INDIGENUITY

FORMLINE ARCHITECTURE

Alfred Waugh, Architect AIBC, LEED AP
INDIGENOUS KNOWLEDGE

- Knowledge is experiential based on observation of nature through a long history of time.
- Value nature as the centre and all things are interconnected.
- In the past oral tradition and the use of symbols was the means to carry knowledge.

WESTERN SCIENCE

- Knowledge based on isolating elements in nature to understand the underlining mechanics.
- Value man as the centre and nature as servant.
- The written word, mathematics, and computer code carry knowledge.

Reconciliation of how we live on Earth
PROCESS

- LISTENING CAREFULLY THROUGH CONSULTATION WITH COMMUNITY MEMBERS INVLOVING THE YOUTH TO THE ELDERS
- UNDERSTANDING THE REGIONAL CONTEXT, CLIMATE AND GEOGRAPHY
- RESEARCHING THE ARCHITECTURAL TYPOLOGY OF A GIVEN CULTURE, AND VERNACULAR INFLUENCES
- DEVELOPING SUSTAINABLE STRATEGIES INSPIRED FROM TRADITIONAL ARCHITECTURE EMPHASISING PASSIVE TECHNOLOGIES
- SELECTING MATERIALS THAT ARE REGIONAL AND HAVE CULTURAL RELEVANCE
- INTEGRATION OF RITUAL AND CEREMONY IN THE BUILDING PROCESS AS REQUESTED BY THE CLIENT GROUP
TRANSLATION OF TRADITIONAL INDIGENOUS WOOD STRUCTURES
CULTURAL CENTRE OBJECTIVES

- to communicate the scope and diversity of the cultures of the Squamish and Lil’wat peoples;

- to communicate the role of the land and the locations of the territories from the perspective of Squamish and Lil’wat peoples to Cultural Centre visitors;

- to provide a venue for Squamish and Lil’wat entrepreneurs to sell art, guided tours, operate community-based cultural programs, and business activities from the Centre;

- to operate a world-class, high profile facility that is economically viable and sustainable, and consistent with international visitor market expectations for an interpretive centre;

- to create a focus for cultural expression by the Squamish and Lil’wat peoples and a source of pride and the learning environment for the Squamish and Lil’wat communities; and

- to advance the spirit of cooperation between Squamish and Lil’wat peoples and the Whistler community, initiated by the RMOW in 1997.
LEGAL DESCRIPTION: LOT B, D.L.3866, PLAN 21845, EXCEPT PORTIONS ON PLAN LMP 29209, GROUP 1, NEW WESTMINSTER DISTRICT

LOT COVERAGE 1885 sq.m. (0.46Acre) (11.6%) 

SETBACKS PROPOSED MINIMUM 
EAST SIDE 7.0 m 30.2 m 
WEST SIDE 7.0 m 8.4m 
NORTH SIDE 7.0 0.0 m 

PARKING 
ELDER'S 3 
DISABLED 2 
STAFF 5 
VAN POOL 2 
TOTAL 12 

BUILDING AREA 
CULTURAL CENTRE 
GROSS MEZZANINE FLOOR AREA: 384.9sq.m. ( 4 143 sq.ft.) 
GROSS MAIN FLOOR AREA: 1 170 sq.m. (12 600 sq.ft.) 
GROSS GROUND FLOOR AREA: 1 078.5.0 sq.m. (11 608 sq.ft.) 
GROSS LOADING FLOOR AREA: 61.0 sq.m. ( 656 sq.ft.) 
SUB-TOTAL CULTURAL CENTRE: 2694.9 sq.m. (29 007 sq.ft.) 
ARTIST DEMONSTRATION PAVILION (LONG HOUSE) 171.3 sq.m. ( 1844 sq.ft.) 
TOTAL GROSS FLOOR AREA (GFA): 2 926.4 sq.m. (31 488 sq.ft.) 

ESTKEN (PIT HOUSE) 49.8 sq.m. ( 536 sq.ft.)
BUILDING FORM AND STRUCTURE
HYBRID POST AND BEAM SYSTEM INSPIRED BY THE SALISH PLANK HOUSE

- Paired Glulam Columns and beam joined by steel connectors and glulam rivets

- The space between becomes a neutral access of a composite system.

- Currently the Canadian Code does not recognize composite systems to the structural engineer had demonstrate performance through buckling analysis

- Roof and structural system designed to withstand 150 lb/sft snow load

- Roof system pre-fabricated insulated TJI and plywood panels
SUSPENDED GLAZING SYSTEM

- Bracketed from the columns by stainless steel rods and clevis connections.
- Stainless steel rods pre-tensioned to 1500 lbs before loading the weight of glazing system.
- Shingled glass system inspired by the Salish Plank house system which is a primitive curtain wall system.
- Where the double columns cannot support the glazing system bow trusses take the lateral loads.
PIT HOUSE STRUCTURE
FLEXIBLE SPACE FOR ECONOMIC SUSTAINABILITY
ENVIRONMENT-INDIGENOUS LANDSCAPE
DISPLACEMENT VENTILATION

- Passively cooled
- 100% outdoor air handling unit
- Operable windows
- Fresh air earth loop
- Computer fluid dynamic modelling to calibrate ventilation requirements to occupant load
USER CONTROLLED AND DDC CONTROLLED OPERABLE OPENINGS
TIMBER CONNECTION

- Interpretation of the slotted post and beam connection for the Coast Salish Long house
- 25mm Tight fit stainless steel pins with 2mm taper
- Knife plate base connection
- Glulam columns 175mm x 380 to 456mm
- Glulam beams sized to span from 175 x 532mm to 722mm
CULTURE-WOVEN CEDAR TIMBER CONNECTION

- Inspired from the bullrush matt used to keep the draft out of Longhouses.
- 45mm x 6mm cedar strips woven between 16mm diameter wood dowels
- Panel models 1524mm wide
ABSTRACTION OF INDIGENOUS CULTURE
RELATION WITH THE OUTDOORS
Optimize indoor-outdoor relationship at upper and lower levels. Achieve/introduce outdoor, adjacent shared student learning opportunities at upper and lower levels.

ENGAGING
Achieve enhanced CPTED performance through visual interest, active surveillance and strategic lighting.
Create a legible, properly scaled public route along the south edge that connects the libraries and larger campus.
universal accessibility.
DESIGN RATIONALE

Diagram Light and Dark:
- Light: The Future Dialogue Enlightenment
- Dark: Remembering the Past Digital Exhibitory

Diagram Roof Expression of Lightness Layering of Surfaces Collection of Water:
- Irving Barber Learning Centre
- Sedgwick
- Koerner
- Waterfall Feature: Celebration of Water Collection for Stormwater Retention Pond

Access and Program Distribution:
1. Main Arrival Point
2. Descent Following Landscape
3. Reception at Exhibit Space
4. Exhibit Space Opens to Landscape for Relief
5. Offices and Board Rooms Set Back into Quiet Zone
6. Kitchen Area Opens Up to Animate Outdoor Educational Space
7. Outdoor Educational Space Over Exhibit Space Backed by Bleacher Seating
MAIN FLOOR PLAN
LOWER FLOOR PLAN
WOVEN CEDAR (CULTURAL PAST)
CHARRED CEDAR (RESILIENCE)
COPPER (DIGNITY)
CROSS LAMINATE TIMBER (LOOKING TO THE FUTURE)