



# CASE STUDY

# GEOMETRY THAT FITS THE TERRAIN

ALASKA STATE LIBRARY, ARCHIVES AND MUSEUM | JUNEAU, ALASKA



# An Alaska facility features a 21,250 sq.ft. wood grille ceiling over its library and other spaces

Five years of planning, designing, collaborating, and fabricating lead up to the opening of the Alaska State Library, Archives, and Museum in Juneau, AK. 9Wood fabricated 3,282 individual 1' wide panels in varying lengths.

## AN EVOCATIVE CEILING

The wood ceiling features triangular shaped areas that intersect at compound angles. The project stands out as exceptional for at least six reasons.

**1. Size and scope.** The project was huge—a 21,250 sq. ft. wood grille ceiling spans heights upwards of 42 feet over the building's lobby, library, and reading room. It features 3,282 wood grille

panels and 98 lineal feet of square wood trim. The solid Western Hemlock wood grille panels are all 1' wide and in various lengths.

**2. Three dimensions.** The wood grille ceiling is a mosaic of triangular shapes all on pitched planes, forming a series of inverted hips and valleys. The entire ceiling assembly is raked from one end of the building to the other—about 42' at one point, down to 16' over the library.

"The ceiling is evocative of the rugged [area] landscapes," said architect Steve Simpson. "The contour flattens out near the perimeter clerestory windows, allowing direct views of the high mountain ridge lines."



The coffee and snack bar features a wood grille ceiling suspension.



In the library, the wood grille ceiling's compound, pie-shaped sections flow from a height of 22' down to 16'.



**3. Layout complexity.** The ceiling is attached to Z-furring channel suspended from a fire-rated drywall assembly. Installation required establishing true grid lines in order for the ceiling's compound angles to line up properly, even though the wood grille panels are suspended from the drywall grid.

"An astronomical amount of layout was needed to make it work," said Jason Jensen, owner, of Elite Acoustics & Interiors, the ceiling subcontractor.

**4. Different pitch planes.** The biggest challenge, Jensen said, came at the intersections of ceiling panels and structural beams. Some panels were field cut to fit into the "I" of each beam. Triangular-shaped panels merged on different pitch planes with no more than 2 inches between them. The work occurred 36 feet above the floor.

**5. Scaffolding innovation.** To help with work, the GC built dance floor scaffolding over the entire lobby. But the contractor took his initiative in building his own 12' by 20' rolling scaffolding for the library space. "It saved us three weeks of time by not having to raise and lower our scissor lifts, Jensen said.

Each triangular area, comprised of 1' wide wood grille panels of varying lengths, intersects with other areas having different shapes and pitches.

### Project

Alaska State Library, Archives and Museum, Juneau, Alaska

### Architect

Hacker Architects (formerly THA Architecture), Portland, Oregon

### Ceiling Contractor

Elite Acoustics & Interiors,  
Wasilla, Alaska

### Ceiling System

21,250 sq. ft. wood grille ceiling,  
3,282 individual panels, from  
9Wood



**THE CEILING IS EVOCATIVE OF THE RUGGED [AREA] LANDSCAPES," SAID ARCHITECT STEVE SIMPSON.**





The building features standard wood grille ceilings on single, horizontal elevations.

**6. Duration.** The first stage of work, the lobby ceiling, took two months to complete. The second-floor library had more intricate ceiling geometry and required 2½ months to complete.

### CATCHING DAYLIGHT

The geometry of the ceilings has a purpose. It reflects Alaska and her rugged terrain. The building pays homage to Alaska year-round.

"The wood ceiling reaches up to catch the precious [area] daylight, since the winters here are long," Simpson said.



The state library, archives and museum features 21,250 sq ft. of solid Western Hemlock, wood grille ceilings in its lobby, library, and reading room.



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