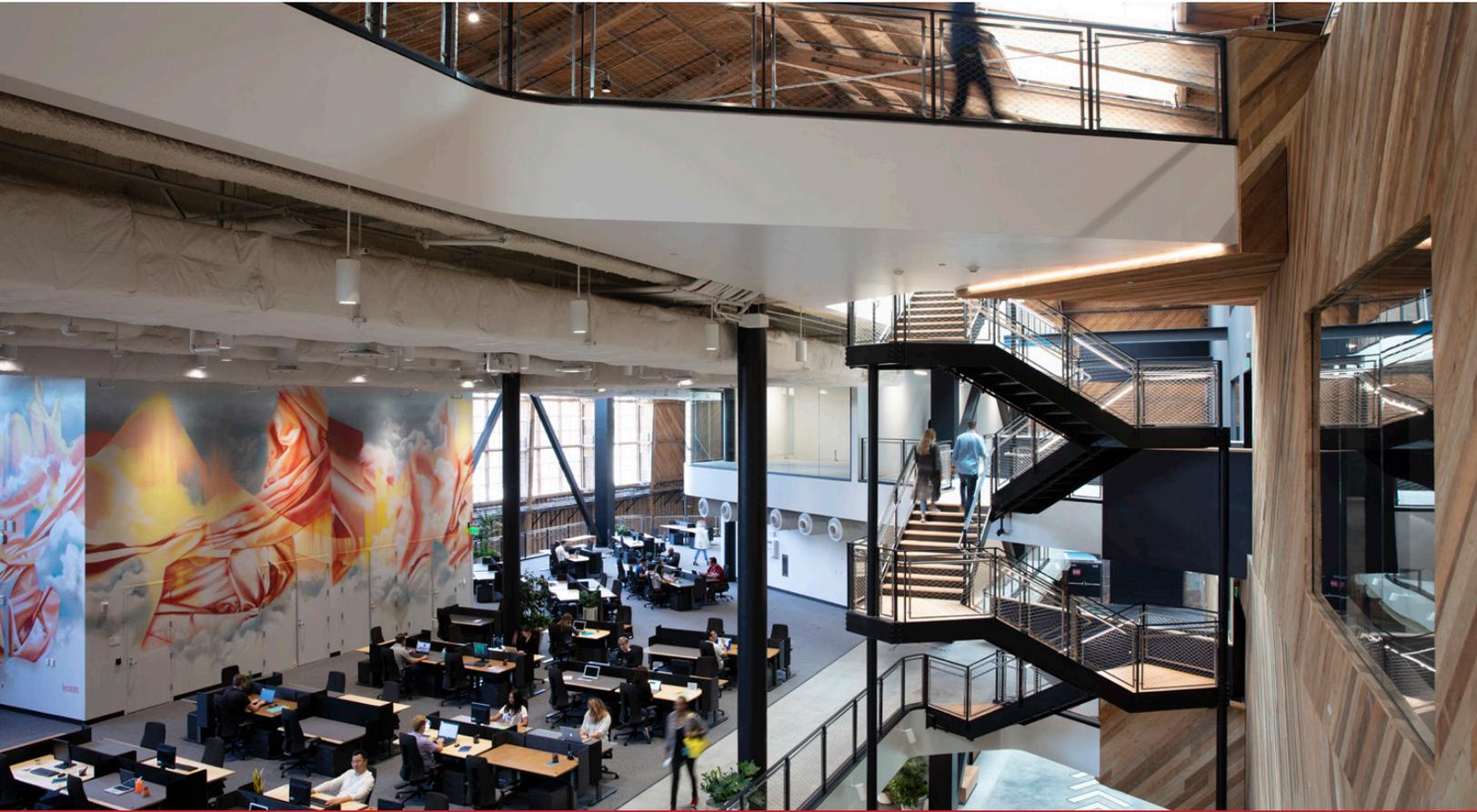


Case Study



Spruce Goose Historic Renovation

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Spruce Goose Historic Renovation

Official Project Name

Spruce Goose Historic Renovation

Project Location

16 S. Campus Center Drive
Los Angeles, CA 90094

Client

Google

Owner

Google

Cumming's Role

Cumming provided cost management, scheduling, and commercial management services.

Contractor(s)

MATT Construction

Architect(s)

ZGF Architects

Other Major Consultants/Vendors

CBRE — Project Management
Arup — Lighting, Engineering, Acoustics
SPMD — Art/Fabrication
Tom Leader Studio — Landscaping
Volume, Inc. — Graphics

Start Date

October 2014

Finish Date

January 24, 2019

Original Budget

\$261,000,000

Actual Final Project Cost

\$259,000,000

The Purpose of this Project

Google's Spruce Goose project involved the conversion of an historic, seven-story, wooden hangar into a four-story, 480,000-sq.-ft office facility complete with workspaces, a café, an assembly area, sound stages, and other amenities. The purpose of the project was to provide additional office space for Google's L.A.-area workforce.

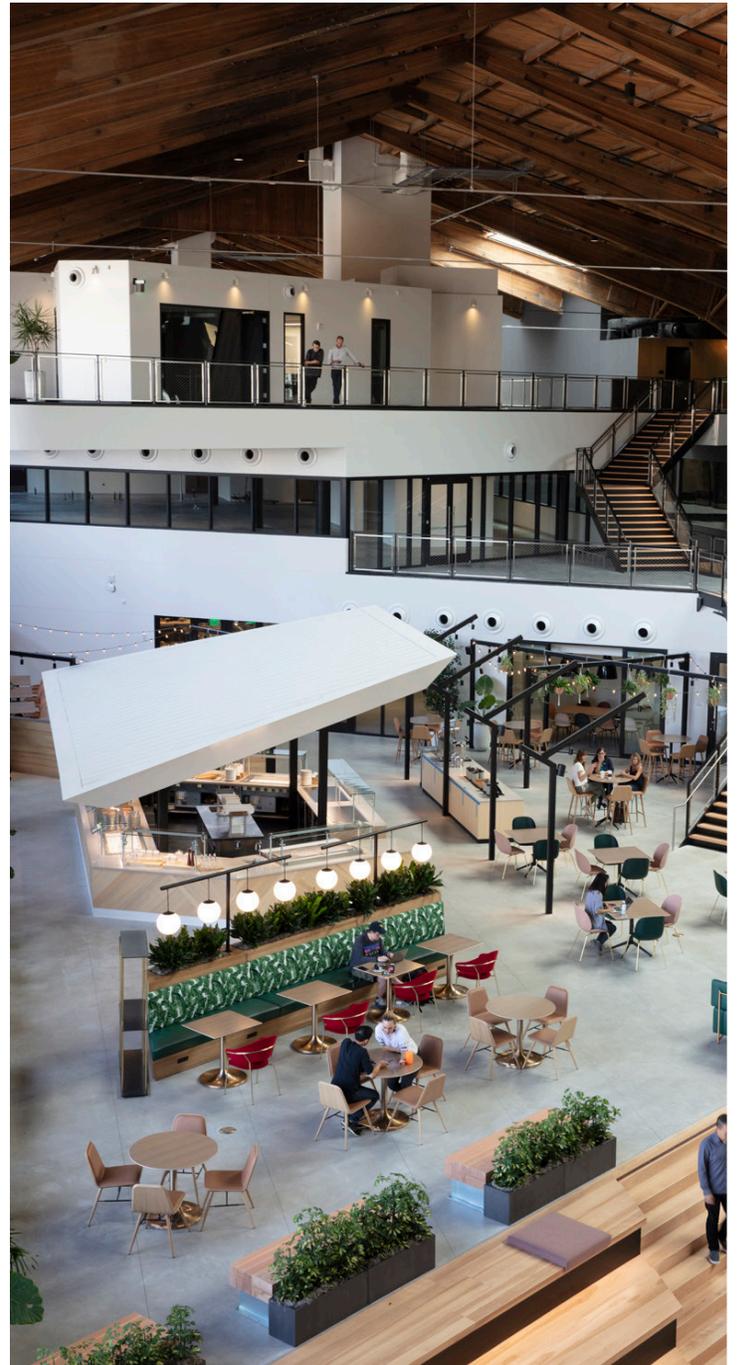
Key Stakeholders and Their Concerns

The primary stakeholders were Google and the surrounding community. The Spruce Goose hangar was a landmark with extensive local history. Completed in 1943, the hangar — which was constructed entirely out of wood due to metal shortages during World War II — became one of the largest wooden structures in the world at 750 feet in length. The hangar was originally constructed by Howard Hughes to house the "Spruce Goose," a wooden flying boat that was also designed and built by Hughes' company, and which remains the largest such craft ever made.

Following the end of the war, the building housed research and production of aircraft radar, armaments, and experimental helicopters. Later, after Hughes' death in 1976, the hangar and its surrounding campus were sold. Hollywood kept the hangar standing by using it as a soundstage for films such as Independence Day and Titanic, but over the years its windows were boarded up to aid in film production and the buildings suffered from deferred maintenance.

Google, who had already leased another space on campus for a YouTube production facility, decided to lease the hangar as well. They saw it as an opportunity to preserve a local landmark that was rich in history while making a sustainable choice by reusing an existing building.

To help the team achieve this goal, Cumming supported the project architect, ZGH, by providing accurate cost estimating and management services as they worked carefully to preserve as much of the hangar shell as possible, in accordance with historic guidelines.



Overall Scope of Work

Cumming provided cost, scheduling, and commercial management services for the Spruce Goose project, which involved the conversion of an historic, seven-story, wooden hangar building into a four-story, 480,000-sq.-ft office facility, complete with work spaces, conference rooms, a 250-person event space, a café, a fitness center, an assembly area, sound stages, and other amenities. The interior is fitted with custom furnishings, colorful artwork, and potted plants. Aviation themes were incorporated into phone rooms and meeting rooms, which have names like Kite and Zephyr that reference the building's history. The scope of work also included redundant telecom/data systems, extensive A/V and security systems, new pile foundations, structural steel framing, interior partitions, food service equipment, casework, finishes, and all-new HVAC, electrical, and plumbing systems. The building needed complete seismic and fire/life safety upgrades, and was located on a contaminated soil clean-up zone in an old aerospace industrial area.

Unique Project Challenges

The facility was located on a contaminated soil clean-up zone in an old aerospace industrial area and also needed complete seismic and fire/life safety upgrades. In addition, large windows along the sides had been boarded up during the hangar's Hollywood soundstage days and the building itself had fallen into general disrepair.

These challenges were addressed carefully and methodically, with Cumming providing accurate cost estimates to help minimize additional surprises along the

way. The soil was remediated, the seismic and fire/life safety upgrades were implemented, and the windows were re-exposed, flooding the space with light. To further bring the hangar up to code while preserving its original character, the project team removed the central spine from the ceiling, which spanned the full 750-foot length of the building, rebuilt it in steel, and then re clad it with the restored historic glue-lam wood panels. Wood arches and siding were also preserved, restored, and exposed in the interior of the space.



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Value Added by Cumming

During the very early concept feasibility stage, Cumming was asked to establish the budget and timeline for the construction of the project. During this effort, Cumming identified a budget that was \$150 million above the initial forecasts, largely due to the complexities of working within the historic structures and on former industrial land. Constructability and logistical constraints heavily impacted the nature of this large and complex tenant improvement and led to early redefinition of the stakeholders' needs to ensure the value and functionality of the project. As a result of Cumming's early analysis, budgets were redefined within the initial forecasts and the project was delivered on budget and on time. Contractors were able to be procured through a competitive process and the resulting constructability approach followed the same early observations that Cumming had identified.

Project Outcome

The project was a complete success. Not only was it delivered on time and within budget, but a famous and locally important building has been restored and revitalized, and the surrounding campus and community have been given new life. Hundreds of Google employees now work in the repurposed Spruce Goose hangar, which, according to project architect ZGF, features original artworks (commissioned by Google) based on "the hangar's aviation history, Google's innovative ethos, and the multi-faceted spirit of Los Angeles."

The final result is a wonderful balance of historic preservation and forward-thinking design, and will inspire and support the local community for many more years to come.