Institutional (Large) Award

CLAYTON
COMMUNITY CENTRE
Surrey, BC

Jury Comment

A project that is remarkable for its Passive House energy performance and the light and engaging character of its interconnected interior spaces. The floating plane of the glulam roof references the surrounding forest. The emphasis on community engagement and universal design are also noteworthy.

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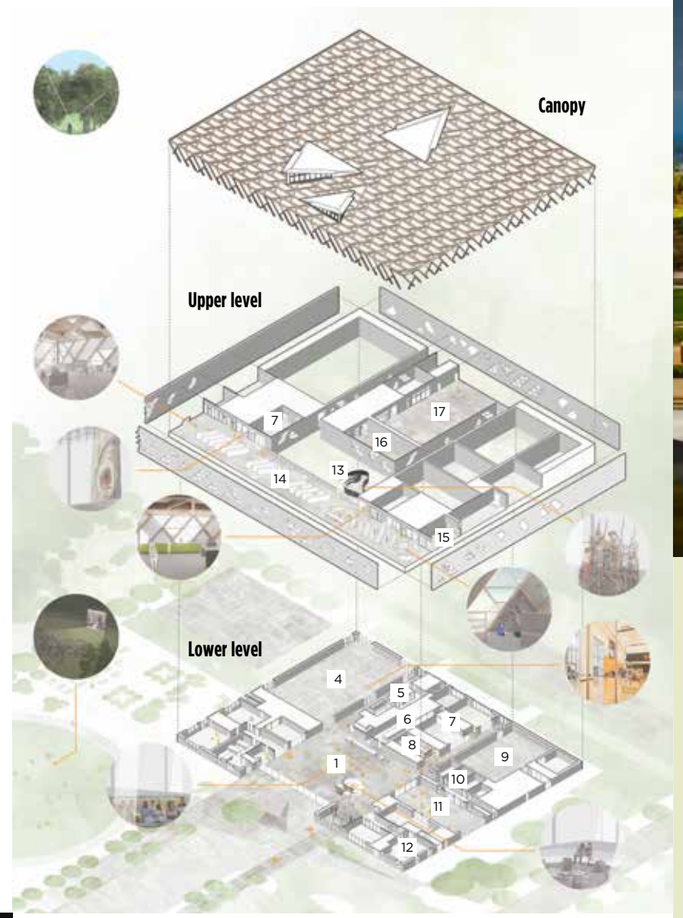
The surrey neighbourhood of Clayton Heights is transitioning rapidly from a predominantly agricultural community to an increasingly urban one. Designed to feel like it is part of the surrounding forest, the project focuses on meeting the current and evolving needs of residents, with social gathering spaces that foster wellness, connection and resilience.

The 7,000 m^2 (76,000sf) Centre brings recreation, library, arts and parks programming together seamlessly into one facility. The design process identified ways for these programs to pool space and resources to benefit both the community and their own operations.

The design focuses on meeting the needs of young people, while providing key gathering spaces to support the development of overall community connections. The unique mix of spaces combines arts and culture programming including music studios, recording studios and a community rehearsal hall, with recreational activities including a gymnasium, fitness centre, and a branch library.

The supporting social areas and supplementary spaces were conceived in collaboration with the community and designed to facilitate community-led programming. Rather than developing and presenting their own designs, the architectural team invited people into the process to actively shape the development of the facility.



Floor plans: Axonometric

1. Lobby/shared social space
2. Community kitchen
3. Pre-school spaces
4. Gymnasium
5. Universal change room
6. Administration offices
7. Multipurpose rooms
8. Universal washroom
9. Performance hall
10. Music studios
11. Visual arts
12. Workshop
13. Feature stair
14. Library
15. Computer learning classroom
16. Fitness studio
17. Fitness centre

1. View along the front façade. A full-scale mockup was built to optimize and confirm the construction sequencing to meet air tightness performance requirements.
2. The feature stair in the lobby with a view of the glulam roof structure by **Western Archrib** supported on steel columns.
3. The Clayton Community Centre is designed to fit into the surrounding forest as the area transitions to a more urban community.
4. Interior spaces were arranged according to their usage, requirements for natural light and views, spatial connectivity and operational needs, with consideration given to ideal solar orientation.

PROJECT CREDITS

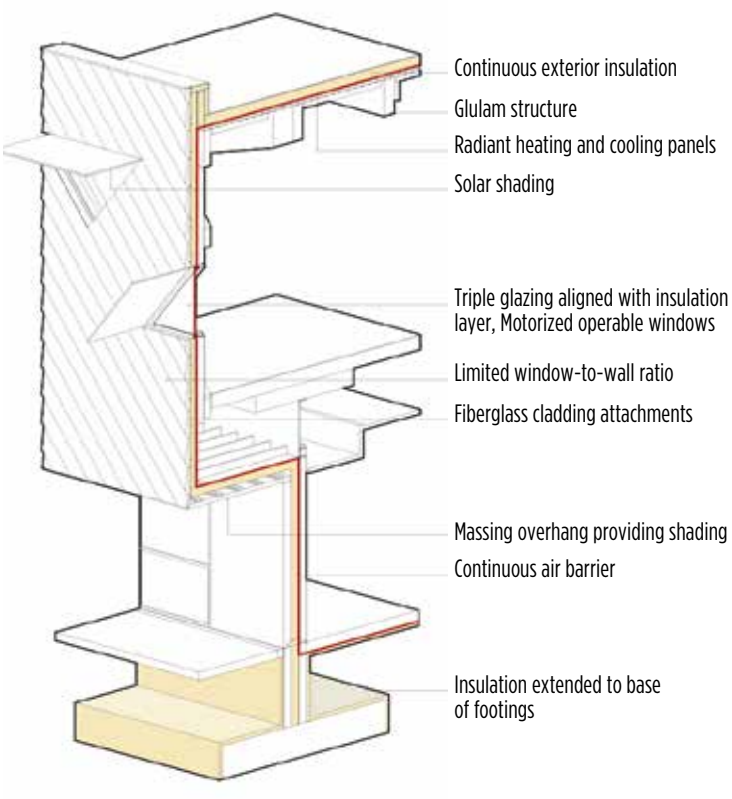
ARCHITECT hcma
OWNER/DEVELOPER City of Surrey, BC
STRUCTURAL ENGINEER RJC Engineers
MECHANICAL ENGINEER Integral Group
ELECTRICAL ENGINEER AES Engineering
LANDSCAPE ARCHITECT Hapa Collaborative
COST CONSULTANT BTY Group
CIVIL ENGINEER Aplin & Martin Consultants
ARTS & CULTURE FACILITATOR Paul Gravett Consulting
SURVEYOR Murray & Associates
TRAFFIC Bunt & Associates
ACOUSTIC CONSULTANT RWDI
TREE SURVEYOR Arbortech Consulting
WAYFINDING + SIGNAGE hcma
PHOTOS Ema Peter (photo 2), Andrew Doran (photos 3 and 5), doublespace photography (photos 1, 4 and 6)

PROJECT PERFORMANCE

- Reduction in energy consumption relative to reference building = 72%
(Source: American Society of Heating, Refrigerating and Air-Conditioning Engineers - ASHRAE)
- Reduction in carbon emissions relative to a gas heated reference building built to code = 98%
(Source: https://buildingbenchmarkbc.ca/)

Natural ventilation patterns

5. and 6. Amenities include a community kitchen for the hosting of events, and child care.



Axonometric wall section

In the absence of a recognized independent standard, hcma created its own social impact framework based on principles of equity, social inclusion, sustainability and adaptability. Clayton Community Centre is the first building to have been completed using hcma's framework from start to finish.

The choice to pursue Passive House certification had a major influence on both the design process and the final design of the building. The unique compact form of Clayton Community Centre serves to minimize the surface area of the floor, walls, and roof, relative to the volume needing to be heated and cooled. Spaces were carefully arranged according to their requirements for natural light and views, spatial connectivity and optimal solar orientation.

From the start, the project was aiming for ultra low energy performance and ultimately Passive House certification. As most of the Passive House projects completed in North America have been in the residential sector, there are few completed non-residential projects from which to learn. By designing complex non-residential buildings, design professionals are charting new territory.

The design team carefully considered the building's occupancy patterns, including the number of visitors anticipated during operating hours and the energy use of the equipment in each room, to calculate the proposed energy use.

By following Passive House criteria, Clayton Community Centre has reduced energy consumption by 98% compared to the average performance of similar existing buildings in British Columbia, and reduced carbon emissions by 98% compared to the same building built to ASHRAE standards. By setting high energy performance goals and engaging in a truly collaborative design process, hcma and its team have created a project that delivers social and environmental value that exceeds the sum of its parts.