

the **edmonton** **Specifier**

Construction Specifications Canada is an organization representing diverse interests in the construction industry and related professions. It is dedicated to improving the quality and flow of information between these interests, whether in the form of specifications, contract administration or marketing.

March 2025 Edition

Editor: Tracey Stawnichy

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Building Envelope – New Construction Focus

Date: Thursday, March 20, 2025

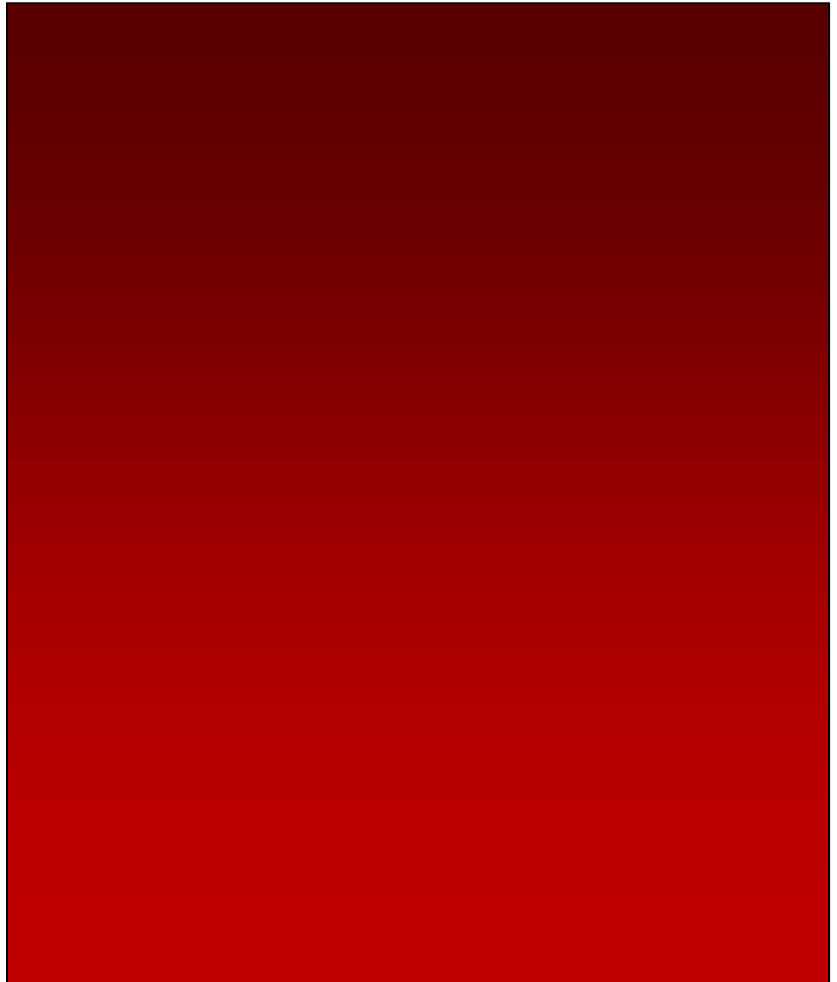
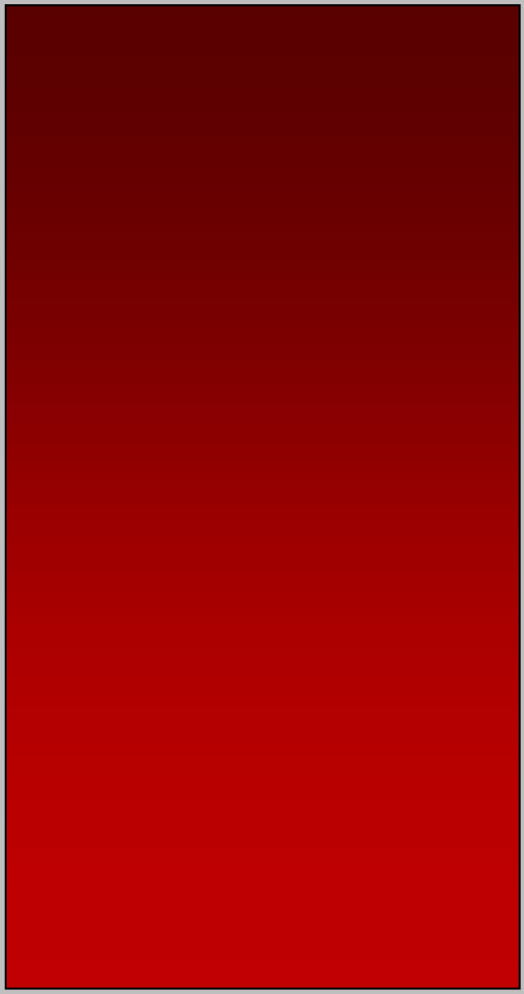
Time: 11:30am – 1:30pm

Place: Matrix Hotel, 10640 – 100 Avenue NW, T5J 3N8

Presented by: Dale Wannamaker, Entuitive

Dale will discuss the building envelope and performance requirements past, present, and future – what worked. The presentation focuses on new construction, incorporating performance-based specifications, and interaction of different manufacturers.

[Lunch and Learn -Building Envelope-New Construction Focus Tickets, Thu, Mar 20, 2025 at 11:30 AM | Eventbrite](#)



Director	Andrew Brassington	780 222 6732
Chair	Dylan Leclair	587 335 9552
Vice-Chair	Position Open	
Secretary	Jessica Prosser	587 340 7169
Treasurer	Catherine Osborne	780 423 6606
Architectural	Kevin Osborne	780 717 1007
Chapter Liaison	Position Open	
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General Contractor	Position Open	
Interior Design	Corry Bent	780 995 1647
Manufacturer/Supplier	Mike Lafontaine	780 907 4920
Marketing, Promotion, and Communications	Jamie Murphy	780 983 0288
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Chapter Sponsor

Reach out to us for more information at
edmonton@csc.dcc.ca

Student Sponsor

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Meeting Sponsor

\$50 for Individual (personal) Sponsor
 \$250 for Corporate Sponsor

FOR FURTHER INFORMATION

Contact any member of the Executive, attend one of our Chapter Meetings, send your name and address to CSC Edmonton Chapter, PO Box 35093 Mid Town PO. Edmonton, AB T5J 0B7, or go to edmonton.csc-dcc.ca for additional contact information.

GOALS OF CSC

Construction Specifications Canada is a multi-disciplinary non-profit association dedicated to the improvement of communication, contract documentation, and technical information in the Construction Industry. CSC is a national Association with Chapters in most major Canadian Cities.

To this end, CSC pursues the study of systems and procedures that will improve the coordination and dissemination of information relevant to the construction process.

We seek to enhance the quality of the design and management aspects of the construction activity through programs of publication, education, and professional development, believing that by so doing, we can contribute best to the efficiency and effectiveness of the construction industry as a whole.

OBJECTIVES OF CSC

To foster the interest of those who are engaged in or who are affected by the compilation or use any forms of specifications for the construction industry.

To publish literature pertaining to the construction industry.

To engage in activities to improve procedures and techniques related to the construction industry.

The opinions and comments expressed by the authors do not necessarily reflect the official views of Construction Specifications Canada. Also, appearance of advertisements and new product or service information does not constitute an endorsement of those featured products or services.

Announcements:

Chair's Message



Dylan Leclair, CSC Edmonton | Chapter Chair

Hello, Edmonton Chapter,

I want to take this opportunity to welcome Cherisse Zerbin as our new Edmonton Chapter Program Chair. We are excited to work with her and her even planning experience to bring out a bigger, better, program in the future.

We have another Lunch n' Learn planned for March 20, presented by Dale Wannamaker with Entuitive, on Building Envelope – New Construction Focus, incorporating performance-based specifications, interaction of different manufacturers, performance requirements, past, present, and future – what worked.

I will also take a moment to remind everyone to renew your CSC membership, and to sign up for Infonet 2025 in April.

Membership in CSC

Dave Lawrence



In the construction industry's fast-paced environment, the need for and value of Construction Specifications Canada is greater than ever. CSC brings together individuals from all segments of the construction industry. All who have a vested interest in Canada's largest industry are invited to join CSC. When you join CSC, you become part of the only association that brings together professionals from all aspects of the construction industry.

DESIGN TEAM

CSC offers members of the Design Team the opportunity to meet with other members and exchange information. It also affords you the chance to help improve technology and its management, and the means to improve ways in which your ideals are translated into clear, concise, and complete documentation.

BUILDING TEAM

If you are a member of the Building Team, CSC offers you the opportunity to become involved in formulating specifications. Your valuable input into the programs can help generate time and cost savings, as well as improve performance.

SUPPLY TEAM

The multi-disciplinary composition of CSC allows members of the Supply Team to meet with other members of the construction team. CSC programs in data filing and information retrieval are geared to present convenient and concise information on your products for proper evaluation and specification.

THE STUDENT

If you are a student of architecture, engineering, or construction technology, CSC will provide you with a greater exposure to, and a better understanding of, the construction industry, giving you an excellent opportunity if you plan a career in the construction field.

People and Places – Welcome to new and past CSC Edmonton Chapter Members!

Fresh Faces (New Members)

Khal Youssef, Edmonton Representative
 Certus Architectural Products
 P: (780) 932-2679
 E: kxenterprises@gmail.com

Cherisse Zerbin, Architectural Sales
 Timberstone Distribution
 12835 – 170 Street NW, Edmonton, AB T5V 1L8
 P: (780) 920-4910 E: cherisse.z@tsdstone.ca

Yes, We've Moved (Contact / Mailing Address Update)

Raymond T. Nakonechny
 P: (825) 965-7333
 E: nakonraymond@gmail.com

Previous Members Re-Joining / Re-Activated

None this month.

CSC Education:



Kevin Osborne, CET

Principles of Construction Documentation

The PCD course is an introductory course that will enable the student to have a better understanding of construction documentation (specifications, drawings, and schedules), products, bidding procedures, and contracts. **It is also a prerequisite to all the other CSC education courses.**

Specifier 1

Specifier 1 is an intermediate level course that will take the individual beyond the concepts previously introduced in the PCD Course. Although some of the same topics are included, the depth of comprehension and explanation exceed that of the PCD course. The Specifier 1 is a prerequisite for the **Certified Specification Practitioner (CSP)** designation from CSC. Successful completion of the course may be credited toward the experience component requirements for the Registered Specification Writer (RSW) designation.

Technical Representative

The TR course provides a better understanding of contract documents and bidding procedures, product representation, professionalism, and ethics, and will provide a new depth of understanding and explanation of concepts beyond what was previously introduced in the PCD course. The course is designed for the individual involved in the supply section of the construction industry, such as manufacturer representatives, agents, or distributors of products. The student will have successfully completed the PCD course.

Contact Kevin for all your education needs. kosborne@br2architecture.com

EDUCATION COURSES

Upcoming Classes:

[Principals of Construction Documentation \(PCD\)](#) – Monday, Jan. 20, 2025 – April 7, 2025

RJC Engineers, 100, 17415 – 102 Avenue NW, Edmonton, AB T5S 1J8

[Specifier](#) – TBD

[Construction Contract Administration \(CCA\)](#) – Monday, Jan. 20, 2025 – April 7, 2025

START Architecture, 9431 – 41 Avenue NW, Edmonton, AB T6E 5X7

[Technical Representative \(TR\)](#) – TBD

Upcoming Classes Online:

[Principles of Construction Documentation \(PCD\)](#) – January 6, 2025 (14 weeks)

[Construction Contract Administrator \(CCA\)](#) – TBD

[Specifier](#) – TBD

[Technical Representative \(TR\)](#) – TBD

Upcoming Virtual Classes:

[Principles of Construction Documentation \(PCD\)](#) – January 10, 2025 (5 weeks)

[Construction Contract Administration \(CCA\)](#) – November 22, 2024 (5 weeks) / March 7, 2025 (5 weeks)

[Specifier \(SP\)](#) – November 1, 2024 (7 weeks) / March 7, 2025 (7 weeks)

[Technical Representative \(TR\)](#) – November 1, 2024 (5 weeks) / March 7, 2025 (5 weeks)

Social Media:

Check us out:



Contact us:
edmonton@csc-dcc.ca

INFONET

April 10, 2025

Matrix Hotel
10640 100 Ave
Edmonton, Alberta



<http://edmonton.csc-dcc.ca>

The CSC Edmonton Chapter is bringing the excitement of Las Vegas to you!

Join us for an evening filled with insights into new materials and technologies, followed by some lively camaraderie and fun.

Casino Party

Provided by
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Casino Party

www.edmontoncasinoparty.com

SCHEDULE:

3:00 PM: TRADESHOW
5:30 PM: HOST
ANNOUNCEMENTS AND DINNER
6:00 PM CASINO
9:00 PM: DOOR PRIZE AND
CASINO WINNERS CALLED
9:15 PM: NETWORKING

Sponsorship Packages:

High Roller Sponsor (Only 5 Available)

\$2,000.00 +G.S.T.

- 8 tickets to the event
- 8 drink tickets
- Two page advertisement
- Powered Tabletop Exhibit for Trade Show

Lucky Ace Sponsor

\$1,600.00 +G.S.T.

- 6 tickets to the event
- 6 drink tickets
- One page advertisement
- Basic Tabletop Exhibit (No Power Access) for Trade Show

Industry Partner

\$800.00

- 4 tickets to the event
- 4 drink tickets

Infonet Committee 2025

Director, Andrew Brassington
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Chair, Dylan Leclair
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Treasurer, Catherine Osborne
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Secretary, Jessica Prosser
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Education, Kevin Osborne
kosborne@br2architecture.com

Officer at Large, David
Lawrence:
davidlawrence@interbaun.com

About the Event

3:00 P.M.:

Sponsors have the opportunity to showcase the latest trends, products and innovations to new and familiar clients.

5:30 P.M.:

Create your own culinary experience with delicious options from the mac and cheese buffet, taco bar, slider station, and more! Please note, this is not a sit-down dining experience—it's a networking feast!

6:00 P.M.:

Welcome to Vegas in Edmonton!

Kick off your evening with \$50,000 in fun money, with the potential to turn it into millions! Try your luck at authentic Vegas-style casino games, including blackjack, casino war, baccarat, roulette, and craps.

9:00 P.M.:

If you're one of the top three high rollers, you'll get to choose an amazing prize to take home—and brag about your winnings!

50/50 Tickets Available!

Purchase 50/50 tickets throughout the evening for a chance to win big! Your ticket also gives you one more shot at the amazing door prize.

All proceeds support the Stephanie Wertz Education Fund.

Articles of Interest

L.A. was Already Behind on its Olympics Prep; The Wildfires will Make it so Much Worse

Sourced from: <https://fastcompany.com> / Patrick Sisson

Photo: Mario Tama/Getty Images



The massive organizational, infrastructure, and transportation challenges of hosting the Olympics Games is truly a marathon. For Los Angeles, host of the forthcoming 2028 Summer Games, that long logistical race just became significantly harder.

The horrific wildfires that have laid siege to Los Angeles over the past week, burning nearly 40,000 acres, damaging more than 12,000 structures, and pushing tens of thousands of Angelenos to evacuate, may ultimately cause up to \$45

billion in insured damages. While no potential Olympic venues were burned, the damage and destruction has injected a fresh sense of uncertainty around hosting the quadrennial competition.

Can the city spend the next three-and-a-half years preparing for the Olympics—as well as playing host to the 2027 Super Bowl and 2026 World Cup – all while rebuilding from a catastrophe? Or will doing both at once find Los Angeles overwhelmed and under-resourced?

“The city’s going to spend a lot of time spent preparing for the Games, and any time spent doing that means they’re not spending time recovering from the disaster or preparing for the next one,” said Eric Sheehan, a member of NOlympics LA, a local group that has organized against the Olympics and its impact on communities, housing market, and local budgets.

Transportation and logistics have already become issues, with the city’s expansive vision for expanding its mass transit network by 2028 becoming narrower due to funding shortfalls and missed deadlines. As Alissa Walker, whose excellent Torched newsletter has been covering the ‘28 Olympics in depth for months, points out, that’s not the only way the city has fallen behind. L.A.’s Olympic and Paralympic committee hasn’t met since June, and the city hasn’t approved the final venue plan. She also notes that past games have looked at back-up locations when logistics became more challenging.

The fires, and forthcoming rebuilding process, have injected a note of caution in the statements of some local leaders, including Councilmember Hugo Soto-Martinez, a member of the city’s Olympic committee.

“If we’re going to host the Olympics in 2028, we need to make sure that it’s actually going to benefit our residents, who are reeling from losing their homes, jobs, and livelihoods,” he told Fast Company. “This event could bring in billions of dollars into our local economy, but who will benefit—our residents, or multinational corporations?”

“It calls into question the city’s ability to deliver the Olympics,” former councilmember Mike Bonin told The New York Times. “This is cause for elected officials to ask themselves the question: Is this something we can handle?”

Why The City Needs the Games

SoFi Stadium, which will host the main opening ceremony of 2028 Summer Olympics
Photo: Qian Weizhong/VCG/Getty Images



Local leadership, and the LA28 committee, have expressed confidence that the games won't be diminished by the currently unfolding disaster. Governor Gavin Newsom, during a Sunday Meet the Press interview from a burnt-out yard in Altadena, told an interviewer that the fire "only reinforces the imperative of moving quickly" and that this is "an opportunity for California and this community to shine."

"Los Angeles is defined by its resilience and determination," said LA28 President and Chairperson Casey Wasserman in a statement. "The strength of our communities and our unity in tough times make this city extraordinary, and when Los Angeles welcomes the world in 2028, our spirit will shine brighter than ever before."

Advocates argue the benefits of hosting are clear. Rick Perelman, who worked on the 1984 Olympics in Los Angeles, wrote in his recent newsletter that the fires "pose no threat" to the 2028 Olympics.

He told Fast Company that the city can juggle both rebuilding and hosting the games; it's the private Olympic committee that's throwing the games, not the city itself. And it would be a folly to reject the significant economic benefits the Olympics would bring to the region, especially in the midst of recovery.

Perelman predicts increased costs for LA28, already estimated to cost nearly \$7 billion, including insurance hikes and added expenses for fire prevention and readiness, which will be a key focus in the run-up to the event, which will happen during the traditional fire season. Just about every modern Olympics has had cost overruns; an Oxford study found every single one underestimated final costs; while the city isn't paying for the games per se, Los Angeles is on the hook for the first \$270 million of overruns.

How Rebuilding Complicates an Already-Difficult Task

Organizers have billed the 2028 Olympics as the "no-build games," playing up the fact that, due to the region's wealth of venues, there don't need to construct any new stadiums or sites. But even without that, there are still substantial construction and preparation needs, in terms of infrastructure and preparing the Olympic Village at UCLA. The City of L.A. also voted last summer to invest \$54.4 million in upgrading its Convention Center before the Games.

All of these projects will require construction workers, who will be in short supply due to efforts to rebuild after the fires. According to Mike Mitchell, president of the local chapter of Associated Builders and Contractors, the construction industry was already nervous about the scale of infrastructure and transportation work needed for LA28. The city has been racing to upgrade its transit networks in time to handle the millions of visitors and competitors who need to traverse the sprawling metro. Now, the

same people needed for that work will also be sought to help repair infrastructure and rebuild homes in fire-damaged neighborhoods.

There are still many years before the Olympics kick off. But just as the city enters crunch time, fire recovery has made the preparation a lot more complicated.

Sheehan of NOlympics argues that instead of focusing on spending needed to support the games, the city should be looking at a more equitable wildfire recovery, and figuring out ways to support the tenants who have been devastated by the wildfires.

“There’s no way for LA city officials to properly prepare for the Olympics and Super Bowl while recovering from this disaster,” he said.

From Modernism to Multiculturalism: The Historical Evolution of Student Housing

Sourced from: <https://www.archdaily.com> / Diogo Borges Ferreira

Student housing has undergone a remarkable transformation over the last century. Once seen as a utilitarian necessity, providing shelter and basic amenities for students, this architectural typology has evolved to address increasingly complex societal, cultural, and urban demands. Starting with Le Corbusier's modernist approach at the Cité Universitaire in Paris, student housing has reflected broader trends in architecture, urbanism, and social change.

Today, these buildings must cater to a highly diverse and transient population, navigating the pressures of affordability, density, and the evolving living standards of young adults. With rapid urbanization and increasing student mobility, universities now face the challenge of designing housing that is not only functional but also adaptable to different cultural and social contexts. This has led to more flexible, innovative solutions that promote both privacy and community living.

Over time, student housing design has expanded beyond efficiency and affordability, becoming a platform for experimentation in community-building, cultural inclusivity, and sustainability. This shift mirrors changes in education itself, as universities strive to provide a holistic experience that supports students' well-being and personal growth. By tracing the evolution of student housing, from Modernist principles to today's diverse and adaptable models, this article explores how architects have continuously reimagined this typology to meet the changing needs of student populations.

Early 20th Century: The Rise of Modernist Housing

The evolution of modern student housing began in the early 20th century, amid rapid urbanization and the rise of Modernism. Architects, influenced by industrialization and new technologies, sought to design more efficient, functional living spaces. Le Corbusier's Pavillon Suisse (1933) at the Cité Universitaire in Paris became a seminal example of early Modernist student housing. Reflecting his "machine for living" philosophy, the building was revolutionary for its time, emphasizing minimalism, efficiency, and a balance between individual privacy and communal interaction.

Le Corbusier's design incorporated modular rooms with standardized furniture and industrial materials like concrete and glass, creating a streamlined environment. His focus on functionality resonated with the needs of students, especially those from modest backgrounds, providing affordable and practical accommodations near their universities. Integrating shared kitchens, study spaces, and lounges fostered social interaction, reinforcing Modernist ideals of collective living.

Another significant early modernist student housing project was Walter Gropius' Bauhaus Dormitory in Dessau, Germany, built-in 1926 as part of the Bauhaus school campus. Similar to Le Corbusier's

work, Gropius applied the modernist principles of simplicity, functionality, and the use of industrial materials such as steel and glass. The Bauhaus Dormitory featured compact, efficient rooms with essential amenities, while communal spaces like dining areas and study rooms promoted interaction among students, reflecting the Bauhaus ideal of collective learning and living. Gropius' approach, emphasizing affordability and efficiency, further demonstrated how modernist architects were rethinking the role of housing in education, seeking to merge practicality with innovation.

Both Le Corbusier and Gropius contributed to a growing Modernist trend in student housing, focusing on standardization, functionality, and the creation of shared spaces to encourage a sense of community. However, the Modernist vision, with its emphasis on universality and efficiency, often overlooked the diverse needs of student populations. While these designs were democratic in intent, their one-size-fits-all approach did not account for the personal or cultural differences that would later become critical in the evolution of student housing design.

Post-War Expansion and the Rise of Standardization

After World War II, universities expanded rapidly, particularly in Europe and North America, due to the growing demand for higher education. This expansion brought new challenges to student housing, as institutions struggled to accommodate rising student numbers. The mass production of housing became a priority, and Modernist principles continued to influence designs.

During the 1960s and 1970s, many universities constructed sprawling dormitory complexes to house thousands of students, often favoring functionalist approaches that prioritized density and efficiency. One example is Peabody Terrace at Harvard University, designed by Josep Lluís Sert and completed in 1964. Sert's project sought to create high-rise buildings that accommodated the growing student population while maintaining a sense of openness and community. Unlike earlier post-war designs, Peabody Terrace introduced communal spaces and courtyards that encouraged social interaction among students, setting a precedent for how density could be balanced with community-building efforts. However, its stark concrete forms and emphasis on functionality also drew criticism for appearing impersonal and severe, a common critique of Modernist housing during this period.

Another notable project is the Married Student Housing at Yale University, designed by Paul Rudolph and completed in 1960. Rudolph's design was an early exploration of how housing could cater to diverse student needs by providing apartments for married couples, a growing demographic at the time. The complex included low-rise buildings with more flexible living arrangements, responding to the shift towards accommodating a broader range of students and family structures. Though Rudolph's use of bold concrete structures mirrored the brutalist aesthetics of the era, the layout incorporated open spaces and green areas, aiming to create a more inviting environment. Despite these efforts, the project still faced challenges, as the architectural emphasis on raw materiality and repetitive forms often overshadowed attempts to foster a warm, community-oriented atmosphere.

Transition to the 21st Century: Shifts Toward Community and Diversity

By the end of the 20th century and the beginning of the 21st, the limitations of standardized student housing became increasingly evident. Architects and university planners recognized the need to move beyond merely providing shelter, aiming to create environments that supported students' mental, social, and academic well-being. This period was also characterized by a rise in global student mobility, with more international students attending universities worldwide. The resulting cultural diversity prompted a reevaluation of housing design, leading to the integration of more flexible spaces that could accommodate the needs of students from varied backgrounds.

During this transitional era, there was a noticeable shift away from previous decades' impersonal, high-density dormitories. Architects began experimenting with smaller, low-rise housing clusters designed to foster a sense of community and belonging. The introduction of apartment-style

residences, where students could live in small groups and share communal spaces, became more prevalent. These designs aimed to create a balance between privacy and communal interaction, reflecting the need for flexible living arrangements that catered to diverse social and cultural preferences.

An example of this approach is Steven Holl's Simmons Hall at MIT, completed in 2002. Often referred to as the "sponge" for its porous façade, the building was designed to balance individual living units with vibrant communal areas. With strategically placed lounges, study spaces, and terraces, Simmons Hall encourages interaction while ensuring privacy. Its design reflects a shift from rigid, standardized layouts to flexible, adaptable spaces that cater to the diverse needs of the student community. The project marked a move towards more human-centered student housing, emphasizing the importance of communal engagement within a supportive living environment.

21st Century: Designing for a Heterogeneous Student Population

The complexity of student housing has intensified in the 21st century, with architects addressing a diverse, transient, and culturally varied student population. Urbanization has pushed student housing into high-density areas, where space is limited and living costs are high. Today's designs must balance affordability with the demands of a heterogeneous student population, creating spaces that are flexible, culturally sensitive, and conducive to both privacy and community.

In dense urban environments, compact, multi-functional housing solutions are essential. The coliving model, integrating shared communal spaces with private micro-apartments, has gained popularity, offering affordable housing that fosters community. Architects are also embracing culturally responsive designs, adding features like prayer rooms and flexible kitchens to accommodate diverse religious and cultural needs. Considerations for gender inclusivity and LGBTQ+ students have also become more prominent, reflecting a broader commitment to inclusivity.

Sustainability has also become a crucial aspect of modern student housing, with universities incorporating green building technologies to reduce their carbon footprints. Energy-efficient systems, renewable energy sources, and sustainable materials are now common. For instance, cross-laminated timber (CLT) is being used as a sustainable alternative to traditional construction, as seen in student residences at the University of British Columbia, combining eco-friendly practices with a warm, natural aesthetic. Digital technology, including smart building systems and flexible workspaces, has also become integral, addressing the increased reliance on connectivity for academic and social purposes.

Student Housing as a Model for Urban Living

The evolution of student housing, from early modernist projects to today's diverse, adaptable designs, mirrors broader shifts in architectural thinking. What began as a simple, practical typology has become a complex field that balances affordability, sustainability, and inclusivity in compact, culturally complex environments. Modern student housing is no longer just a means to an end; it has become a space of architectural experimentation that responds to both urban density and diverse cultural landscapes. As student housing has transformed, it reflects the intersection of varied social and economic factors, offering a microcosm of modern urban living and signaling new directions for residential architecture.

As urban centers grapple with growing challenges – limited space, high living costs, and increasing populations – student housing models present innovative solutions that extend beyond campus boundaries. Many of these models emphasize affordability, communal amenities, and sustainable features, creating balanced living environments. Initially designed to meet students' specific needs, these qualities are now being adapted in broader urban housing models, as co-living arrangements gain popularity among young professionals and city dwellers seeking affordable housing and social

connections.

In a time marked by housing shortages and increasing demand for social infrastructure, initiatives that combine student housing with local residential projects showcase how universities and municipalities can work together to tackle urban housing issues. By blending student accommodations with affordable housing options, these developments facilitate lively, mixed-use neighborhoods that bring together academic and city life. This strategy not only enhances housing availability but also promotes social integration, fostering significant interactions between students and locals to build more inclusive and diverse urban environments.

By leveraging these strategies, cities can rethink their housing policies. Affordable, high-density designs featuring shared spaces can become a blueprint for resilient and inclusive neighborhoods. As student housing evolves, it has the potential to transform how cities tackle housing shortages, providing flexible and adaptable solutions for a diverse array of urban populations in the future.

Concrete Feature: Moss Concrete Covering Many Urban Construction Challenges

Sourced from: <https://canadaconstructconnect.com> / Jean Sorensen



Could moss concrete be the simple green answer to many of the climate change challenges that construction design is attempting to mitigate?

Researchers at universities in Spain, London, Pakistan and the Netherlands, for more than a decade, have been looking at bio-receptive concrete, commonly known as moss concrete, to green up walls, foil graffiti, lessen heat mitigation, capture CO2 and even water management. Moss roots (rhizoids) do not invade the concrete but cling and some claim this root network also improves concrete

durability.

While the concept has been gaining traction in Europe, it has had little exposure in North America.

“Moss, if it has been done correctly, can be very durable and beautiful as a biophilic installation,” said Bill Browning, managing partner of Terrapin Bright Green, an environmental strategies and consulting firm based in Washington, D.C.

But, Browning is not aware of any uses of bio-receptive concrete using moss in North America. His firm tried growing moss on crushed glass on walls, but that experiment went nowhere.

Bio-receptive concrete, according to research papers, is mainly a term for concrete that has been either mixed to encourage moss growth or has a face-design (ripples) that encourages the plant growth such as moss.

“The construction of moss concrete involves a conventional concrete layer that serves as the structural component of the building, a waterproof layer that acts as a barrier and an outer layer of moss concrete designed to allow rainwater to penetrate and boost the growth of the organisms,”

according to researchers Muhammad Awais and Safeer Ullah Khattak from the Department of Civil Engineering at the Capital University of Science and Technology at Islamabad, Pakistan.

Their 2023 paper, Exploring the potential of moss concrete as an eco-friendly solution to mitigate urban heat island effect, which was presented at the fifth Conference on Sustainability in Civil Engineering, found moss can mitigate the urban heat island effect, improve building material durability, retain moisture to regulate surface temperatures and can absorb 20 times its weight in water.

Stephen Peck, president of the Green Roofs for Healthier Cities in Toronto, said moss concrete is in its preliminary stage right now and there are no installations in North America that he is aware of.

“It is emerging technology that we are keeping an eye on,” he said. “There are lots that they don’t know and there is a lot we don’t know.”

But Peck points out moss is not a panacea for water management on sites.

What is emerging today instead is a municipal holistic strategy that considers applications to buildings, sites, streets and other catchment areas such as parks that can sustain flood run-off.

“They are called sponge cities,” he said.

Just as the concept of using moss concrete is evolving, so are the formulas for mixing and preparing the surface of the concrete for installation.

Researchers Max Veeger, Marc Ottele, and Alejandro Prieto for the Netherland’s University of Technology looked at the challenge of making an affordable bioreceptive concrete substrate.

They looked at four possibilities: changing the aggregate to crusted expanded clay (CEC), adding bone ash, increasing the water cement factor and using a surface retarder (prolonging set time).

Their findings, published in the Journal of Building Engineering (December 2021), determined “of these measures, changing the aggregate to CEC ($p = 0.024$), the addition of bone ash ($p = 0.022$) and the use of a surface retarder ($p < 0.001$) were found to significantly increase bioreceptivity.”

The researchers also found “whereas it was previously thought a pH below 10 is necessary for biological growth to take place, this does not appear to be the case.”

London’s Bartlett School of Architecture professor of innovative environments Marcos Cruz has looked at a shift to bio-integrated architecture, where hydrophilic conditions are embedded in building and material design such as panels.

The design is not geared to conventional plants but toward poikilohydric plants – algae, mosses and lichens. A series of pilots were initiated in the U.K. looking at the texture designs that could provide water capture (waves) and ridges (protection from wind).

The Netherland’s Respyre is the company that has taken the moss concrete research to the market, using recycled concrete in its manufacturing and completed projects on European multi-unit residential structures, industrial buildings as well as used moss on wind turbines bases, sound barriers and underpasses for bridges, which are prone to graffiti.

Respyre has drawn from the Delft University of Technology research but originated its own medium – a gel – for growing moss.

“At the moment we are setting up our first large-scale commercial projects,” Respyre said via e-mail. No other details were provided.

Edmonton's Yellowhead Trail Conversion Cost Increases by \$105 Million: City Budget 2025

Sourced from: <https://www.msn.com> / Lauren Boothby

Edmonton's massive \$1 billion Yellowhead Trail conversion project is over budget, leaving the municipality on the hook for another \$105 million.

Cost overruns were revealed publicly for the first time at city hall this week as council works to set the municipality's budgets for 2025. Edmonton is looking at a potential 8.1 per cent property tax increase for 2025 with a deficit of \$19.4 million — down from the \$34.4 million projected. The city will need to borrow an additional \$105 million to pay for the conversion into freeway status.

Despite the more than 10 per cent price hike, Mayor Amarjeet Sohi expects city council will agree to continue paying for the project through budget talks scheduled through Thursday.

"This project is going to go ahead," he told reporters Tuesday. "This is a very important corridor from a trades point of view, from a safety point of view, movement of goods and services in the city. Traffic volumes continue to grow on Yellowhead, so this is a very critical investment we are making."

Six interchanges are being updated along 3.5 km of Yellowhead Trail from St. Albert Trail to 97 Street. Some are finished and others are nearly complete, but construction prices, labour and land costs have grown along with inflation since three levels of government agreed on the three-way cost-sharing plan in 2017, a new city report states.

Expenses were initially expected to be split equally. The federal and provincial governments agreed in 2016 to each pay \$241.6 million, but by February 2017 the city agreed to spend \$519.5 million, for a total of more than \$1 billion.

The mayor thinks the contract should have been signed all at once instead of breaking it into phases. In the future he would like to see matching funding programs set using actual costs instead of preliminary estimates. Sohi's hoping other orders of government can contribute more.

"There might be an opportunity for us to engage back with those two orders of government to see if they can increase their share of the cost," Sohi said. "At the end of the day, it's an inflationary pressure of 10 per cent over the overall cost of the project that we have to manage and we need to get this project done."

The city has known Yellowhead Trail may run over budget since at least the spring of 2022.

Adam Laughlin, then deputy city manager for infrastructure, warned in April 2022 costs for major projects such as the Capital Line South LRT extension and Yellowhead Trail may also rise sharply the day the \$34.4-million cost overrun on the 50 Street rail overpass was revealed.

This June Postmedia reported city council agreed in a private meeting to pay for the \$242-million spending over budget for the Capital Line LRT South extension.

Traffic Safety Important

One of the sections being upgraded for the freeway is in Coun. Erin Rutherford's ward, Ward Anirniq — St. Albert Trail to 97 Street which includes upgrades to several interchanges.

Going 10 per cent over budget "is not ideal," she said. But given the cost pressures and inflation since 2017 — and because the St. Albert Trail section wasn't planned yet when funding was decided — Rutherford said it's fairly good and could have been "something far worse."

Traffic safety is another factor for her. Some of the intersections being upgraded had some of the highest fatal crashes in the city at the time.

Design, public engagement, and buying land was expected to take up to five years to finish with construction phased in over another 10 years.

To date, two upgrades are finished — the sections from 97 Street to 82 Street, and widening on a eastern portion of the roadway. Two other segments are expected to be complete this year, with a 2026 completion date for the 66 Street Intersection and 2027 for the segment from St. Albert Trail to 97 Street.

ASSOCIATION LINKS

- **Alberta Construction Safety Association (ACSA)**
www.acsa-safety.org
- **Alberta Building Envelope Council North (ABEC)**
www.abecnorth.org
- **Building Information Modeling (BIM) Forum**
<https://bimforum.org/>
- **Biomimicry Guild**
<https://biomimicry.net/>
- **Canadian Green Building Council (CaGBC)**
www.cagbc.org
- **CCDC Documents**
ccdc.org
- **International Construction Information Society (ICIS)** www.icis.org
- **Architecture 2030**
www.architecture2030.org
- **BuildingSMART Alliance** (Canada Chapter of BuildingSMART)
<https://www.buildingsmart.org/community/chapter-directory/buildingsmart-canada/>
- **BuildingSMART International (formerly IAI)**
<https://www.buildingsmart.org/>
- **Biomimicry Institute**
www.biomimicryinstitute.org
- **Building Transformation (CanBIM)**
<https://www.buildingtransformations.org/>
- **Construction Specifications Canada (CSC)** www.csc-dcc.ca
- **MasterFormat**
<https://crmservice.csinet.org/widgets/masterformat/numbersandtitles.aspx>

ASSOCIATION LIAISONS

Alberta Association of Architects (AAA)
<http://www.aaa.ab.ca/>

Alberta Painting Contractors Association (APCA)
www.apca.ca

Alberta Wall & Ceiling Association (AWCA)
<http://awca.ca>

Association of Professional Engineers, Geologists, and Geophysicists of Alberta (APEGGA)
<http://www.apegga.org/>

Association of Science and Engineering Technology Professionals of Alberta (ASET)
<http://www.aset.ab.ca/>

American Society of Heating, Refrigerating and
Air-Conditioning Engineers (ASHRAE)
<http://www.ashrae.org/>

Building Owners and Managers Association
(BOMA)
<http://www.bomaedmonton.org/> /

Alberta Roofing Contractors Association (ARCA)
<http://www.arcaonline.ca>
info@arcaonline.ca

Consulting Engineers of Alberta (CEA)
<http://www.cea.ca/>

The Canadian Wood Council (CWC)
<http://www.cwc.ca>

Edmonton Construction Association
www.edmca.com

Portland Cement Association
<https://www.cement.org/>

Terrazzo, Tile & Marble Association of Canada
(TTMAC)
<http://www.ttmac.com/>

Interior Designers of Alberta
<https://www.idalberta.ca/>

Bulletin Board

Message from the Executive:





















We in the Executive are looking for creative-minded individuals who can take on a position and follow through with ideas...if this is YOU, send a message to edmonton@csc-dcc.ca and we will be quick to get back to you!

Open Positions Include:

Vice Chair
Sustainability
Contractor's Rep

You don't need to be a member of the Committee to come and participate in our monthly Chapter meetings but watch out if you do! You may find yourself holding a position...maybe even as Chapter Chair...

The Executive

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