

Idea Exchange Old Post Office Cambridge, Ontario, Canada

Canada's first "bookless" library dedicated to Makerspaces, the Idea Exchange Old Post Office offers Cambridge residents free access to an array of spaces for learning and creativity, and a new, central hub for meeting and socializing. Anchored on the bank of the Grand River, the project reignites a landmark — a listed 1885 masonry post office that had fallen into serious disrepair — and adds a 9,000-square-foot transparent pavilion that wraps around the original building and stretches out over the water, revealing the conviviality within to passersby, enticing them in. The multidimensional architecture communicates from all sides, exuding intelligence and practicality as it deftly merges old and new. RDHA achieved sophisticated forms using customized off-the-shelf materials, maximizing utility, appearance and economy. Standard elements, such as drywall and strip lights, are treated with a degree of care that adds elegance. The Idea Exchange Old Post Office is an emblem of civic pride, of advances in communication technologies (in its transition from post office to digital hub), and of the corresponding transformation of the Cambridge library system, which in 2015 rebranded itself as the Idea Exchange.

A glass box entrance introduces an exhilarating progression up a feature stair adjacent to glass-walled views of the historic building, providing users with a close-up of the immaculately restored masonry while carrying them into the contemporary pavilion addition that cantilevers over the river wall. Scattered with table and lounge seating, this area offers breathtaking floor-to-ceiling views of the surroundings. Rhythmic window openings in the old building are now entrances into a fully-equipped Reading Room Cafe, accessed by bridges that echo the bridges over the river. The openings in the floor allow natural light from skylights overhead to reach the lower level, and also connect the activities below to the heart of the building. There is care and efficiency in the details — for example, stone patterns on the façade of the heritage building inspired a custom ceramic frit pattern on the glazing that reduces solar heat gain, and the perforation frit pattern on the millwork that provides airflow to servers and heaters. Similarly, a perforated drywall ceiling absorbs sound while softening the visual uniformity of the space.

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On the lower level, users can take advantage of a suite of creative studio spaces. There is a black box theatre, film and audio recording suites, laptop dispensing and gaming areas, and musical instruments are available for recording and performance. The second level is a children's Discovery Centre, a single large bright room equipped with smart tables, robot building kits, and built-in feature walls with Lego, Lite Brite and magnets. In keeping with the mixing of old and new, a floating glass boardroom/teaching space and a large exterior rooftop terrace and green roof overlook the river, and also provide up-close views of the heritage building, including its newly restored slate roof.

One of the greatest pleasures of the building is the attic Makerspace—an all-white space that soars to a peak, and is braced by an elegant arrangement of star-shaped steel trusses, now adapted to hold strips of lighting. Between these trusses the architects have created a fully-equipped studio outfitted with a laser cutter, 3D printers, soldering stations, vinyl cutters, irons, sewing machines, and wood and metal workshop tools. Visitors can gaze up into the clock tower through a glass ceiling, and see its weights and gears in action. An extended glazed parapet condition at the roof level discreetly houses its mechanicals.

As they updated the building for the present, the architects were also thinking about the future. Anticipating that a river walk will eventually follow the water's edge, they clad the soffit of the cantilever with aluminum panels, polished with a mirror-like finish, heightening the building's relationship with its surroundings, and giving future walkers a reason to look up.

Cambridge is a small city, but it has a rich architectural and library heritage that provides context for this project. The Old Post Office is just one of a wealth of historic brick and limestone buildings lining Water Street, including a stately brick Carnegie library, one of three built in the area. These nineteenth-century libraries used classical architecture to show the value placed on knowledge and ideas. With their reimagining of the Idea Exchange Old Post Office, juxtaposing brick and slate with glass and metal, RDHA has made the same statement in an updated architectural language, and shown the value in merging the historical with the contemporary. And while the Idea Exchange Old Post Office is bookless, the Idea Exchange Queen's Square branch, with an extensive book collection, is only a short walk away.

Project Details

Official project name: Idea Exchange Old Post Office
Location: Cambridge, Ontario, Canada
Client: City of Cambridge & Idea Exchange

Date of Completion: October 2018
Area: 18,686 sf (1,736 sm)
Construction Budget: \$11,130,000

Photography Credit:

- › Tom Arban - all except the following
- › RDHA - Sanjay Chauhan images: 01 & 04

Architecture and Interiors: RDH Architects Inc.

Team Members:

- › Principal and Design Director: Tyler Sharp
- › Principal: Bob Goyeche
- › Project Managers: Juan Cabellero & Ivan Ilic
- › Staff: Soo-Jin Rim, Gladys Cheung, Andrew Cranford

Key Consultants:

- › Heritage Consultant: Stevens Burgess Architects, Kelly Gilbride
- › Structural Engineering: WSP, Andrew Dionne
- › Mechanical/Electrical Engineering: Jain & Associates Ltd.
- › Landscape Architects: NAK Design Strategies, Robert Ng
- › Civil: Valdor Engineering Inc., David Guigovaz
- › Cost Consultant: AW Hooker Associates Ltd.
- › Acoustics Consultant: Aercoustics Engineering Ltd.
- › Contractor: Collaborative Structures Ltd., Drew Fletcher

About the City of Cambridge

Cambridge is a city located in Southern Ontario at the confluence of the Grand and Speed rivers in the Regional Municipality of Waterloo, Ontario, Canada. It was formed in 1973 by the amalgamation of Galt, Preston, Hespeler, the settlement of Blair and a small portion of surrounding townships. The population in 2016 was 130,000.

www.cambridge.ca

About RDHA

RDH Architects Inc. (RDHA) is a Toronto-based studio specializing in architecture for the public realm. Founded in 1919, the firm has a wide-ranging body of work, encompassing community and recreation facilities, libraries and cultural buildings, operations centres, transit facilities, post-secondary education facilities, secure buildings, corporate and institutional office buildings, and additions and renovations to heritage structures.

In the past decade the current principals have transformed the work and culture of the studio with the aspiration of producing clear, concept driven public architecture of the highest caliber. The firm now feels and acts like an emerging design studio supported by 99 years of strong technical and managerial experience. Consequently, RDHA have re-emerged as one of Canada's most acclaimed design firms, winning more than 50 major provincial, national and international awards in the last 10 years, most notably three Governor General's Medals, the 2014 Royal Architectural Institute of Canada Young Architect Award for design partner Tyler Sharp, and the 2018 RAIC Architectural Firm Award.

www.rdharch.com

About the Idea Exchange

Idea Exchange is a public organization that offers library services, learning and art programs, and events for everyone in the community to enjoy at six locations across the City of Cambridge. They are dedicated to creating an environment of curiosity and discovery, inspiring lifelong learning, reading and creativity in our community through access to library materials and services as well as online courses, databases and a variety of programs and events. Enjoy free admission to art exhibitions at our Cambridge Art Galleries and to over a hundred public art galleries across Ontario.

www.ideaexchange.org



01 - The original building is augmented with a luminous, 9,000-square-foot addition. This project's design is tailored to facilitate an innovative public program: the first "bookless library" in Canada.



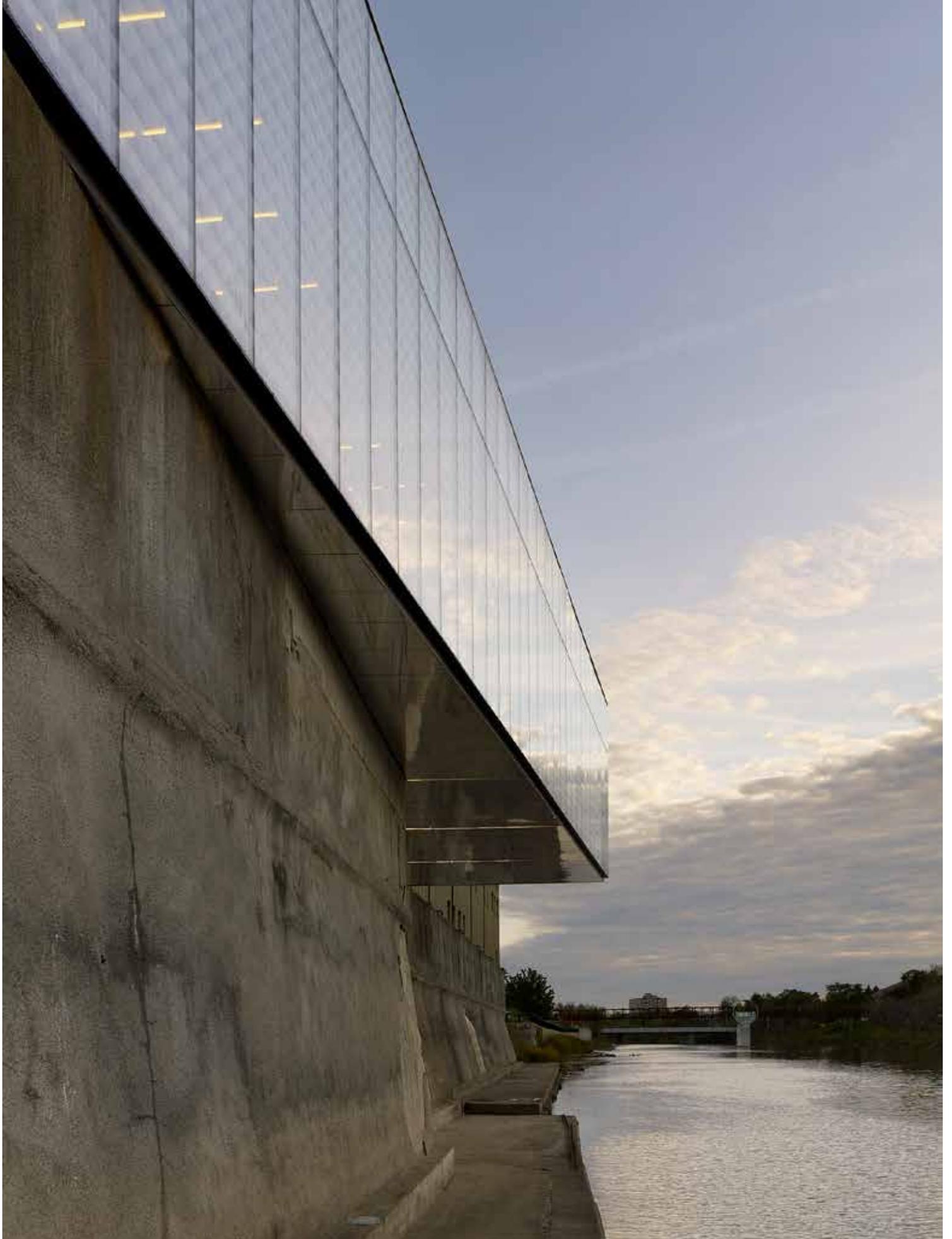
02 - The cantilevered pavilion and upper boardroom/teaching space float dramatically above the Grand River. Floor-to-ceiling windows make the additions transparent and inviting to passersby when illuminated at night, and create dazzling reflections on the water below.



03 - The contemporary pavilion addition, cantilevered 20 feet over the river, is designed to be buoyant: in the event of a major flood, it will float.



04 - Bridges span the Grand River on either side of the building.



05 - The soffit of the pavilion cantilever is clad with aluminum panels, polished with a mirror-like finish, in anticipation of a future river walk directly below the building.



06 - Through the floor-to-ceiling windows, patrons sometimes see herons flying low along the river.



07 - The Old Post Office is just one of a wealth of brick and limestone buildings that line the Grand River. The original 1885 structure has municipal, provincial and federal historic designation.



08 - Blending Romanesque, Neo-Gothic and Second Empire styles, the Idea Exchange's original structure was designed by Thomas Fuller, Canada's chief federal architect at the time, who also designed Parliament's original Centre Block and Library.



09 - A glass box entrance foyer and feature stair with views to the historic building.



10 - The main floor offers a multi-use space with ample seating and an information counter. Custom ceramic frit patterns on the floor-to-ceiling windows, in a design based on the ornamentation of the building's original façade, help shield the space from the heat of sun.



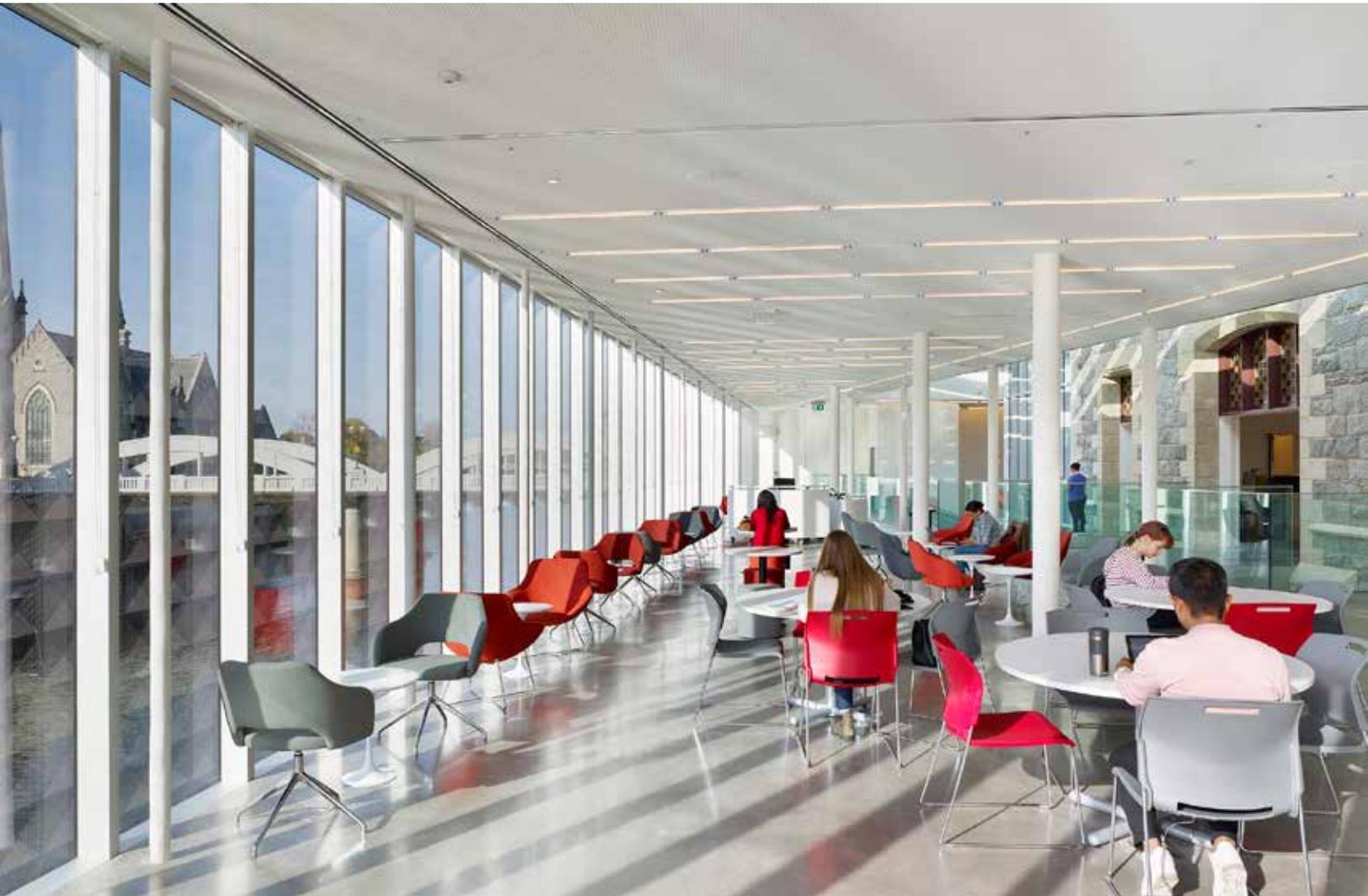
11 - Large enough to accommodate special events, the new main level pavilion offers seating for reading, working, studying, eating or socializing, with breathtaking views of the surroundings.



12 - Bridges in the atrium connect the new pavilion to the Reading Room Café, and visually reference the bridges spanning the Grand River outside.



13 - Window openings in the old building are now entrances into the Reading Room Café. Vertical and horizontal openness between spaces invites users to discover programming throughout the facility.



14 - Chairs are upholstered in Maharam's "Scuba" polyurethane fabric — stylish while also affordable and durable.



15 - With so much activity going on all around it, this historic Reading Room Cafe needed carefully considered acoustics. Sound absorbing perforated drywall on the high ceilings prevents voices from carrying and the clink of tableware from bouncing off the walls.



16 - In the heart of the building, the comfortable Reading Room Café, with a fully-equipped kitchen, adjoins the new pavilion. Integrating food services into a library space helps draw in new users and enables people to spend more time in the building.



17 - The children's Discovery Centre has built-in feature walls with interactive Lego, Lite Brite and magnets for educational play.



18 - The children's Discovery Centre is equipped with smart tables, touch-screen tablets and robot building kits. A glazed staircase leads to the Makerspace studio above.



19 - The Discovery Centre's technology-rich environment supports the children's programming offered at the Idea Exchange, with a focus on STEAM activities (science, technology, engineering, arts, and math).



20 - A floating glass boardroom/teaching space overlooks the river, and also provides views of the rooftop terrace, green roof, and the adjacent newly restored slate roof.



21 - The attic retains the historic structure's original star-shaped steel trusses, and now serves as the Makerspace. As public libraries reevaluate the types of services and resources they offer, the creation space has emerged as an important new program element.



22 - The Makerspace offers tools and technologies for public creation. Extended hours accommodate users with daytime work schedules.



23 - Visitors can gaze up into the clock tower through a glass ceiling in the Makerspace laser cutting room and see its weights and gears in action.



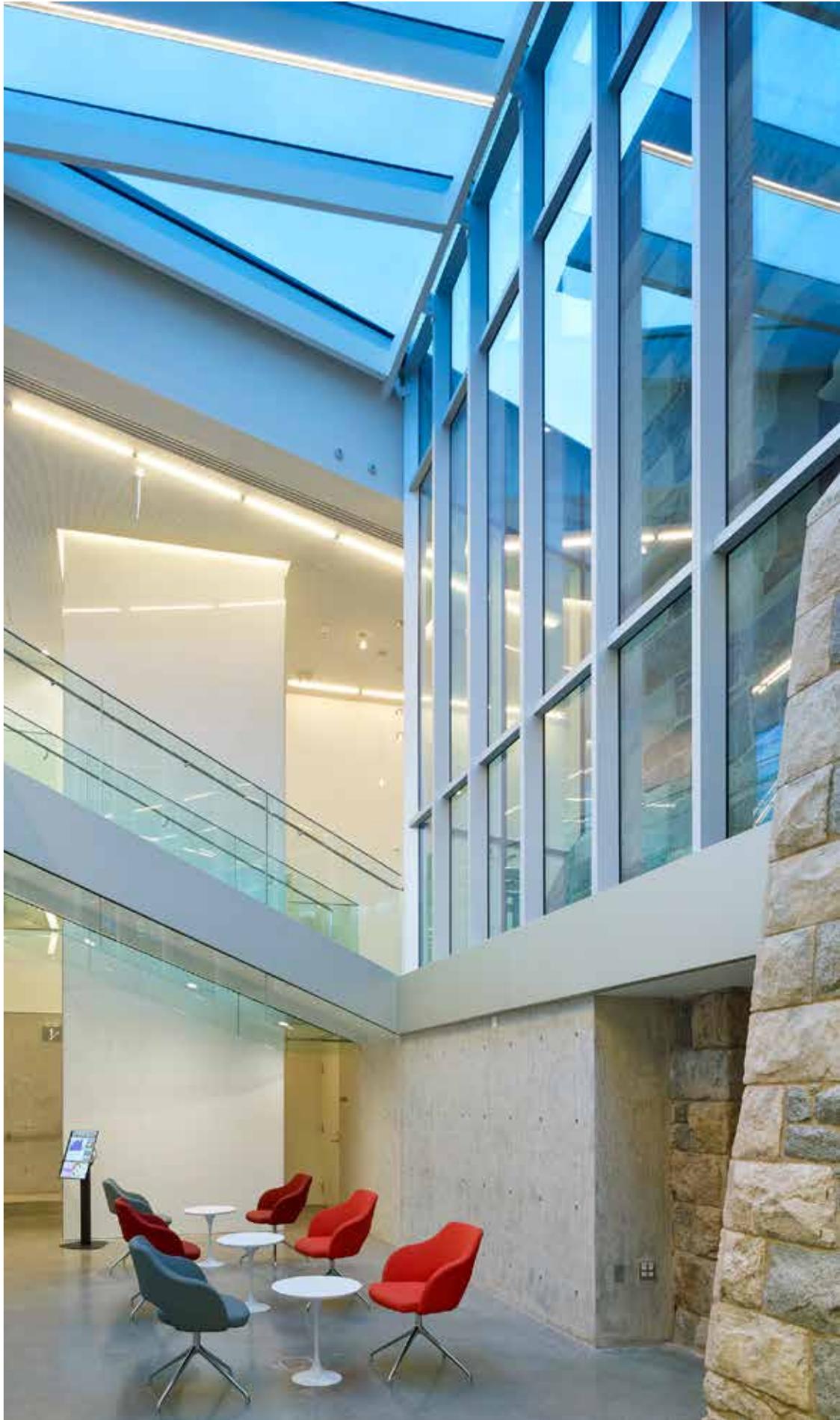
24 - To accommodate the creative studios and performance space, the floor of the lower level was dropped by several feet. As this level is below the flood line elevations for the Grand River, flood resistant materials and flood-proofing mechanisms were used throughout.



25 - Musical instruments are available for recording and performance. This black box performance space is directly beneath the Reading Room Café, and efficient sound attenuation allows musicians to rehearse without disrupting the calm above.



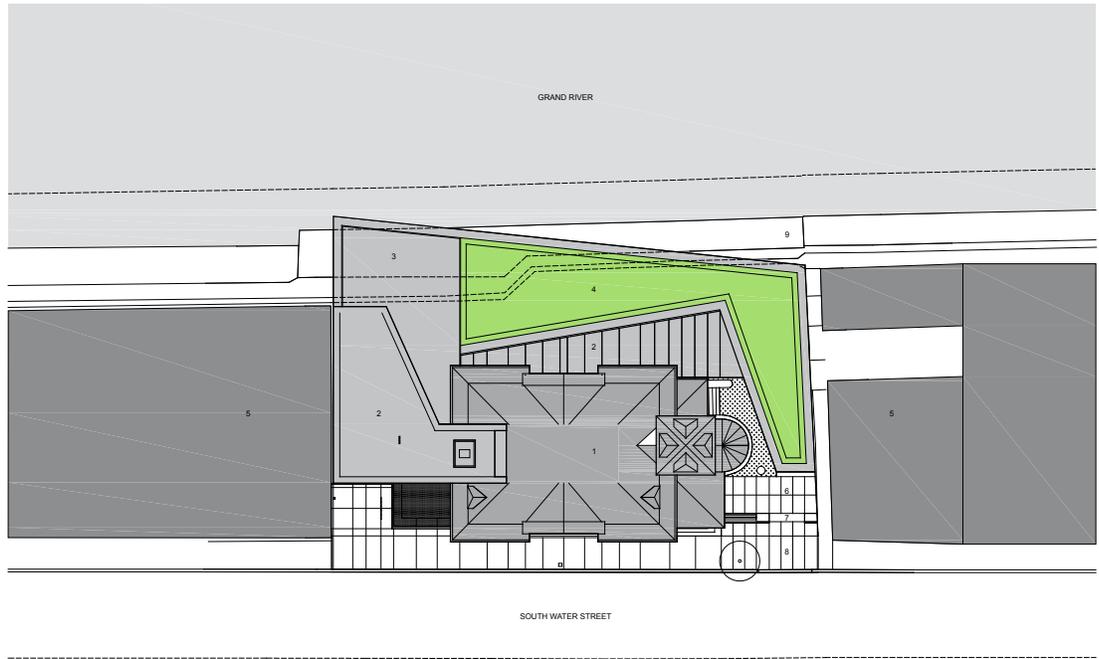
26 - The lower floor offers a range of creative studio spaces, including a green screen and photo studio, black box theatre, sound-proof film and audio recording suites, laptop dispensing, and gaming areas. These resources introduce a cycle of learning, teaching, producing, and exhibiting work made by the public into the use patterns of the public library.



27 - Slices in the floorplate between the pavilion and the Reading Room Café allow natural light from skylights overhead to ignite the lower level, and connect the activities below with the heart of the building. This design raised significant acoustic challenges, which were addressed with material details such as soundproof structural glass walls and acoustic dampeners within the mechanical ductwork.

- 1 EXISTING BUILDING
- 2 NEW ADDITION (PAVILION & BOARD ROOM/TEACHING SPACE)
- 3 ROOF TOP TERRACE
- 4 GREEN ROOF
- 5 NEIGHBOURING PROPERTIES
- 6 ENTRY PLAZA
- 7 EXISTING HERITAGE GATES
- 8 WATER STREET SIDEWALK
- 9 FUTURE RIVER WALK

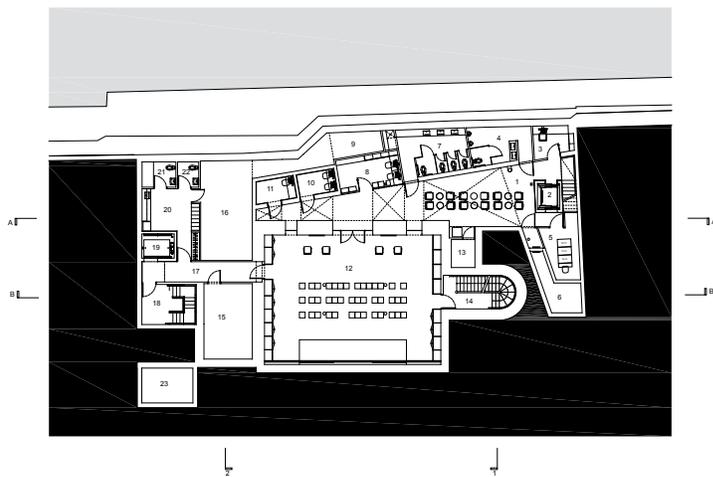
SITE PLAN



000 LEVEL PLAN

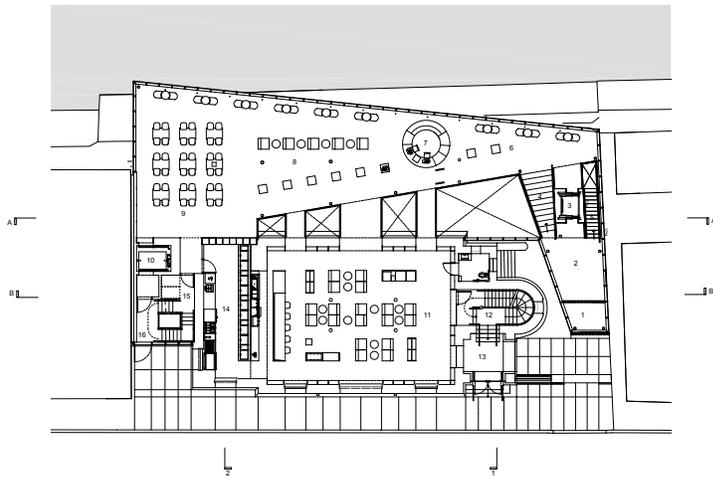


- 1 ATRIUM / COMMONS
- 2 ELEVATOR 01
- 3 STAFF OFFICE
- 4 MEN'S W/R
- 5 SERVER ROOM
- 6 CISTERN
- 7 WOMEN'S W/R
- 8 STAFF WORK AREA
- 9 STORAGE AREA
- 10 RECORDING ROOM 01
- 11 RECORDING ROOM 02
- 12 PERFORMANCE SPACE
- 13 ELEVATOR MACHINE RM
- 14 CLOCK TOWER STAIR
- 15 MECH / ELEC. ROOM
- 16 FRIDGE/FREEZER AREA
- 17 CORRIDOR
- 18 EXIT STAIR
- 19 ELEVATOR 02
- 20 STAFF LOUNGE
- 21 STAFF W/R 01
- 22 STAFF W/R 02
- 23 CITY ELECTRICAL VAULT



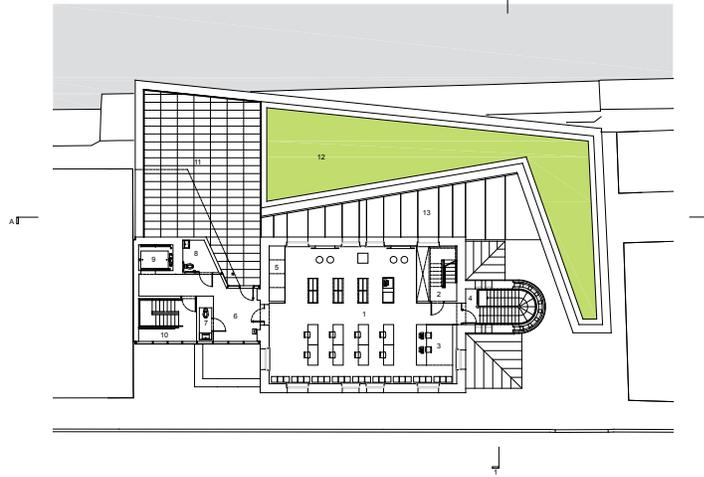
100 LEVEL PLAN

- 1 ENTRY VESTIBULE
- 2 ENTRY FOYER
- 3 ELEVATOR 01
- 4 FEATURE STAIR
- 5 STAIR
- 6 DISPLAY AREA
- 7 STAFF CHECK POINT
- 8 PAVILION
- 9 RESTAURANT SEATING
- 10 ELEVATOR 02
- 11 READING ROOM CAFE
- 12 CLOCK TOWER STAIR
- 13 HERITAGE EXIT VESTIBULE
- 14 RESTAURANT KITCHEN
- 15 SOUTH EXIT STAIR
- 16 AFTER HOURS ENTRY



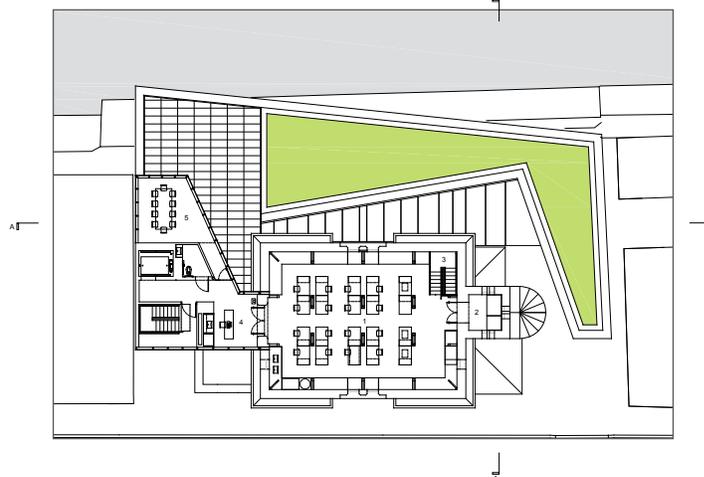
200 LEVEL PLAN

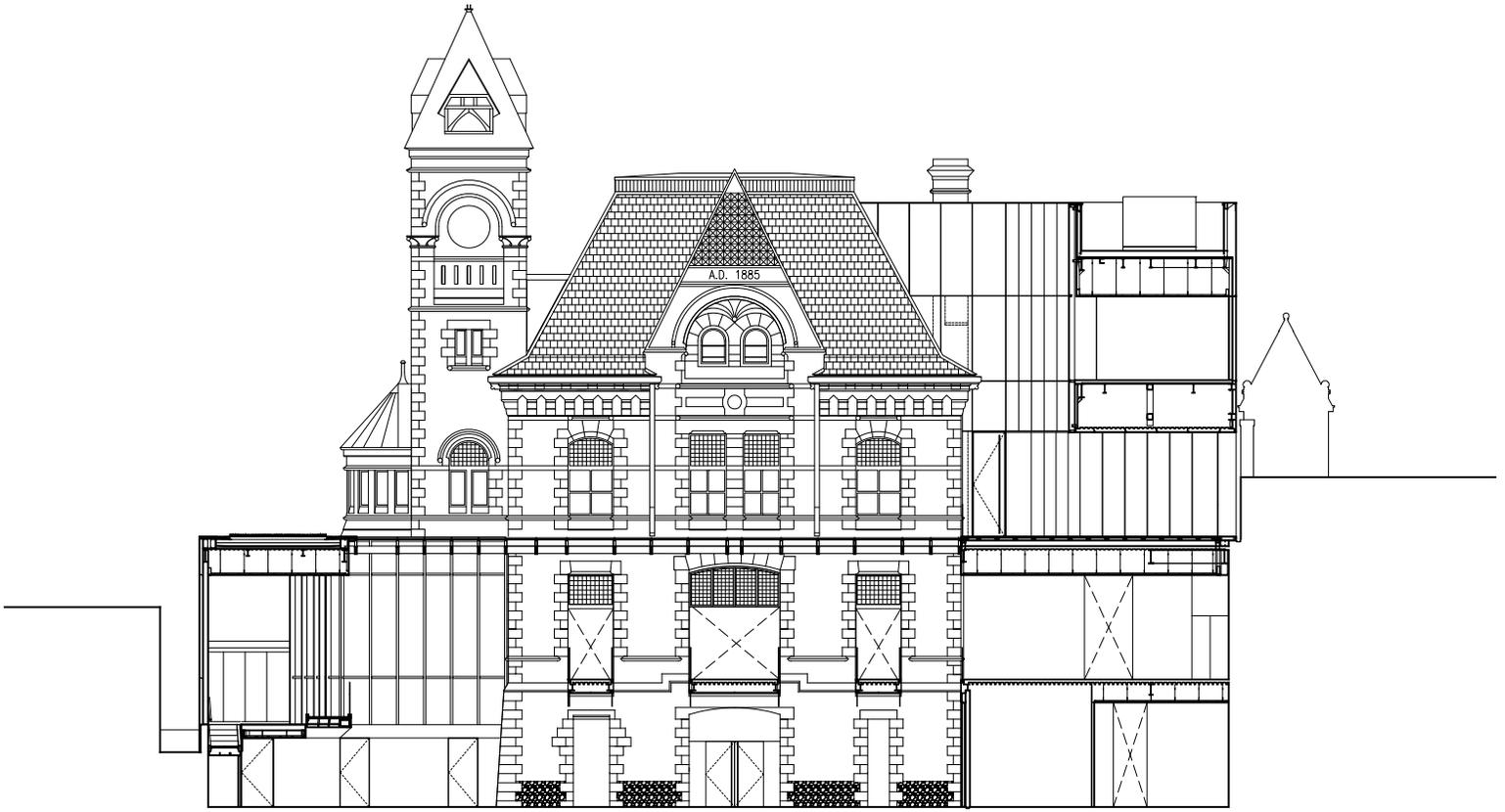
- 1 CHILDREN'S DISCOVERY CENTRE
- 2 STAIR TO ATTIC
- 3 STAFF CHECK POINT
- 4 CLOCK TOWER STAIR
- 5 STORAGE
- 6 CORRIDOR
- 7 CHILDREN'S WIR
- 8 B.F. CHILDREN'S WIR
- 9 ELEVATOR 02
- 10 SOUTH EXIT STAIR
- 11 EXTERIOR TERRACE
- 12 GREEN ROOF
- 13 SKYLIGHT TO ATRIUM BELOW



300 LEVEL PLAN

- 1 ATTIC STUDIO MAKERSPACE
- 2 LASER CUTTING ROOM
- 3 STAIR TO CHILDREN'S AREA
- 4 STAFF CHECK POINT
- 5 BOARDROOM / TEACHING SPACE





LONGITUDINAL SECTION A-A



CROSS SECTION 1-1