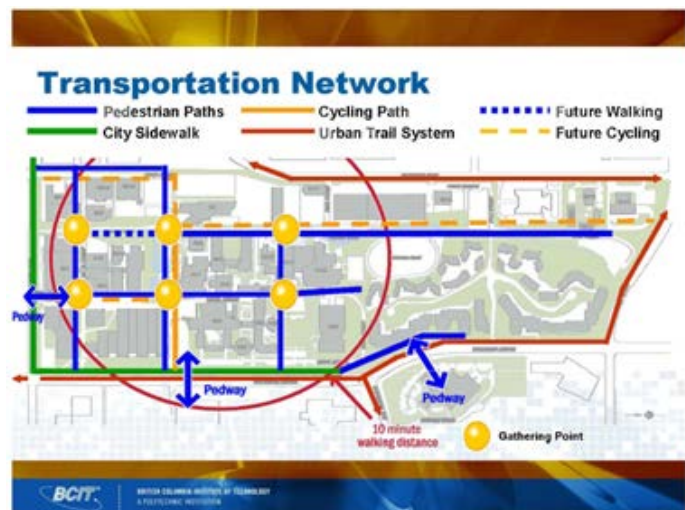


Figure 8: Figure 2: Campus Master Plan: From Concept to Visual Ideas

compared to vehicle routes.”²¹ In the Campus Plan this street is outlined as a main pedestrian path.

When the Charrette was done 9.1% of students walked to campus, 29.96% took public transit, and 0.01% biked to school.²² By increasing the pedestrianization of Smith Street it may be possible to raise these numbers. Adding additional features like bike racks may contribute to encouraging more sustainable practices.

Any plans will have to be conscious of accessibility for both emergency vehicles and deliveries to the shops.



²¹ Architectural Science Class 2009, *Precinct Building Documentation*, Talking Wall Panel on Routes and Spaces

²² Architectural Science Class 2009, *Transportation*, Talking Wall Panel

6.4.2 Inspirations

Vancouver Olympic Village - Street



Granville Island – Street



6.4.3 Potential Projects

- Encourage an Institutional decision to prioritize pedestrian traffic.
- Have a traffic study or assessment done on Smith Street.
- Trial period of limiting traffic with planters.
- Pedestrian and cycling improvements at the Ingles Building, such as installing more bike racks.
- Work with the Sustainability Committee's Special Project – Cycling Working Group to prioritize pedestrian traffic.
- There are co-benefits between this project and cleaning up the Factor IV area.
- Add Awnings to buildings.
- Use impediments to delineate the walkway from the road.
- Narrow the roadway so there is more room for bikes and pedestrians.
- A “temporary” sidewalk along the NE2 to NE6 building created with temporary planters or big poles to create some kind of separation between cars and pedestrians.
- Improve street and canopy lighting
- Sponsor design competitions and cross collaboration to build the street details.
- Sponsor a design-build competition for covered bicycle parking. The winning scheme to be built.



Figure 9: Road Partitions at Granville Island

6.5 Cleanliness of Smith Street

6.5.1 Background

The goal of Eco-Street is to visually prepare students for change, but also to encourage them to engage in more sustainable practices. Practices such as reduction of wastes, care for use of resources, and recycling. Faculty in the Lunch and Learn workshop complained about the garbage and cigarette butts that litter Smith Street. Increasing the accessibility of ashtrays, recycling stations and waste stations is one way to reduce litter and waste.

As the Factor IV area draws attention for being a ground breaking initiative groups will begin to tour the area. It is important that the area appears clean and cared for if we want people to visit, see the Factor IV area, and walk away impressed. The presentation of this area will also affect media coverage and promotion of the Factor IV area.

6.5.2 Inspirations



6.5.3 Potential Projects

- Increase the number of bins, ashtrays, and zero waste stations.
- Install a water fountain.
- Hanging baskets or planters
- Pilot one “cool” waste sorting station with racks for pop cans, paper, plastic, metal options and a Big Belly solar compactor
- Hide the big waste containers (by moving them somewhere else or having something around them – such as a 3 sided tote station).

6.6 Façade Improvements

6.6.1 Background

The current facades are utilitarian, and while the buildings are functional they do not add to the street. The facades could help identify this area as part of the Factor IV project, or celebrate the trades that use these buildings. This is a stark contrast to areas, such as Grandville Island, that celebrate the industrial buildings and the trades.

Current Factor IV - Facade



6.6.2 Inspirations

Vancouver Olympic Village - Facade



Granville Island - Facade



Granville Island - Signage



6.6.3 Potential Projects

- Improve the appearance of the buildings on Smith Street without major structural changes; examples could include murals, photo exhibit, changing the building colour, green facades.
- Change the colour of the doors, and trim on the buildings.
- The Hangers (NE2, NE4 & NE6) could be painted and look as good as the Salt Building (Olympic Village).
- Paint the garage doors.
- If possible: add a few windows on one of the garage door panels so that pedestrians can see the students work and celebrate the work within the buildings.
- Add signage on the hanger to tell the story of the hanger (WWII).
- Add signage on the hanger to talk about the programs being taught inside
- Add decreative signs to indicate what programs are housed in each building – perhaps a great wooden sign for carpentry, a welded sign for welding, etc.
- Add educational signage explaining factor IV.
- Increase educational signage explaining our trades and Center for Architectural Ecology.
- Greening of NE1 façade could be done with trees.
- Buildings could be wrapped in a printed image.
- Re-paint the AFRESH home.

6.7 Student Spaces

6.7.1 Background

Current student spaces are very limited, in the Factor IV area, despite the large number of students who attend classes in this area. General concerns from students in the Charrette about public space at BCIT included a lack of benches and seating, poor maintenance, and the fact most public space is merely the space between buildings without other purpose.



Figure 10: Architectural Science Class 2009, *Outdoor Gathering Spaces*, Talking Wall Panel

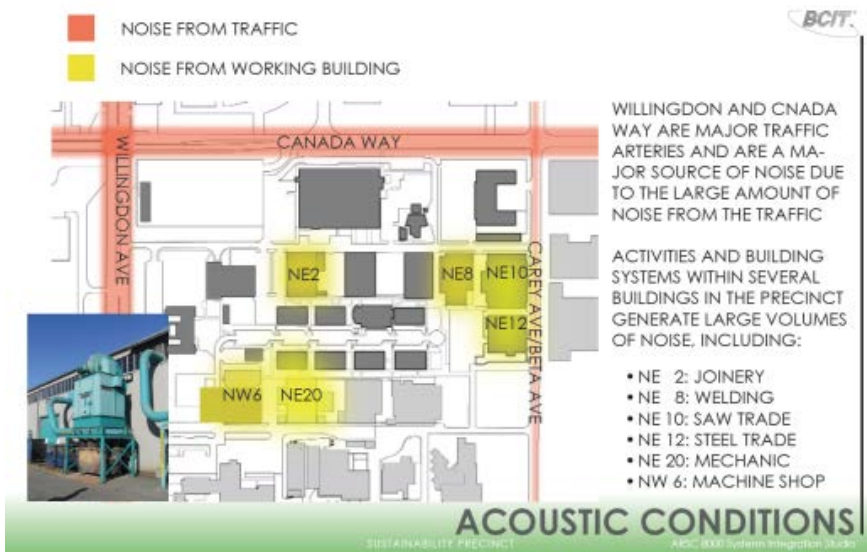


Figure 11: Architectural Science Class 2009, *Acoustic Conditions*, Talking Wall Panel

Potential student spaces should consider the acoustic conditions, as well as needs for road accessibility.

The Sustainable Framework highlights the importance of encouraging accessibility and enjoyment. Most discussions of sustainability include the creation of public spaces, and a sense of community. This is something currently lacking in the Factor IV area.

6.7.2 Inspirations



6.7.3 Potential Projects

- Student spaces that incorporate history or trades.
- Student space ideas taken from False Creek Olympic village.
- Create view corridors and rooftop gathering places.
- Improve street and canopy lighting.
- Leverage new green space from Demolition of NE27.

7 Conclusion

This document summarizes the previous ideas for the Eco-Streets project, originally called Street Repair, drawing on work from the 2009 Charrette, and the Talking Wall panels created by the Architectural Science students, as well as other relevant documents. The potential projects listed are based on these ideas as well as the contributions of the working group. As specific projects are undertaken a more detailed project plan will be created with input from various stakeholders.

For more information on the Eco-Street project, please contact Sarah Campbell at Sarah_Campbell@bcit.ca.

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