HEAL-THY ÷ PLA-CES OCT 2018

PRECEDENT REVIEW OF INTEGRATED HEALTHCARE FACILITIES

A PROJECT BY

HOUSING · TRANSPORTATION · FOOD NEXUS RESEARCH PROJECT FACULTY OF ENVIRONMENTAL DESIGN - UNIVERSITY OF CALGARY **PROJECT PARTNER** SUSTAINABLE CALGARY'S ACTIVE NEIGHBOURHOODS CANADA PROGRAM



CALGARY, OCTOBER 2018

In November 2017, in consultation with our partners - the community of Bridgeland-Riverside and Sustainable Calgary - the Housing, Transportation, Food Nexus project led a review of precedents on innovative healthcare campuses. Bridgeland-Riverside was in discussion with Alberta Health Services about a new health facility in its community. In this context, we wanted to know if there were examples of health campuses designed to contribute to healthy places by incorporating active transportation, green space and urban agriculture into their design and construction. We all know health campuses are meant to improve human health within their walls, but how can they do so beyond the walls, in the neighbourhoods of which they are a part?

This precedent review is inspired by Sustainable Calgary's work with neighbourhoods in Calgary and Alberta through the Active Neighbourhoods Canada (ANC) program, aimed at designing public spaces for better health outcomes. As health care developments and retrofits are launched in the province, local communities have expressed excitement about how these can contribute to vibrant streetscapes that meet the diverse needs of local residents. At the same time, health agencies are increasingly stressing the importance of healthy built environments. Chief Public Health Officer Dr. Theresa Tam's inaugural publication, "Designing Healthy Living", focuses on just this. On the ground, healthcare providers in Calgary, Alberta and Canada are evaluating how they can improve pedestrian, patient and visitor experiences, and promote healthy lifestyles, in and around their facilities. Health Impact Assessments are increasingly used for new development projects across municipalities in Alberta. How can health campuses figure within this growing momentum?

Our review of precedents, summarized in this booklet, begins to answer this question. It presents outstanding examples of health facilities integrating themselves into neighbourhoods as part of a "healthy place": a place that encourages walking, creates social opportunities, is accessible, fosters mental well-being, and protects people from harm. On March 26, 2018, we shared our precedent review with designers, decision-makers and healthcare professionals at the City of Calgary's Innovation Lab, with two objectives in mind: providing research that could serve as inspiration for locally relevant design solutions and starting a conversation.

Thanks to the input of all who participated in the conversation on March 26, we gained valuable insights, reflected in this booklet. It was a pleasure and privilege to be surrounded by knowledgeable and insightful people with diverse expertise, all of which are invaluable to building healthy communities in our province.

We hope this is the beginning of many conversations to come on building healthy places in Alberta.

Noel Keough, Principal Investigator, Housing, Transportation, Food Nexus Celia Lee, Sustainable Calgary Lead, Active Neighbourhoods Canada Program

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THE BIGGER CON-VERSA-TION

While this research focuses specifically on the integration of healthcare facilities in the hosting neighbourhoods, this is only one part of a larger conversation about urban design intgration of large developments and corporate facilities. Built around concerns of pedestrian experience, public transportation and mixed-use developments, the precedent research identifies global trends in community planning and site integration of large, corporate developments. Occupying a significant footprint, institutional facilities have a unique opportunity to become a community anchor, to interface seamlessly with the adjacent urban fabric, promoting connectivity, lively walkable environments and contributing to the creation of a public realm that promotes social interaction. Integrated facilities benefit not only the surrounding communities but also the corporation's clients, employees and visitors, stirring feelings of belonging, ownership and the desire to return.

Joining the path of the participatory planning process adopted by the City of Calgary, the implementation of progressive corporate or institutional facilities will benefit from public engagement, stakeholder consultation and being part of the larger urban conversation. By engaging in a holistic approach to site development we can get a step closer towards achieving spatial justice, inclusiveness and social equity and create healthy places for all.

ACKNOWLEDGMENTS

Research: Juliana Morar Author: Juliana Morar/ HTF Nexus Project Contributors: Celia R. Lee and Roxanne LeBlanc

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Thank you to all of those who contributed to a meaningful conversation at the 2018 Healthy Places event on March 26, where this work was presented, and whose voices are reflected in this document. Many thanks also to the Sustainable Calgary Team for organizing the event, and to the Innovation Lab at the City of Calgary for hosting.



"I sit in the garden before my appointment; it helps me deal with what they will put me

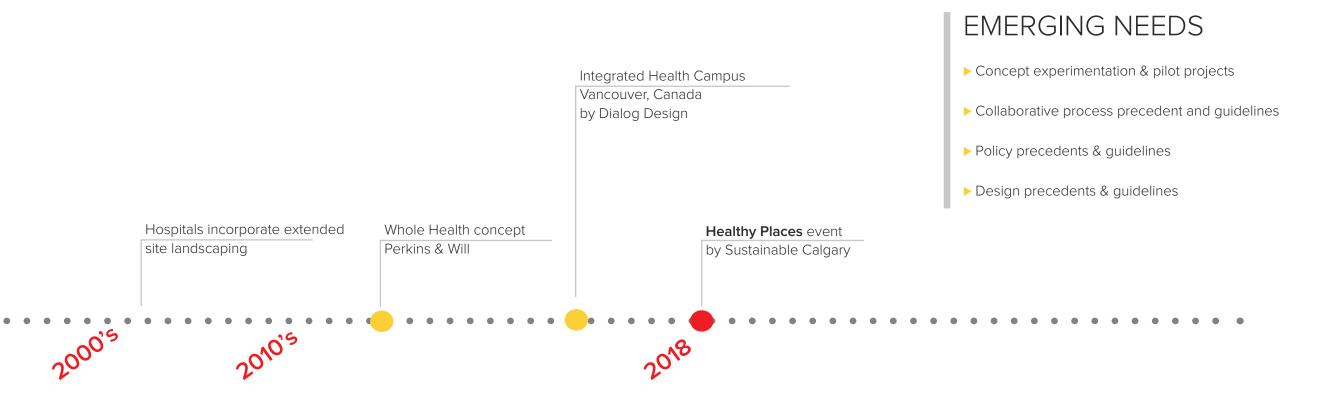
" I work in the Intensive Care Unit which is like a hell hole...sitting here in the sun is like therapy for

"I work underground in the Radiation Department, like one of the Mole People. If I didn't have this garden to come to...sunlight, fresh air, birdsong, trees...I think I'd go CRAZY!" Credit: All quotes from the work in www.healinglandscapes.com

First systematic post-occupancy

evaluation (POE) of hospital outdoor Cooper, Marcus & Barnes, 1994

OUTDOOR GARDEN USERS (RESEARCH EXCERPT)



"Landscapes should be designed with regard to their therapeutic value." Clare Cooper Marcus British Medical Association *"The Psychological and Social Needs of Patients"*, 2011

BATON ROUGE - HEALTH IMPROVEMENT DISTRICT

"The District is more than a place: it's also a coalition for improving efficiency and community health outcomes through partnership initiatives."¹ Perkins & Will

PROJECT SHEET

LEAD CONSULTANT Perkins and Will

LOCATION Baton Rouge, Louisiana, US

COMPLETION 2013/

SIZE 1,100 acres

PLANNING PROCESS 1 year Stakeholders involved: 13 institutions Healthcare Academic Research Government Non-profit partners Residential communities



The seamless integration of the healthcare institution into the neighbourhood fabric, combined with a mix-use of retail at ground level translates into a livable, pedestrian-friendly street to the benefit of both the host community and the institution workers.

URBAN FABRIC

The project presents similarities in scale and urban fabric with The Bridges, Bridgeland-Riverside



"The Baton Rouge Health District Plan achieved to create a framework for transforming the medical corridor into a Health District - an efficient, safe and balanced community that supports healthy living, every step of the way."¹



The Park and Open Space system contributes to the quality of the public realm. A Complete Street network promotes active transportation and opportunities for recreation in a natural environment.

THE COMMON GROUND: ESKENAZI HEALTH CAMPUS

"On the morning of July 29, the community of Eskenazi Health, civic leaders, and designers came together to celebrate the opening of The Common Ground, a civic gathering place focused on community, serenity and wellness for patients, visitors and employees of the Eskenazi Health campus."² The Land Collective

PROJECT SHEET

LEAD CONSULTANT Land Collective

LOCATION Indianapolis, Indiana, US

COMPLETION 2014

COMMUNITY HUB

With their oversized grounds, hospitals have a great opportunity to become community hubs.

The plaza fronting the hospital elevates the pedestrian experience to the point of becoming a destination in itself. Slightly offset from the through sidewalk, a shaded seating area with strong edges near a coffee shop, a sophisticated sky garden framing a pedestrian corridor and a playful spray fountain build a welcoming, memorable public realm.



DIT: @ 2014 LAND COLLECTIVE



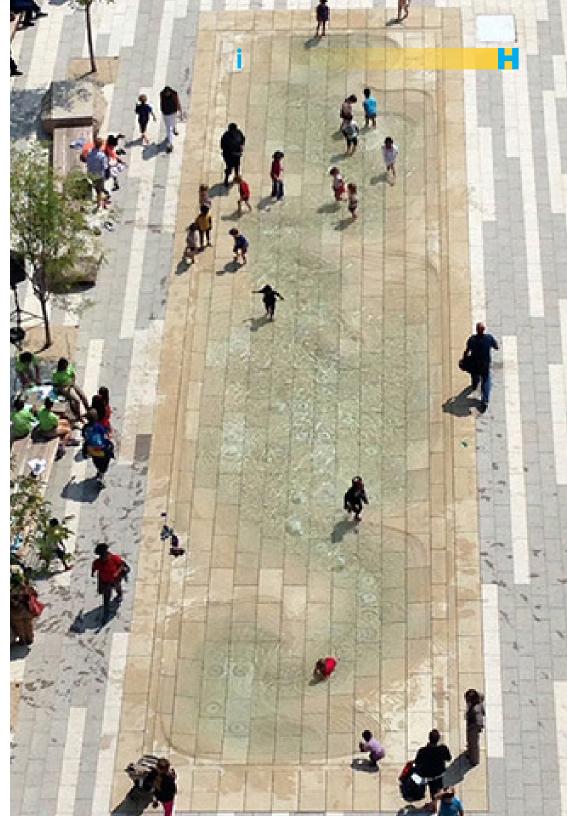
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The landscape plan offers a holistic experience throughout the year, for all ages and walks of life. The design vocabulary of the plaza extends to the top of the building with a communal garden.

SITE INTEGRATION The playfulness of the plaza makes one forget the presence of the hospital.







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Notice the strategic use of trees on the site. While a single row of trees are framing the public realm, a cluster is sheltering the seating area. The stylish, sheer sky garden creates not only a perfect setting for the weekly farmers market, but also grounds the space with its proportion.

THE NEW NORTH ZEALAND HOSPITAL

"The hospital architecture blends human and natural elements consistently, indoors and outside, to create a healing architecture with focus squarely on the patient. The architectural design expression is therefore also based on a soft, organic and humanistic idiom."³

PROJECT SHEET

LEAD CONSULTANT CF Møller Architects

LOCATION Hillerod, Denmark

PROJECT 2014 - proposal

TEAM

Client consultant: Cowi A/S, Ann-Pia Puggard Engineering: Alectia A/S, Rambøll A/S Søren Jensen Rådgivende Ingeniørfirma A/S Architect C.F. Møller Architects in collaboration with Cubo Arkitekter Landscape: Tredje Natur Collaborators, other Text - round 1: Christian Bundegaard





Either private or institutional, one of the emerging corporate campus models is the "island". In this particular design, the healthcare site is surrounded by a park-like skirt that buffers it from the adjacent

neighbourhood. Accentuating the island-effect, the perimeter pathway enhances the park feeling, offering the opportunity for day-long activities. A network of pathways crossing the site, combined with the strong axiality created by the raised pedestrian corridor, contribute to the connectivity of the site with the surrounding communities.





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With its organic shape, offset podiums and clustered trees, the building design creates a strong sense of place and a number of public spaces within the site.



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Inspired by New York's High Line, the raised pedestrian corridor gives the development a strong identity and contributes to the pedestrian experience.

ACUTE WARDS OF BISPEBJERG

"The project is designed with an emphasis on light, air, closeness to nature and easy wayfinding, as a concrete expression of the ideas behind healing architecture integrated with green landscape."⁴

PROJECT SHEET

LEAD CONSULTANT C. F. Møller Architects

LOCATION Copenhagen, Denmark, 2015

CLIENT Region Hovedstaden

SIZE 66500 m²

COMPLETION 2014-2015

Competition Joint 1st prize in competition, Phase 1



"C.F. Møllers and Terroirs' proposal is a reinterpretation of the existing Bispebjerg Hospital's listed pavilion structure and landscaping from 1913, in the form of 12 oblong buildings around a central terraced garden sequence, with strong references to both the hospital's architecture and the surrounding Copenhagen Northwest district."⁴

COMMUNAL SPACES

Mid-rise buildings, an open space network, community gardens and other public realm features create a strong sense of community.





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Cost effective design will seek to double the use of every site feature. For example the wetland wall doubles as seating.

DRØBAK - ELDERLY HOUSING PROJECT

PROJECT SHEET

LEAD CONSULTANT Haptic Architects

LOCATION Drøbak

COMPLETION 2016

DESIGN SLA OsloTre

CLIENT Embro Eiendom AS

SECTOR Residential

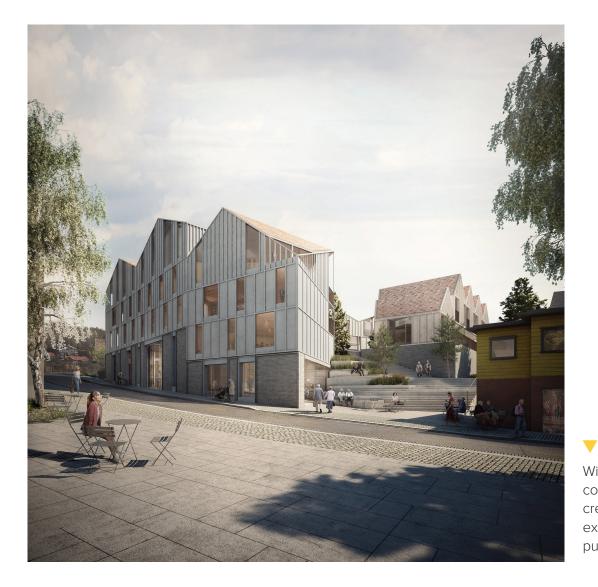
STATUS Planning Consultation



SENIOR HOUSING

Senior-housing complexes can be integrated within the larger community, allowing seniors to feel less isolated. The building type creates a home-like environment, less corporate.

"The project interprets the Drøbak townscape into one cohesive scheme consisting of multiple housing typologies. The project will provide for the growing population of elderly people within the town center, with equal focus on the internal and external spaces, creating a number of social spaces to bring people together."⁵





The project makes great use of the sloped site by incorporating underground parking.

With the oversized pedestrian corridor, the project successfully creates not only a great street experience but also a linear public realm.

KREBSESTIEN NURSING HOMES

"The project's major focus is to create a place that does not seem like an institution, but rather a home. The home-like atmosphere can be created by maintaining elements of the everyday routines that residents are accustomed to in their lives. The Senior Town gives the elderly the opportunity to "go to town" to run their daily errands, just as they have done all their lives."⁴

PROJECT SHEET

LEAD CONSULTANT Fuldendt Engineering: Oluf Jørgensen A/S Rådgivende ingeniørfirma

ARCHITECT C.F. Møller Architects

LANDSCAPE C.F. Møller Landscape

COLLABORATORS Lena Baungaard

"The nursing home centre Krebsebo in Gjesing will not only have 100 new homes for the elderly – it will also be the hub of a mini-town, called the Senior Town, connecting the nursing home centre with the rest of Gjesing and creating life for the

THE SENIOR TOWN

elderly residents.

The Senior Town consists of two housing clusters in the form of the nursing home centre and an elderly-friendly residential complex. Between this is space in which the Senior Town's everyday life can take place. The nursing home centre comprises four buildings, of which three include homes for the elderly and recreational areas. The fourth building, the Culture House, has public functions such as a café and nursing clinic."⁴





"Combining the public functions in the Culture House means that it can be used by the entire quarter, giving it the character of a community centre. Separating the homes from the practical functions also ensures that the homes for the elderly have a home-like atmosphere."⁴



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"Nature's therapeutic and healing effect is utilized in the nursing home centre's internal courtyard garden, where there is a cultivated garden, and the outlying forest clearings with their nature-integrated activities. This creates an attractive setting for the Senior Town's residents, as well as for children and adults from the local community."⁴

CBS CAMPUS IN SOCIETY - INTEGRATED CAMPUS

"One of the visions for the new CBS is that, in terms of size and influence, the university should become a symbol for how Denmark and the Western world wishes to develop in the future. The university campus must be intelligent, compact, creative, heterogeneous, individual and have strong cohesion with the city and urban society."⁴

PROJECT SHEET

PROJECT TEAM C.F. Møller and Transform

PROJECT 1st Prize in competition

CLIENT Copenhagen Business School, The City of Frederiksberg, Metroselskabet, Realdania

LOCATION Copenhagen, Denmark

SIZE 6 ha site, 31,000 m² new build

COMPLETION 2014

"We have defined clear meeting places at every location where there is an interface with surrounding areas of the city. We have also merged traffic-related and green elements. The master plan will therefore naturally become integrated into its context and attract a wide variety of user groups."⁴





"The new master plan creates four different new urban spaces, ranging from the classical plaza around the metro stations to an informal, recreational park at the centre of the campus. Blue and green elements are included as parts of the climate adaptation strategy. These can potentially become recreational focal points and meeting places as well as elements that forge urban identity."⁴

TEXAS MEDICAL CENTER - INTEGRATED CAMPUS

" Famed New York High Line landscape architect designed the new elevated rooftop Helix Park. Situated on top of the double helix building, Helix Park will be open to the public, will soar 60 feet above the campus, and will offer sweeping views of downtown Houston and the Texas Medical Center."

PROJECT SHEET

LEAD DESIGNER Gensler

LOCATION Huston, Texas

SIZE 30 acres

COMPLETION 2018-2022

FACTS

Five million sqft collaborative research campus, 250,000 sq. ft of core labs and amenities, including 125,000 sq. ft of commercial and retail space and 125,000 sq. ft of shared research facilities. TMC3 will be home to the 410-room TMC Hotel and Conference Center, with 50,000 sq. ft of conference space. HIGH-LINE The research group at Sustainable Calgary proposed a similar pedestrian crossing over Memorial Drive in Bridgeland- Riverside to improve pedestrian connectivity between the neighborhood and downtown core.

Considered to become the largest medical complex in the world, the 30-acre collaborative campus is designed around an elongated core, a multi-storey facility building housing core labs, commercial and retail spaces. Connecting with the adjacent neighbourhood, the helix-like linear park arching above the grounds, offering panoramic views over the city, is set to become a destination in itself.





AKEHURST HOSPITAL: SIZE AND MATERIALITY

"The hospital will be as big as a Danish provincial town, with the same layout as an archetypal town, with an elevated, densely built-up centre."⁴ C.F. Møller

PROJECT SHEET

ARCHITECT C.F. Møller

LOCATION Aarhus, Denmark

COMPLETION 2007/

CLIENT Region Mid-Jutland

SIZE 216000 m² new-build 159,000 m² conversion

SITE Approx. 970,000 m²

CAPACITY 797 beds 43 dialysis seats 80 hotel beds



"The major hospital complex is structured as a town, with a hierarchy of quarters, streets, plazas and squares as the basis for a diverse and dynamic green urban centre, and with intuitive way-finding for its users. Systematic use of "Knowledge and Evidence-Based Design" has allowed the concept of "healing architecture" to influence the physical design of the hospital."⁴

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The use of natural materials softens the visual impact of the massive hospital.

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The principle of "healing architecture" is employed equally indoors and outdoors. Maximizing natural light, the use of natural materials, high ceilings and wide corridors improves the hospital clients, visitors and staff experience.



THE SHELDON CHUMIR HEALTH CENTRE

PROJECT SHEET

LEAD CONSULTANT Gibbs Cage Architects

COMPLETION 2008

LOCATION Calgary, Alberta

CLIENT Alberta Health Services

Our own Sheldon Chumir Health Center in Calgary is a great example of a successful integration into the urban fabric, overcoming its massive visual and land footprint.



With an open-for-all west-east and north-south passage and public washrooms at podium level, the Center opens itself to the community, and creates a welcoming, permeable environment. Around the building, the ground level windows host regular art installations, making the building an evening-stroll destination. A coffee shop on the south-east corner completes the pedestrian experience.

COMMUNITY INTEGRATION Among the features that make the Centre well integrated into the downtown community are the pedestrian - friendly podium with bi-directional connectivity, pop-up retail available in its main lobby and a trendy coffee shop.





Windows with public art

PEARSON DOGWOOD: WHOLE HEALTH

"Pearson Dogwood is designed to yield a financial endowment for health & wellness both on the site and across the region. New sources of revenue are realized by unlocking the real estate value of the site. Through redevelopment, Vancouver Coastal Health can generate the means to rejuvenate its stock of residential care housing, including the replacement of Dogwood Lodge and new, more ndependent housing for current residents of the George Pearson Centre."⁷ Dialog Design

PROJECT SHEET

LEAD CONSULTANT Dialog Design

LOCATION Vancouver, BC

COMPLETION Ongoing

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"At its heart, the master plan's "whole health" vision is about whole people, whole communities, and whole ecologies. This includes a design focus on the wholistic health of the individual, including physical, emotional, mental, and spiritual well-being.

Whole communities focus on fostering a sense of community, sense of place, and sense of belonging, while whole ecologies focus on emphasizing educational and experiential connections with ecological systems and processes."⁷





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Leading the way to a new financial model for healthcare facilities, the Pearson Dogwood redevelopment creates a diverse, mixed-use environment.

THE APPROVED REZONING PROPOSAL INCLUDES

- Approximately 2700 residential units including 361 social housing and land for 179 more
- Approximately 114 Pearson supportive units
- Commercial space
- Health-related facilities including community health center and complex residential care facility
- ▶ 69-space childcare facility
- Adult day center
- Therapy pool
- 2.5 acre public park
- One acre urban farm

FAR

The project aims to achieve a 2.83 FAR (Floor-to-Area-Ratio)

WORK-Shop Fedback



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A truly urban environment whose diverse uses blend together, rather than present as discrete environments

Feels very urban and energized street level, human scale

Active urban streetscape usable for community

Health campus almost indistinguishable from surrounding city vs. a refuge from that pace/ intensity



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Children have play opportunities regardless of who is being treated



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Ways to ACTIVATE the space... draw people to the spaces both winter and summer



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Integrates health service with broader community

- Building is a landscape canvas, rather than a structure to be landscaped around
- Love the design which allows for actual use of the space by non campus people (I would bring my daughter here)
- Like the scale and the break-down of the building reaching to the surrounding community though need to ensure walkability both interior and exterior



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Benches. Green Space. Interesting and beautiful to look at

Interesting walking paths and seating areas... integrated with building

Nice views of nature for inside occupants / nearby local community. Integrates health service with broader community

Nice use of building to achieve grade changes – and provide access across the site



Like the low-rise approach. Good adjacencies

Green roofs, gardens and sheltered spots

Nice scale – lower, more residential feel

Inviting – residential feel

Really like the green space, park-like environment. Not all parking lots. Could incorporate community gardens in Bridgeland

WORK-Shop FEDBACK



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Best use of precious space with underground parking... but \$

Underground parking is a must in urban projects! Buildings are there for 60+ years. Build underground parking now when it's less expensive and easier

Agree with others – so much easier to build underground parking at the beginning; look at FMC on what not to do (front parkade) – frees up surface land for other purposes



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This specific use building fits so perfectly with the surrounding and existing streetscape

Principles: retrofit in a built, dense area versus new build at the edge of the city

Architecture projects a residential rather than institutional feel. This is "home"

The precedent received no comments.



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How do people get here? Looks car-based. Must integrate with public transit

Love the playful aspect of this one that creates a space where a mix of ages can use space

Does this involve a surface parking lot?

Would need sun protection en route to campus, and shuttle bus. Need to consider human comfort and patient care in the surroundings as well.



Materiality – use of natural materials; wood, stone, etc



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High Density appropriate for inner city sites – urban environment isn't the suburbs

Transit station very close to Health Centre (great for staff + day visitors)



The precedent review reveals a breadth of best practices that emerge from the healthcare design community around the world. Grounded in the overarching intent of a holistic design approach, Dialog Design, Perkins and Will and CF Møller, to name a few, lead the way with a project methodology based on stakeholder participation, community engagement and clear intent of seamless facility integration into the neighbourhood fabric, contributing therefore to the pedestrian experience, site

connectivity and the creation of amenities that benefit all community members. Supported by a wealth of research quantifying the relationship between community well-being, health indicators and our living environment, the emerging holistic design approach leaves behind the generic, location-indifferent, building+parking institutional facility model, engaging into a multi-phase design process that contextualizes the site, acknowledges the spatial and social impacts of the new facility on the neighbourhood's dynamic and seeks out design solutions that bring to a common ground competing social, environmental and economic interests.

A holistic design method is not a spontaneous one. It is an intentional and carefully planned process born at the very stage of the identification of the facility need. Its clear intent and stages are articulated early on by the commissioning agency and the bidding documents carry on that intent, committing financial provisions for it and holding to high standards its implementation. The overarching idea of a standardized work methodology for healthcare facilities across all decision-making levels, from governments to design professionals, emerged in several engagement meetings, suggesting the need for specific research addressing this topic. Bringing clarity to the facility integration process, this work methodology will act as a process map, informing on feedback opportunities and stages of development. Informative and clear, the process map/ work methodology becomes in this case the blueprint of a holistic design approach. After all, there are no two sides of the table, but one round table where all stakeholders work collaboratively for the same goal: to make our neighbourhoods, our living environment a healthier place, all while finding the common ground where corporate, social, environmental, economic, and public health interests are met.



Novartis Campus by PWP. Photo credit: www.landezine.com



- Designing for 8-80
- Designing for winter
- > Designing for multiple users (patients, staff, visitors, community)
- Designing for the long term (60+ years)
- Designing for multiple site functions (ambulance access, community space, patient and visitor access, specialized needs)
- Indoor/ outdoor pop-up / temporary businesses
- Adaptive spaces (can it be adaptive to different uses)
- Green technologies to improve efficiency and lower operating costs of facilities and underground parking lots
- Ideal scale (affordability, human scale, human comfort, walkability, sustainability)
- ▶ Transit-oriented development
- Health facilities indistinguishable from surrounding urban environment or a refuge from it
- Children and play opportunities



Sustainable Calgary held the 2018 Healthy Places event to start a *local* conversation. The event brought diverse experts and thought leaders to the table, shed light on local challenges and showcased local capacity. Our conversation revealed shared enthusiasm and will to create 'healthy places'. It also stressed the need to do this collaboratively in complex health care developments, leveraging different jurisdictions and

stakeholder groups. Given the challenges of collaborating on complex projects, event participants articulated a need for pilot projects, guidelines, and best practices in three areas - collaborative process, design, and policy – to help facilitate future work. Our thanks, once again, to all those who participated!

The case is clear: we can build cities that improve public health, while also benefiting the environment, the economy, and our communities. The significant level of capital spending on health facilities should not only follow best practices in urban design, it has the potential to be a catalyst for innovation in the design of healthy communities and cities. This review of precedents revealed diverse and elegant solutions to complex design problems, capturing unexpected synergies; and it revealed that we can face our most pressing global challenges, such as climate change and the costly health impacts of sedentary lifestyles, with creativity and with accountability to a vision of healthy, inclusive and vibrant places.

SUSTAINABLE CALGARY

Our mission at Sustainable Calgary is to encourage and support Community-level actions and initiatives that move Calgary towards a sustainable future. Projects we take on are rooted in our State of the City reports, where indicators across 7 domains - Community, Economy, Education, Ecology, Resource Use, Wellness and Governance help us identify where interventions are needed. Most recently, our work with communities has focused on impacting design and planning processes at the municipal level, with the goal of creating a safer, healthier, equitable and more sustainable Calgary.

Our expertise is in producing credible research across these domains, and engaging communities to participate in research, discussion and action. We would love to be your strategic partner, supporting and assisting your projects with our expertise.

Noel Gerard Keough Principal Investigator, Housing, Transportation, Food Nexus President, Sustainable Calgary

FOR MORE INFORMATION

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