

NK'MIP DESERT CULTURAL CENTRE MEDIA KIT

DIALOG

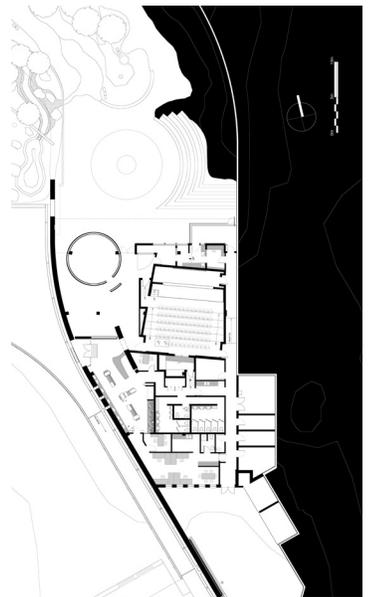
Project Overview

The Nk'Mip Desert Cultural Centre is designed to be a specific and sustainable response to the building's unique context—the unusual Canadian desert found in the South Okanagan Valley in Osoyoos, British Columbia. Sited adjacent to a remnant of the Great Basin Desert (approximately 1,600 acres are being preserved by the band as a conservation area), this interpretative centre is part of a larger 200-acre master plan.

Nk'Mip is the first of a number of new B.C. aboriginal centres, and part of a growing trend to explore the expressive potential of architecture to convey the rich past and the transforming future of aboriginal culture. The practical reasons behind this architectural exploration grow out of provincial leadership—a premier whose efforts to improve aboriginal relations have resulted in changes to the treaty process—as well as a shift in the regulatory environment governing the types of buildings permitted on reserve land.

The building features indoor and outdoor exhibits that celebrate the culture and the history of the band, and is designed to be an extension of the remarkable site, and reflects the band's role as stewards of the land. The desert landscape flows over the building's green roof, held back by a rammed earth wall. The partially submerged building is sited very specifically to focus the visitor's eye away from the encroaching development of Osoyoos to the west, with the height of the wall set to create a layered view of the desert rising up in the middle ground, receding to the riparian landscape adjacent, and the mountains in the distance.

The attenuated entry sequence from the parking area moves visitors through a series of nested concrete walls up to an entry plaza at the end of the rammed earth wall. The plaza—used for collecting large groups, and signage about events of the day—leads along a low concrete wall that separates the original desert landscape and the building. This route is further defined by channel of water that draws people towards the entry, past the cor-ten steel gate of the service court and administration access. Entry into the interpretive centre occurs at the midpoint of the gently arcing wall. Inside, a theatre and “black box” exhibition space present information about the band and its historical relationship with the land. The round volume of the “pit house” at the centre of the exhibition space invokes the experience of conversation around a fire. From here, visitors move through a glazed wall into exterior exhibit space featuring information on native planting, an outdoor performance area and amphitheatre, a tule mat teepee, a large figural sculpture, and a snake research area demonstration space. This area also serves as a trailhead for guided and unguided walks along 50 kilometres of paths through the desert. Small interpretive pavilions and a village of reconstructed pit houses and interpretive sculptures punctuate these trails.





Sustainability Features

The Nk'Mip Desert Cultural Centre is located in one of the most spectacular and endangered landscapes in Canada. Its rare desert condition is the northernmost tip of the Great American Desert, which extends southward as far as the Sonoran Desert in Mexico. This parcel of land is the largest intact remnant of this unique habitat in Canada. It is part of the land of the Osoyoos Indian Band. This band also belongs to the larger Okanagan Nation which extends down into the US (the Okanagan represents a broader geographic area of bands sharing common language with separate constituent bands). The project's concern with deep sustainability grows out of the fragility of this landscape, and reflects the core values and history of the band.



The extreme climate made sustainable design a very particular challenge. Hot, dry summers and cool, dry winters see average temperatures ranging from -18 degrees to $+33$ degrees and often reaching $+40$ on summer days. The building's siting and orientation are the first strategic moves toward sustainability: the partially buried structure mitigates the extremes in temperature, and its orientation optimizes passive solar performance, with glazing minimized on the south and west sides. The project's ambitious approach towards sustainable design also includes the following features:



The largest rammed earth wall in North America

At 80m long, 5.5m high, and 600mm thick, this insulated wall (R33) stabilizes temperature variations. Constructed from local soils mixed with concrete and colour additives, it retains warmth in the winter, its substantial thermal mass cooling the building in the summer—much like the effect the surrounding earth has on a basement.



The use of bluestain pine

A recent infestation of pine beetles in British Columbia has led to an excess of bluestain pine, which here is used in interior and exterior applications. Although bluestain pine is a local material not normally specified for finished building use, Nk'Mip is something of a demonstration project, showing how it can be used both inside and outdoors to celebrate its unique visual qualities. As its name suggests, the wood has a blue-tinted cast as though a blue wash has been applied, rather than the typical yellow colour more typical of pine. Although its inherent structural qualities are equivalent, the preferences of the powerful Japanese international market have historically influenced demand for yellow (white) pine.

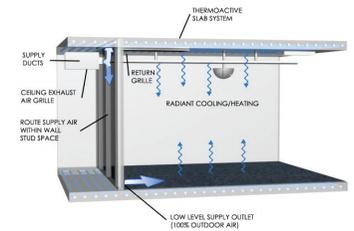
A habitable green roof

This habitable landscaped roof reduces the building's visual imprint on the landscape, and allows a greater percentage of the desert landscape habitat to be re-established on the site (replanting uses indigenous species). The roof also provides further temperature stabilization and insulation.



Mechanical features

In-slab radiant cooling and heating in both ceiling and floor slabs create an even, comfortable environment that avoids blasts of air, noise and dust. Coupled with 100% outdoor air displacement ventilation, the system will result in savings of 30 to 50% over a forced air system.



Endangered species research

The building program includes facilities for the band's award-winning rattlesnake research project, as well as public viewing areas where visitors can see endangered rattlesnakes captured, tagged and microchipped for further study and protection.

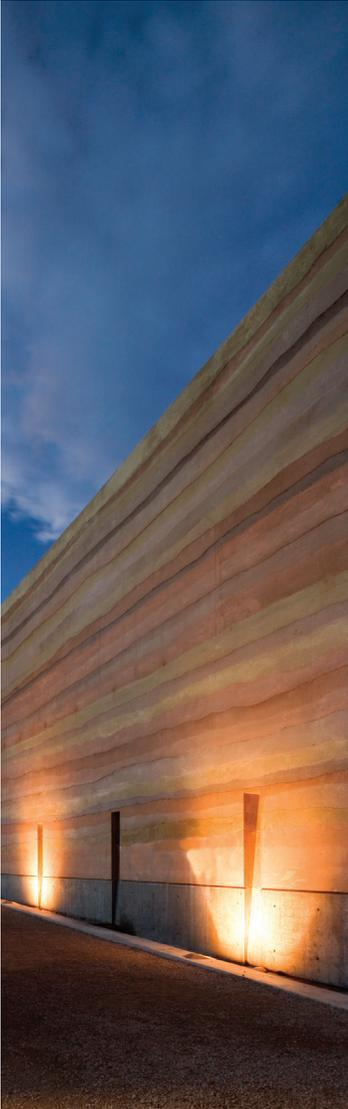


Careful water use management

Water is precious in the desert, and a spare channel of water at the entrance along the rammed earth wall introduces this theme. Less visibly, demand on the site fed well is reduced by 40% by incorporating low-flow faucets, waterless urinals, and dual flush toilets.



Rammed Earth Wall



North America's largest rammed earth wall gives the building exterior a unique material and poetic sensibility, its graduated layers of earth shades evoking geological sedimentation within a distinctly contemporary architectural language. The wall has the appearance of being at once handmade and precise—its layers irregular, and its overall form sharp and geometrical, (the wall's surface telegraphs the familiar horizontal lines from the wooden formwork used in constructing it) as well as the irregular horizontal strata of the compacted layers of earth used to construct the wall.

Rammed earth construction is a traditional building technique found most often in dry regions where wood is scarce. The modern version of this earth-based wall system combines two –250mm wythes of compacted sand and cement with 100mm of insulation sandwiched between. Successive layers of differently coloured local soils were placed into the 600mm wide formwork and a pneumatically powered tamper was used to compress each layer to about 50 percent of its untamped height. Sedimentary-like in appearance, the exposed surface acts as the finished wall, is extremely stable and doesn't off-gas toxic or greenhouse gas emissions. The technique results in a physically strong, durable wall with excellent thermal qualities—heating up slowly during the day in the hot Okanagan sun, and releasing its heat in the evening.

Sustainability of building process also extends to the involvement of band members on the wall's construction, contributing to the long-term ecological sustainability of the area, of the band, and providing an opportunity to evolve an authentically South Okanagan building technique (something of an antidote to the faux Santa Fe style that increasingly dominates the region).

This project created the opportunity for the Osoyoos Indian Band to develop unique, highly artisanal construction skills as rammed earth contractors and a team of band members worked with the contractor on the fabrication of the wall.

Fact Sheet

Project Background

DIALOG was retained by the Osoyoos Indian Band to master plan the Nk'Mip Desert and Heritage Centre's 200-acre site, part of a new resort destination that includes a winery with vineyards, an 18-hole golf course with club house, and tourist accommodation.

Client

Osoyoos Indian Band

Location

Osoyoos, British Columbia, Canada

Context

The eastern shore of Lake Osoyoos, on the Northern tip of the Great Basin Desert, in a 1600-acre conservation area.

Size

1115 square metres

Completion

June 2006

Program

Indoor and outdoor exhibition spaces, theatre, gift shop, administration offices, rattlesnake research facilities, 50 kilometres of trails.

Green Design Features

- Rammed earth wall
- Orientation/Siting
- In-slab Radiant Heating and Cooling (in ceiling and floor slabs)
- Habitable Green Roof
- Use of Bluestain "Beetle" Pine Wood
- Water Use Management
- Support for Endangered Species Research

Materials

Rammed Earth, Concrete, Bluestain Pine Cladding

Structure

Concrete

Mechanical Systems

Passive thermal massing with the rammed earth wall and landscape roof, and in-slab radiant heating and cooling with 100% outdoor air displacement ventilation.

Project Credits

Architecture Team

DIALOG (formerly Hotson Bakker Boniface Haden Architects)

Principal-in-Charge: Bruce Haden

Project Architect: Brady Dunlop

Project Team: Norm Hotson, Stephanie Forsythe, Tina Hubert,
Julie Bogdanowicz

Structural Engineering

Equilibrium Consulting Inc.

Principal-in-Charge: Eric Karsh

Project Engineer: Ivan Ursic,

Design Engineer: Ben Heath

Project Team: Ann Tomlinson, Raymond Vitkauskas

Landscape Architecture

Phillips Farevaag Smallemberg

Principal-in-Charge: Chris Phillips

Project Team: Ken Larsson, Mike Enns, Blair Guppy

Mechanical Engineering

Cobalt Engineering

Partner-in-Charge: Ken Newbert

Project Manager: Tim Brown

Electrical Engineering

MCL Engineering

Principal-in-Charge: Marc Langdon

Code

LMDG Code Consultants

Frank Mattia

Exhibit Design

Aldrich Pears Associates

Partner-in-Charge: Phil Aldrich

Project Managers: Marc Belanger, Richard Lien

Project Team: Sheila Hill, Victor Chorobik, Megan Long, Val Kan

Acoustic

BKL Consulting

Principal-in-Charge: Doug Kennedy

Theatre Design

Douglas Welch Design

Principal-in-Charge: Doug Welch

Project Team: Paul Hodson

Theatre Electrical

Acumen Consulting Engineers

Project Manager: Garry Musgrave, Philbert Ang

Live Displays

Bufo Incorporated: Harry Parsons

Retail

Retail Excellence: Natalie Tan

Client

Osoyoos Indian Band

Client Team: Margaret Holm, Brenda Baptiste, Charlotte Sanders, Chris Scott, Mel Wooley

General Contractor

Greyback Construction

Project Manager: Craig Donoghue

Site Superintendent: Ray Eichberger, Armin Helbling, Larry Kenyon

Rammed Earth Wall Sub Contractor

Terra Firma Builders Ltd.

Project Manager: Meror Krayenhoff

Photography

Nic Lehoux Photography

DIALOG

DIALOG was launched in September 2010 as the new name for the merger of leading national design firms Cohos Evamy, Hotson Bakker Boniface Haden, Mole White Associates, and Office for Urbanism.

DIALOG is the language of collaboration. The name conveys the firm's uniquely collaborative approach, founded upon engagement of clients and communities by multidisciplinary teams in an interactive planning and design process that encompasses architecture, engineering, interior design, planning and urban design services. It is an approach that has garnered international recognition for the firm's outstanding contributions to the public realm and the design of cities.

At DIALOG, our philosophy is to deliver outstanding solutions that leave a lasting, positive mark on the community. Our people are unabashedly client-focused and passionate about their work – and our culture embodies talent, energy, creativity, integrity, tenacity, problem-solving ability, teamwork and a sense of fun.

In a world of increasing challenges in the way Canadians live, move and work, DIALOG is a strong voice for innovative thinking and sustainable leadership – a discussion that benefits from the collaboration of people with unique perspectives and skills.

One of our firm's core values is sustainable design, and we bring that value to all of our projects. We typically examine a project's impact on its physical environment, on energy sources and occupants, and its consumption of natural resources. In support of sustainable design, the firm employs over 130 LEED® accredited professionals in all disciplines.

DIALOG is wholly owned by its 38 principals. Augmenting their hands-on leadership is an exceptional team of 77 associates who play key roles in the day-to-day operation of our studios and projects. DIALOG attributes its strength to its multidisciplinary team of over 500 people who collaborate between studios in Vancouver, Calgary, Edmonton and Toronto.

HISTORY OF DIALOG

DIALOG stands on the shoulders of great firms that have been brought together by a shared vision.

Cohos Evamy began as Cohos Delesalle Architects in Calgary in 1960 under the leadership of Martin Cohos and Phillippe Delesalle. Michael Evamy and Paul Poffenroth soon joined and became early principals in the firm. Martin, Philipe and Michael were architects. Paul was an engineer. This was the genesis of the multidisciplinary approach so central to DIALOG today.

Hotson Bakker Boniface Haden Architects + Urbanistes was founded by Norm Hotson in 1973, and joined soon after by Joost Bakker. Alan Boniface and Bruce Haden joined as partners in 2001. Their national reputation for integrated urban place-making has become an integral element of DIALOG.

Mole White Associates was founded in Toronto in 1976 by Susan Mole, Rodger Mole, and Marilyn White. MWA is recognized for intelligent design, effective project management, and for zealous client collaboration. These key characteristics are important to the strength of DIALOG.

Office for Urbanism is one of Canada's foremost professional urban planning and urban design leaders, with a profound focus on the complex process of city building. Led by principals Jennifer Keesmaat and Antonio Gómez-Palacio, OU's work is characterized by thorough project management, comprehensive planning analysis, a strong and clear commitment to beauty through design, and a drive to understand and reflect the uniqueness of each place. OU's collaborative spirit is representative of the essence of DIALOG.

Nk'Mip's partner-in-charge Bruce Haden and its project architect Brady Dunlop have particular interest in evolving the environmental stewardship role of the firm. Bruce Haden grew up in Kingston, Ontario, studying architecture at the University of Waterloo, and receiving his Masters degree from the University of British Columbia. Bruce continues to be involved in a number of innovative first nations building projects: including work with Haida Gwaii and bands in the Northwest Territories. He has an active interest in contemporary treaty issues and fostering positive ways of expressing aboriginal history and future directions through architecture. This work has resulted in the development of a unique interaction and decision-making process that reflects the culture and the values of contemporary first nations clients.

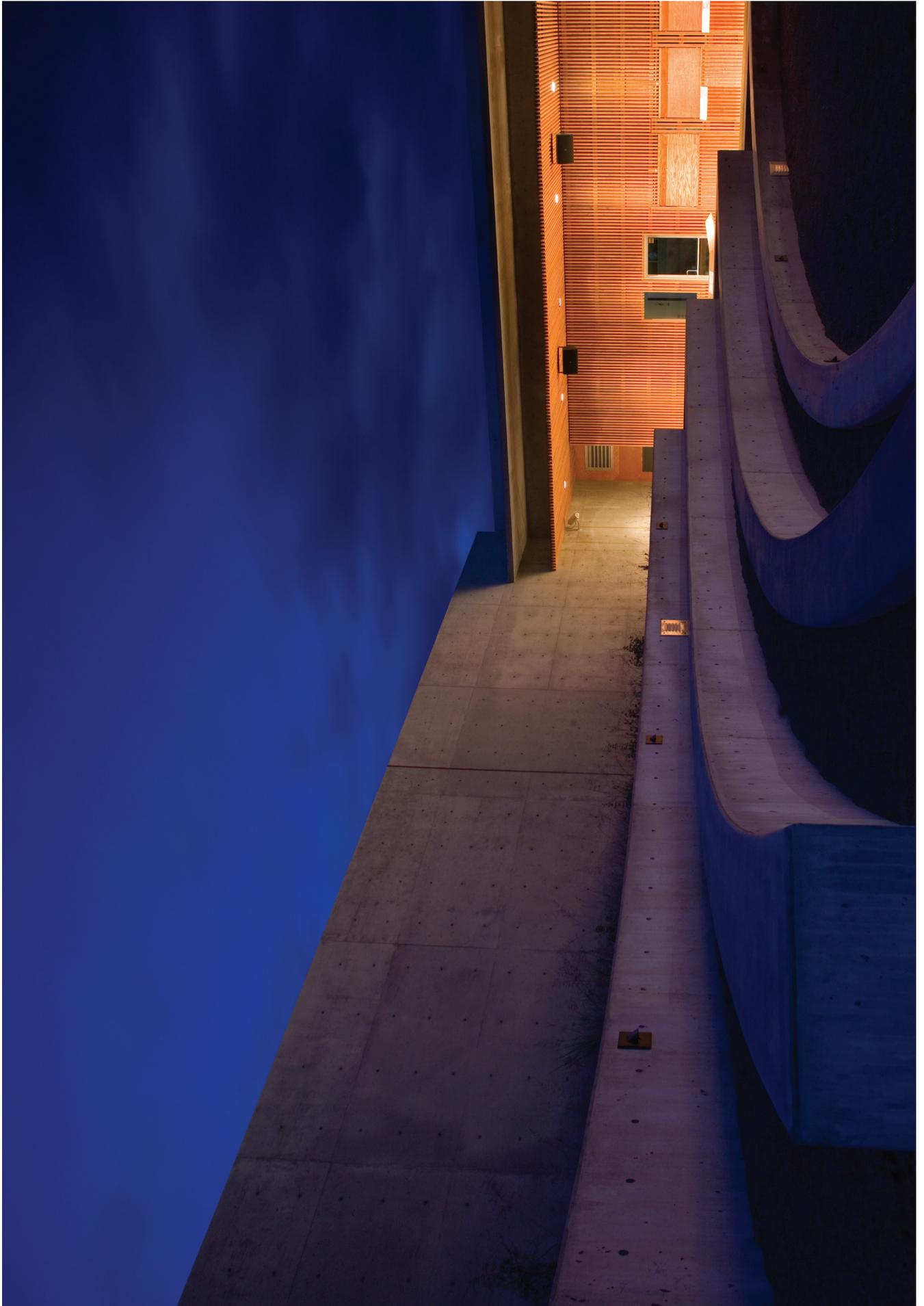


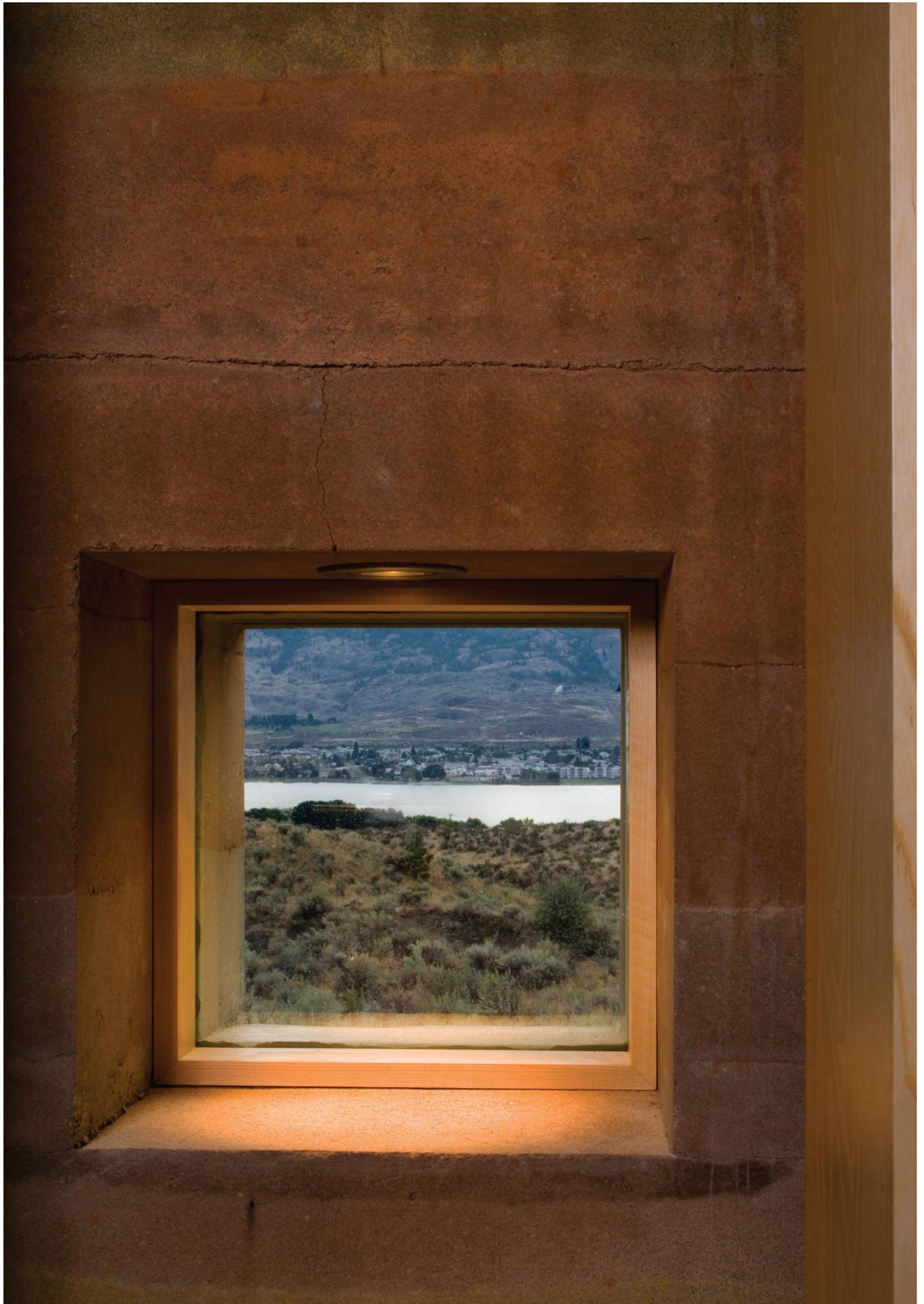








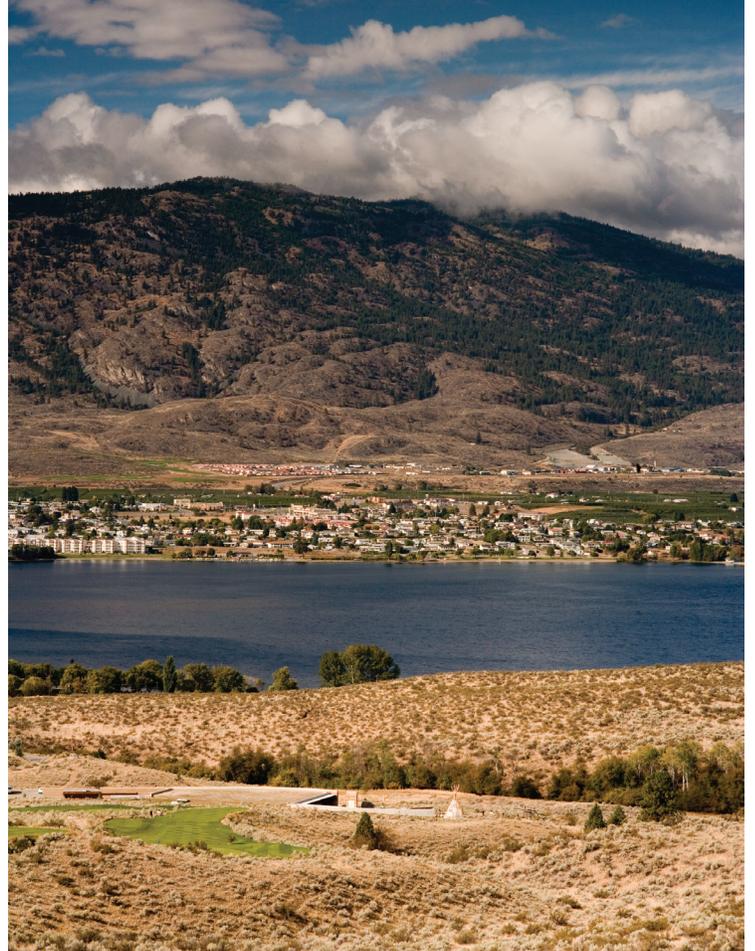




View looking east
showing west face
of rammed earth wall.
278d.052



View looking over green roof
west to Osoyoos Lake.
278d.042





View looking east at service yard gate.
Entry stair in foreground.
278d.065



View looking north
at entry walkway.
Service yard retaining
wall to right.
278d.051

Night view of entry
walkway looking north.
278d.011



Night view of entry
looking north.
278d.009





View of outdoor exhibit area looking west.
278d.005



Entry interior with bluestain pine wall.
278d.018

Context Views



278d.039



278d.050



278d.043



278d.045



278d.040



278d.038



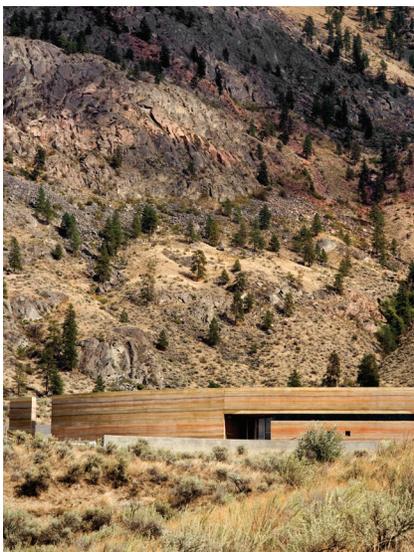
278d.037



278d.012



278d.055



278d.054



278d.027



278d.002

Context Views

View looking over green roof west to Osoyoos Lake.

278d.043

View looking east showing west face of rammed earth wall.

278d.050

View looking over green roof west to Osoyoos Lake.

278d.039

View looking east showing west face of rammed earth wall.

278d.038

View looking over green roof west to Osoyoos Lake.

278d.040

View looking southwest with exterior exhibit area in centre.

278d.045

View looking over green roof west to Osoyoos Lake.

278d.055

View looking east showing west face of rammed earth wall (night).

278d.012

View looking west towards rear of service yard.

278d.037

View looking south at outdoor exhibit area with tulle mat teepee in foreground.

278d.002

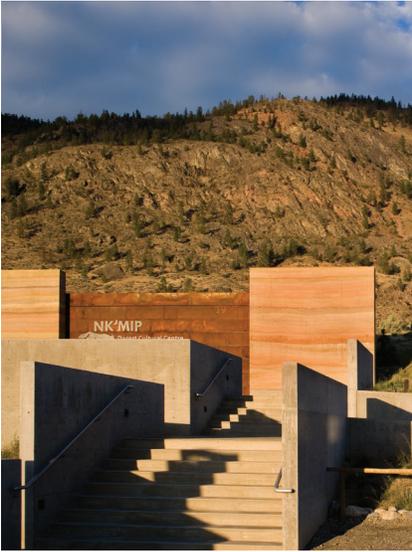
View looking over green roof west to Osoyoos Lake.

278d.027

View looking over green roof west to Osoyoos Lake.

278d.054

Architectural Features



278d.028



278d.046



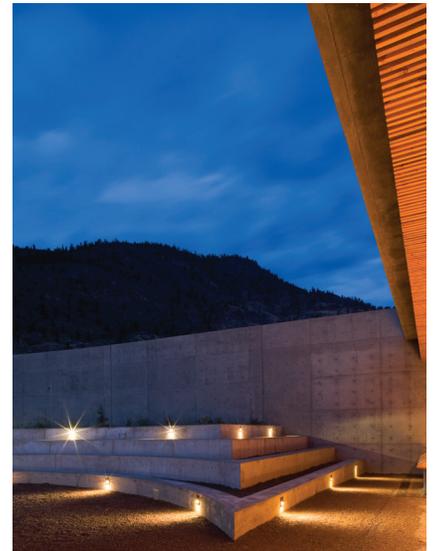
278d.011



278d.008



278d.003



278d.004



278d.034

Architectural Features

Night view of rammed earth wall looking north.

278d.011

View of south end of rammed earth wall with entry walkway to left and service yard retaining wall to right.

278d.046

View of stairway from parking lot looking east.

278d.028

Night view of exterior exhibit area concrete seating.

278d.004

View of exterior of pithouse theatre with bluestain pine looking south.

278d.003

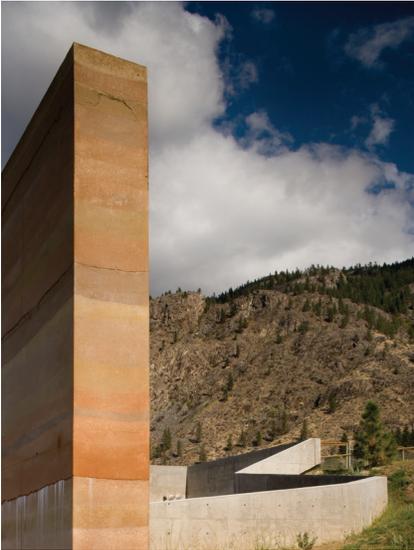
View of north end of rammed earth wall looking east.

278d.008

View of rammed earth wall and entry looking east with concrete retaining wall in foreground.

278d.034

Exterior Details



278d.047



278d.066



278d.029



278d.036

Exterior Details

Detail of concrete stairs from parking looking east to service yard gate.

278d.029

View of stairway from parking looking east.

278d.066

View of south end of rammed earth wall with service yard retaining wall to right.

278d.047

Detail of rammed earth wall, cor-ten steel gate and landscape in background.

278d.036

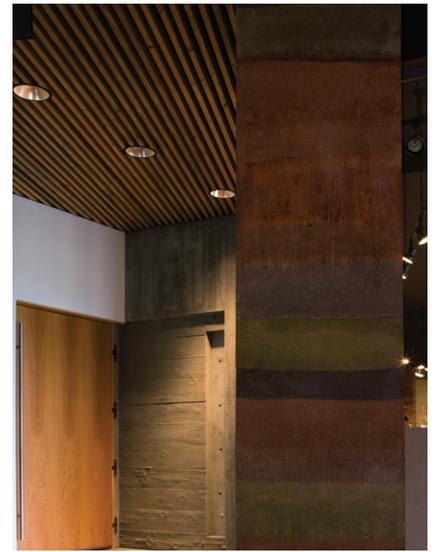
Interior



278d.019



278d.018



278d.016



278d.014



278d.015



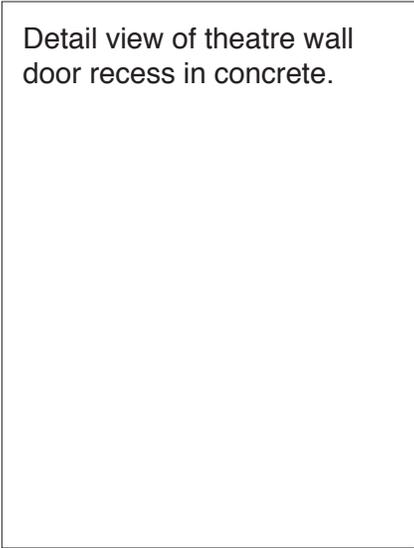
278d.017



278d.030

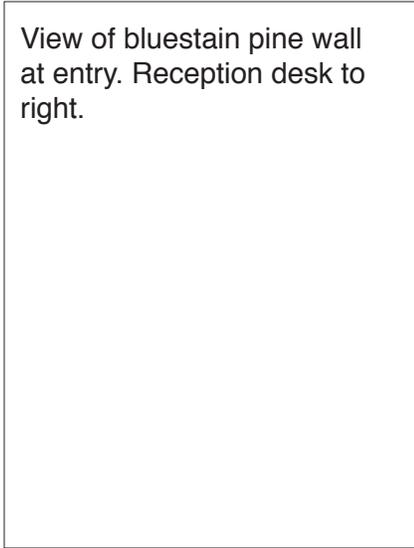
Interior

Detail view of theatre wall door recess in concrete.



278d.016

View of bluestain pine wall at entry. Reception desk to right.



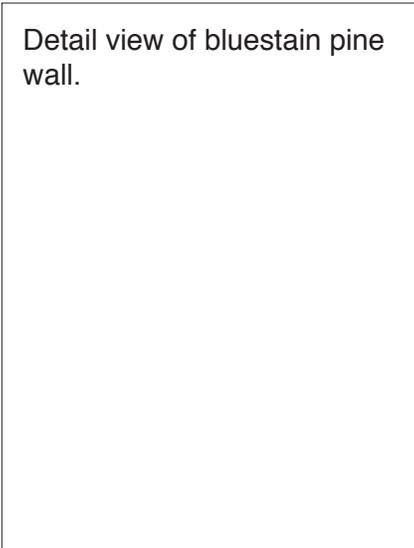
278d.018

View looking west through entry doors. Bluestain pine wall to right.



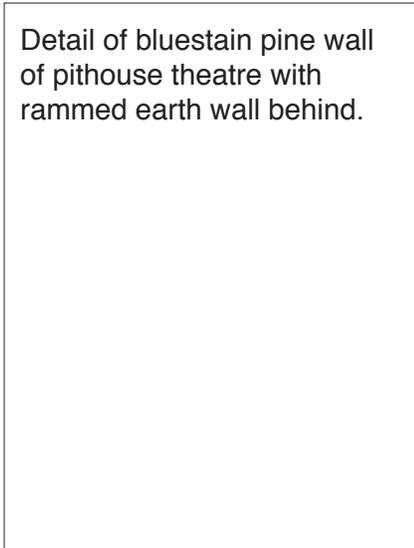
278d.019

Detail view of bluestain pine wall.



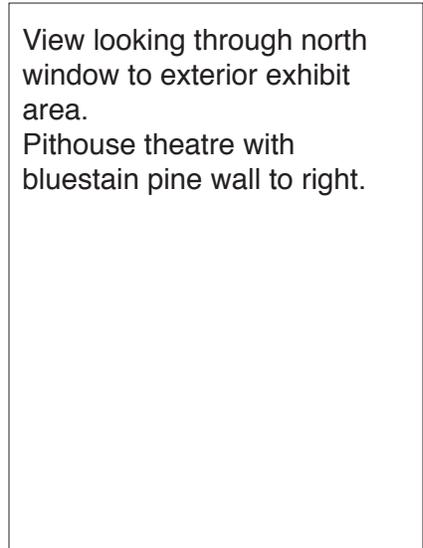
278d.017

Detail of bluestain pine wall of pithouse theatre with rammed earth wall behind.



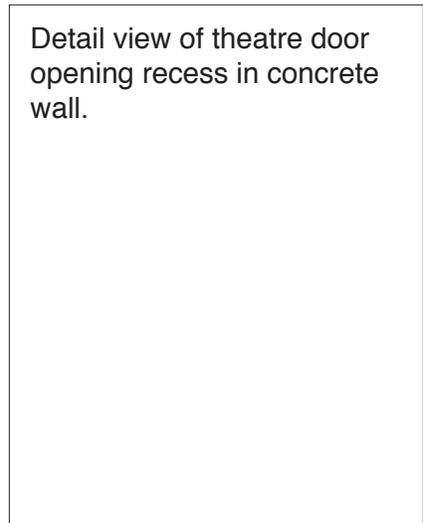
278d.015

View looking through north window to exterior exhibit area. Pithouse theatre with bluestain pine wall to right.



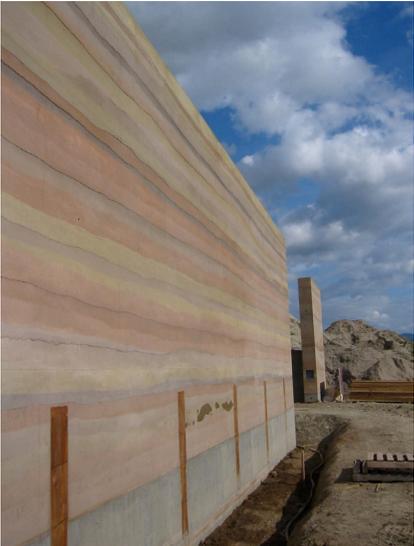
278d.014

Detail view of theatre door opening recess in concrete wall.



278d.030

Construction



Concrete wall formed and
awaiting tie-in.

Concrete wall reinforcing
and formwork.

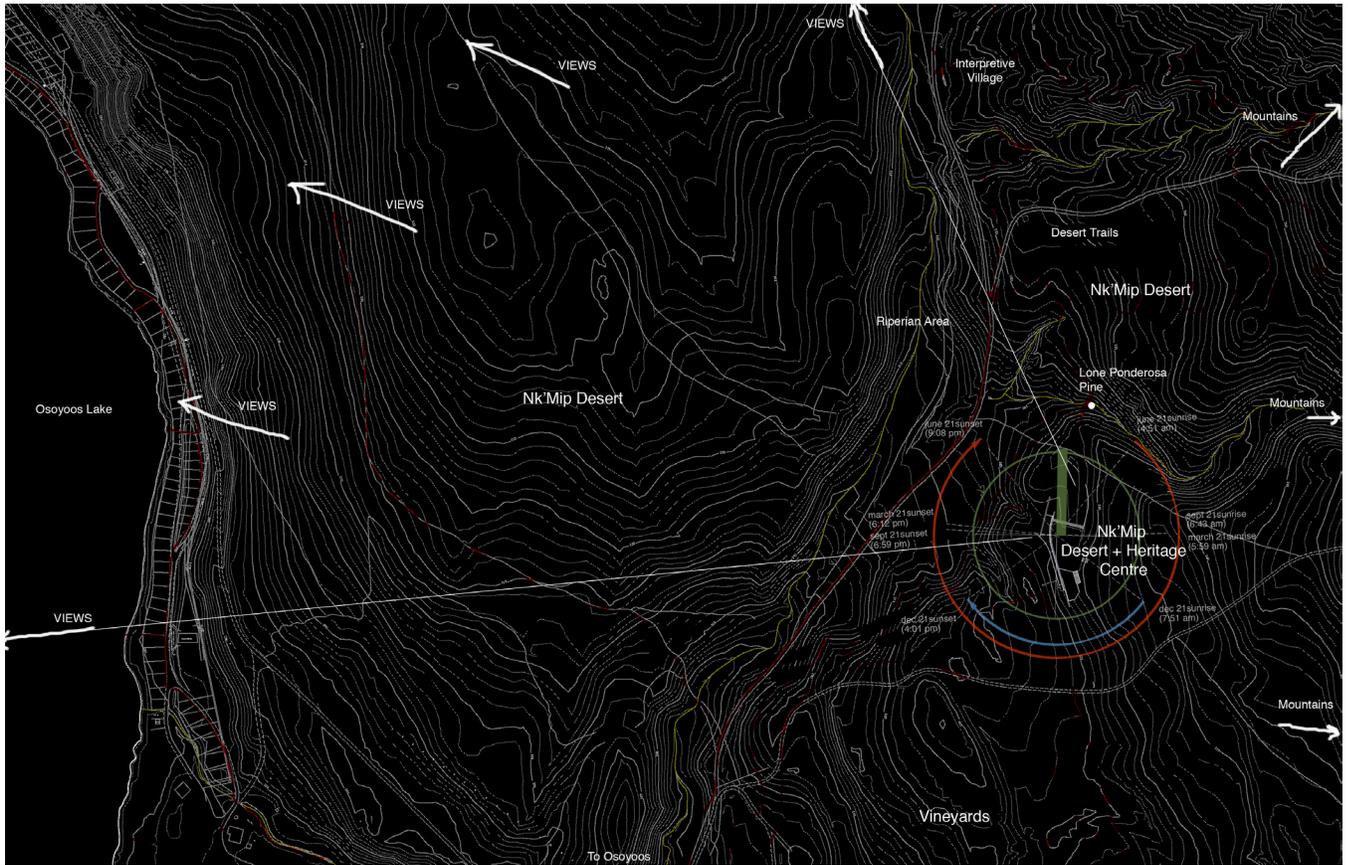
Rammed earth wall footing
forms and batter boards.

Completed rammed earth
wall.

Dismantling of rammed
earth wall formwork.

Rammed earth wall
immediately following
release of forms.

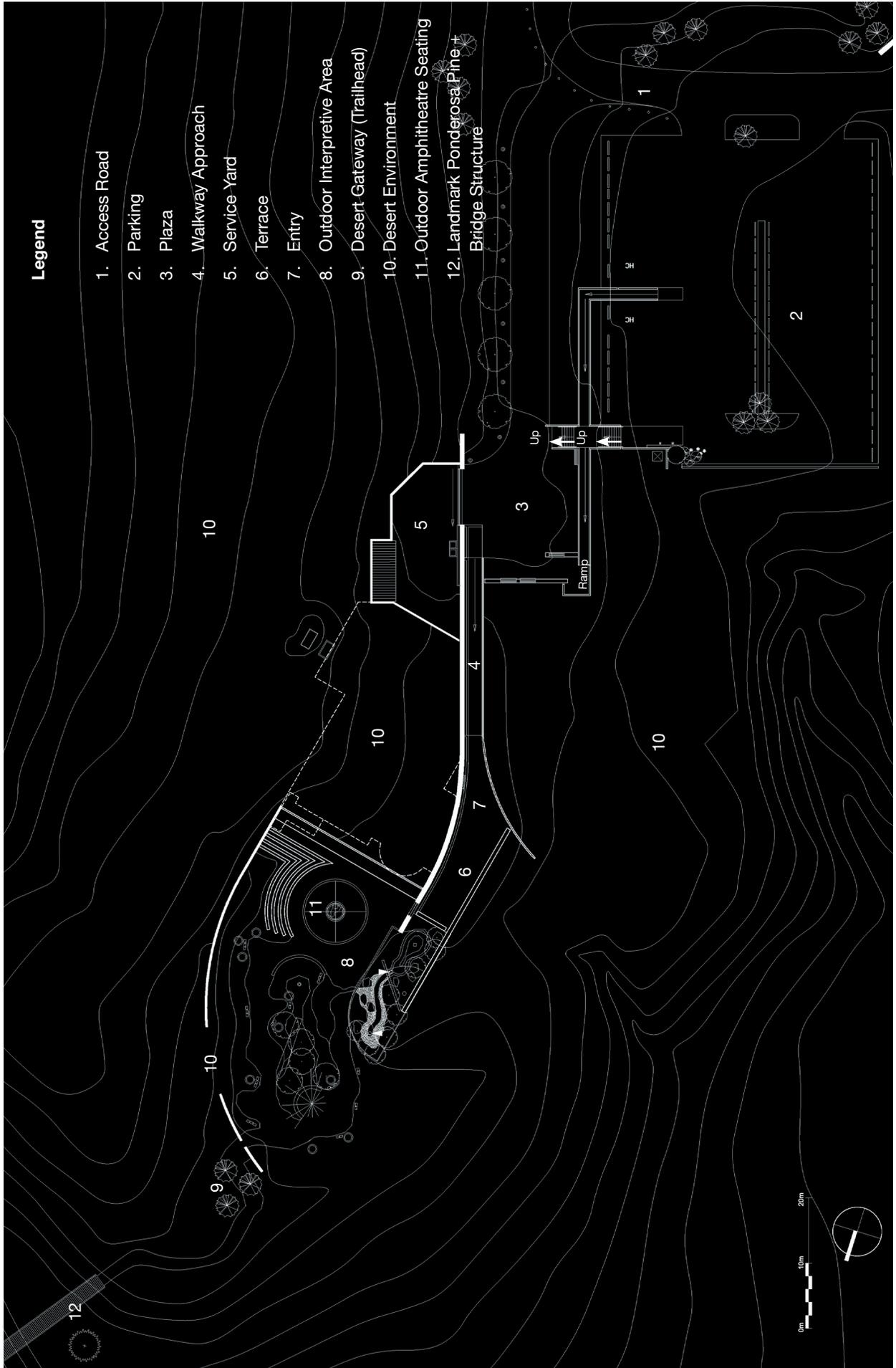
Site Study



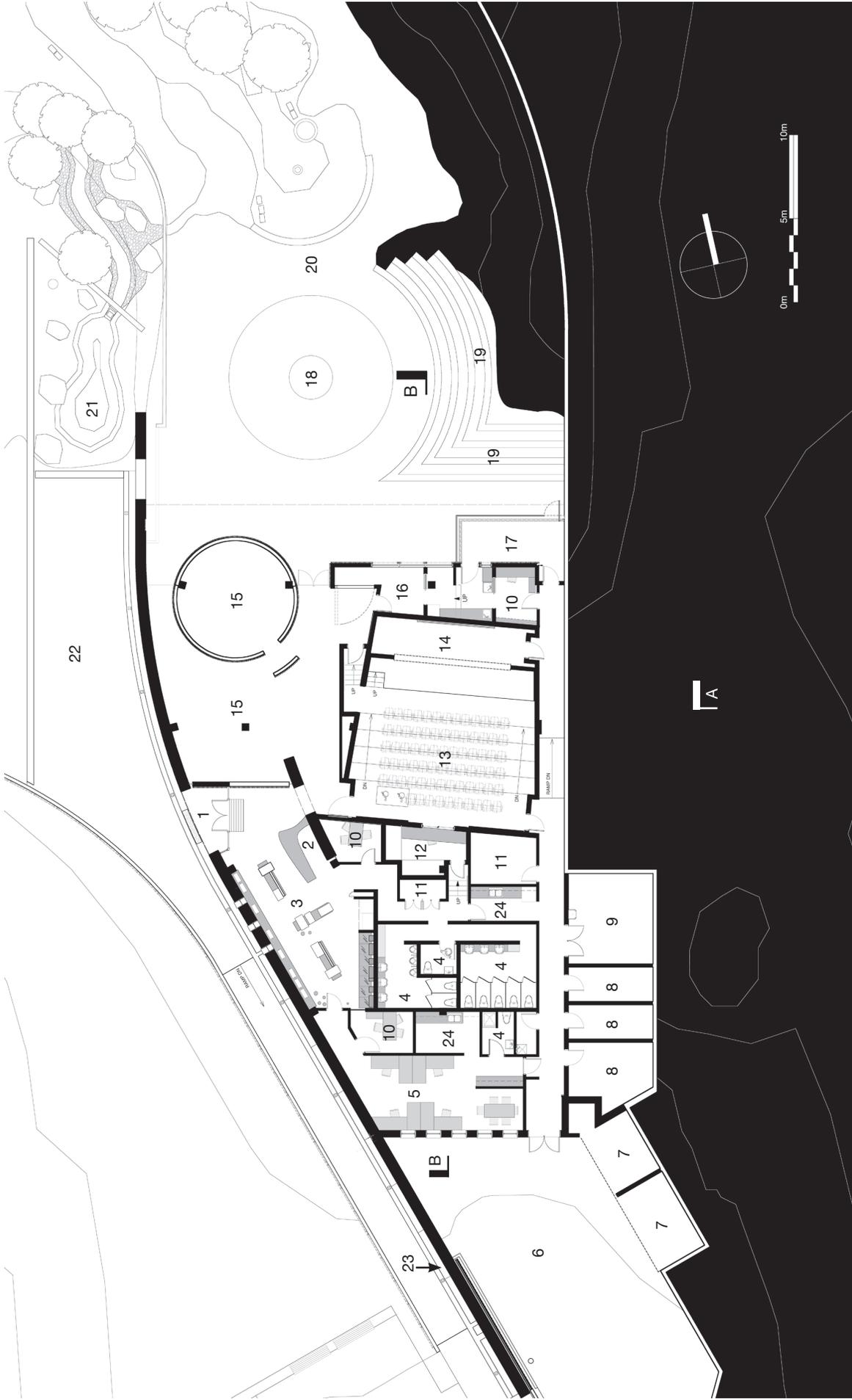
Project Location: Osoyoos, BC Canada

Site Study





A



Legend

- 1. Entry
- 2. Reception
- 3. Gift Shop
- 4. Washroom
- 5. Administration
- 6. Service Yard
- 7. Garbage/Recycling
- 8. Service Room
- 9. Workshop
- 10. Office
- 11. Storage
- 12. AV Control Room
- 13. Lecture/Performance Theatre
- 14. Stage
- 15. Exhibit Gallery
- 16. Animal Habitat Display
- 17. Demonstration Area
- 18. Outdoor Amphitheatre
- 19. Seating
- 20. Outdoor Interpretive Area
- 21. Retention Pond/Animal Habitat
- 22. Terrace
- 23. Desert Stream

