

Buildings Acoustics

Recent studies have shown that on average **humans spend almost 90% of their time indoors**. Never has the quality of the interior environment mattered more.

Acoustic design creates an auditory signature that marries architecture with function. It invokes a sensory experience and emotional response that helps to connect people to place. In short, acoustics can contribute to, enhance, and support human health and well-being inside and out. Executed well, acoustic design balances budget with function, architectural intent with program use, all while complying with the jurisdictional codes and standards.

KEY MARKETS

We provide a range of acoustic and vibration consulting to clients in the following markets:

- Commercial / Office Development
- Corporate Workplace / Office
- Healthcare
- Education
- Science & Technology and Research
- Cultural / performance spaces
- Industrial / Manufacturing
- Sports & Recreation

Our key focus areas are:

- Achieving adequate speech privacy and sound insulation
- Control of all types of internal noise
- Delivery of comfortable reverberation and speech intelligibility for rooms of all types and usage
- Control of noise emissions generated by building services or by activities associated to the building
- Control external noise intrusion into the building
- Design for optimal interior building acoustics via control of the acoustic properties of building elements and finishes

KEY SERVICES

- Reverberation and speech intelligibility control. We liaise with architects and designers, suggesting and specifying products and finishes that will suit their design intent or further enhance their creativity.
- Airborne and impact sound insulation. Design and recommendations for partitions, glazing, ceilings, roofs, doors, and other building elements to control noise transmission. This applies both to speech privacy control in indoor environments, and to outdoor-to-indoor noise control.
- Building services noise control. Design to mitigate noise control due to HVAC or other heavy machinery within a building to provide the ideal acoustic environment for occupants or research activities.
- Acoustic Testing: Assessment of noise levels, airborne sound insulation, impact noise insulation, reverberation, vibration and speech intelligibility.
- Code compliance assessments for sound insulation.
- Design integration of audio-visual (AV) equipment into spaces, such as video conferencing, telepresence, public address (PA) systems, AV meetings rooms, broadcast or similar.



KEY SERVICES

Acoustic design of specialist spaces related to sound and speech, such as auditoriums, theatres, amphitheatres, learning spaces, recording and broadcast studios, concert halls and meeting rooms. Design includes modelling speech intelligibility, reverberation, sound clarity and other acoustical properties

- Acoustic design or refurbished spaces to improve acoustic privacy and ambient quality
- Planning application assessment (DA) against planning policies, including road, rail and traffic noise assessments
- Building footprint position and shape optimisation with a view to reduce spend on noise containment measures
- Design of acoustic barriers, silencers, plant treatment and other noise control measures
- Noise management plans for commercial, industrial or mixed use developments near residential areas
- Construction noise and vibration assessments and management plans

Our acoustical engineering and design services provide solutions for a variety of building acoustical concerns, including:

- Architectural acoustics design
- HVAC systems noise evaluation and solutions
- Sound transmission testing through walls, ceilings, and floors
- Speech privacy in buildings
- Room acoustical design
- Electrical systems noise control
- Piping systems noise control
- Vibration assessment and control
- Building code acoustical studies
- Noise surveys
- Sound measurement, testing, and analysis





FEATURED PROJECTS

Through the clarity of sound, we're enhancing the connection between people and the built environment.



SICEP
Sydney, Australia
AoR: FJMT

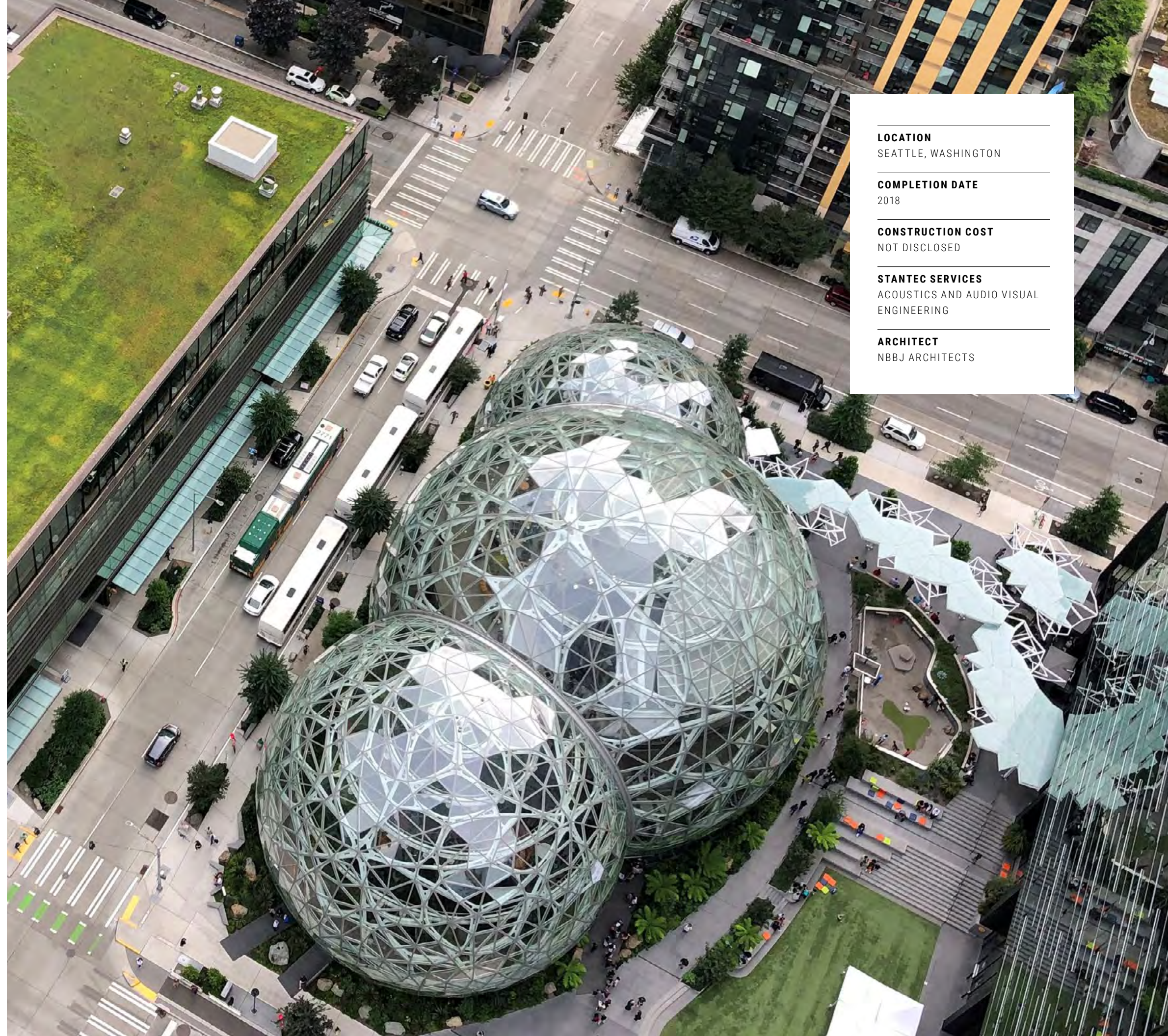
FEATURED PROJECT

Amazon South Lake Union Campus

Stantec and Amazon have a long history of collaboration, particularly on the South Lake Union campus where Amazon is currently based, the tech giant has relied on Stantec teams many times for electrical, audiovisual, acoustical, and lighting services. We have been involved in more than 4,000,000 SF of new development within multiple commercial development towers, primarily providing services to support workspace, meeting, and presentation spaces.

One of the most unique, and technically challenging, buildings on the campus is the four storey low-rise building which occupies a portion of the Block 19, known as the Amazon Spheres. Adjacent to a 37-storey 1 million square foot tower, the form of the building is three overlapping spheres of glass and steel, inspired by the domed greenhouses of the Victorian era and later 20th Century biomes. The building is an integral part of Amazon's central campus workplace environment, hosting a variety of unique employee amenity spaces. The interior of the Spheres offers employees a plant-rich environment reminiscent of a traditional conservatory but designed with human occupant comfort as the foremost consideration. Estimated usable area of the combined Spheres is approximately 47,100 sf, and includes 4 story open assembly spaces, indoor streams/waterfalls, fully matured indoor trees and planting areas, and a canopy level suspension walkway.

For the audio design, we developed an audio only system for the large meeting/event space on the top floor of the large center sphere. This audio system provides presentation audio and sound masking such as simulated water sounds. Our work with the architect includes coordination of location for audiovisual presentation displays and audio systems including interface with lighting and room controls.



LOCATION

SEATTLE, WASHINGTON

COMPLETION DATE

2018

CONSTRUCTION COST

NOT DISCLOSED

STANTEC SERVICES

ACOUSTICS AND AUDIO VISUAL
ENGINEERING

ARCHITECT

NBBJ ARCHITECTS

LOCATION

CORVALLIS, OREGON

COMPLETION DATE

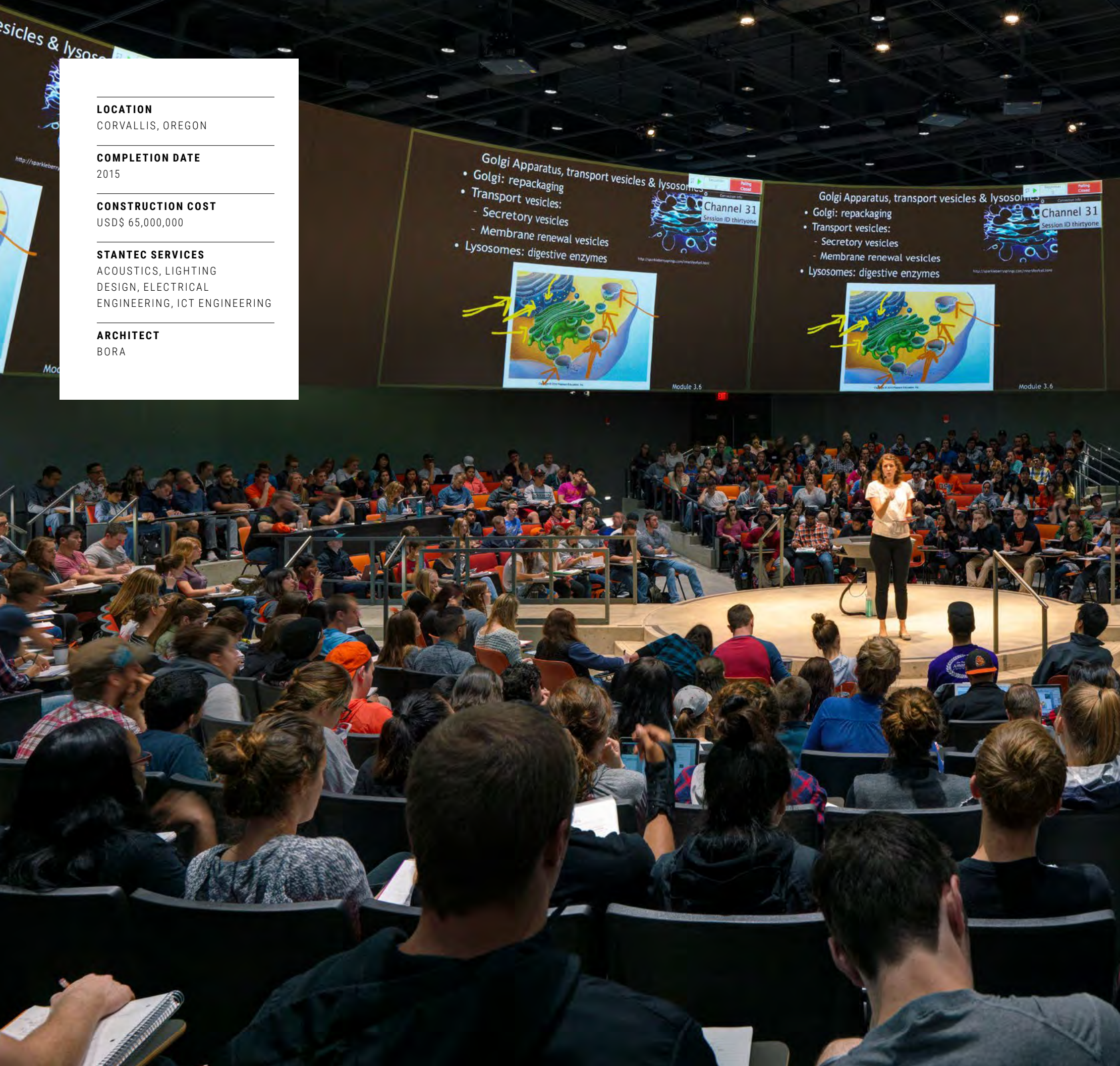
2015

CONSTRUCTION COST

USD\$ 65,000,000

STANTEC SERVICESACOUSTICS, LIGHTING
DESIGN, ELECTRICAL
ENGINEERING, ICT ENGINEERING**ARCHITECT**

BORA

**FEATURED PROJECT**

Oregon State University Learning Innovation Center

Stantec was the audiovisual, acoustic, technology, lighting and electrical design partner for this new 130,000 sf Learning Innovation Center. This Classroom Building introduces new styles of learning spaces that support collaboration and student participation, such as Parliament, and Arena or "Teaching-In-The-Round" classroom designs along with flexible classrooms and lecture halls. The large classrooms are supported by a centralized control room for technician assistance as well as classroom capture and streaming. A green screen room is provided to allow faculty to create classroom content with two editing suites and an isolation booth for audio recording. This facility created 16 classrooms with over 2,900 classroom seats throughout as well as spaces for collaboration and study for more than 600 students outside of the classrooms. It is anticipated that this building will accommodate Oregon State University's expected growth over the next ten to fifteen years.

LOCATION

LOMA LINDA, CALIFORNIA

COMPLETION DATE

JANUARY 2020

CONSTRUCTION COST

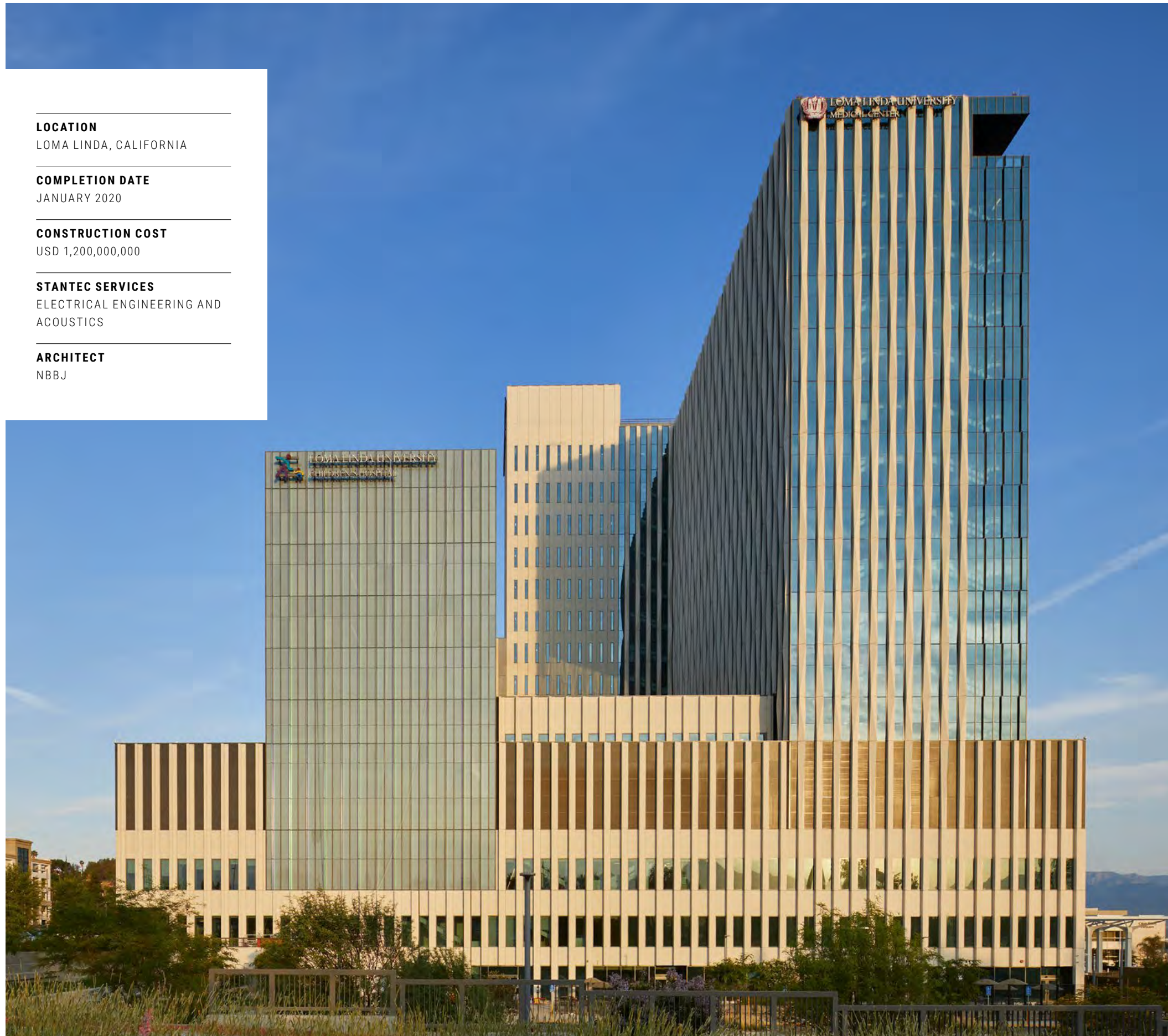
USD 1,200,000,000

STANTEC SERVICES

ELECTRICAL ENGINEERING AND
ACOUSTICS

ARCHITECT

NBBJ

**FEATURED PROJECT**

Dennis and Carol Troesh Medical Campus, Loma Linda Medical Center

Loma Linda's medical campus transformation includes a new university hospital, adult patient care tower, new children's hospital, diagnostics and treatment, administrative, conferencing center, chapel, a new 10MW emergency generator plant, expansion of the campus central energy plant, and support services and new cafeteria.

Stantec provided technology visioning and systems operational programming and design for all the Information & Communication Technology systems to be deployed in the new facility.

Within the design assist model, Stantec helped guide the technology strategic decisions. With multiple contractors and integrators being brought to the project early in the process, we helped our partners make sound implementation and constructability decisions which ultimately reduced cost and improved operational performance—all to increase patient and user satisfaction.

An example of Stantec's ingenuity is our seismic transition design for the communication backbone cable systems. We engineered a cable support system that transits a code required "seismic moat" that provides for three-dimension movement of all fiber optic and copper cables systems to allow for up to 48 inches of movement during a seismic event.



FEATURED PROJECT

Microsoft Building 83

Microsoft Building 83 pushes the standard for innovation and provides some of the best brains in the business with the work-space they need to not only succeed—but thrive. Our team would step in to supply acoustical, lighting, and mechanical design services for the facility. At almost 300,000 square feet and housing over 1,000 occupants, we were happy to help with the challenge. Our work would include the lobby and reception area, staff work-spaces, mixed-use meeting rooms, atrium, and conference rooms. The game plan? Simple. To enhance the experience for anyone who enters the building. Building 83's HVAC system includes a raised floor system at all work areas. With an espresso vendor on the ground level of the lively atrium space, noise played a factor—which meant we really had to manage the amount of sound that would reach the office work-spaces. Microsoft Building 83 set a new standard of design that continues to help build a collaborative culture for staff in Redmond, Washington.

LOCATION
REDMOND, WASHINGTON

COMPLETION DATE
2014

CONSTRUCTION COST
UNDISCLOSED

STANTEC SERVICES
MECHANICAL ENGINEERING,
ACOUSTICS, LIGHTING DESIGN

ARCHITECT
BORA ARCHITECTS

FEATURED PROJECT

UC Davis Green at West Village Student Housing

Faced with a rapidly growing student body, UC Davis partnered with our public-private partnership team to deliver the largest student housing development in the US. The Green at West Village includes nine four-story residential buildings, a 10,000-square-foot community center, and a maintenance center.

The design intent and constructability of the facilities is being completed in a fast track fashion between two phases with Phase 1 (1000 beds) complete in 2020 and Phase Two—another 2,300 beds and community center—complete in August of 2021. The project aims to be the largest net-zero community in North America, designed to generate as much energy as it uses within a year.

Acoustical services include sound isolation, room acoustics, mechanical noise and vibration control, and a detailed Environmental Noise Study, including a SoundPLAN modeling study, to design the exterior façade to meet the minimum requirements of the California Building Code.

LOCATION
DAVIS, CALIFORNIA

COMPLETION DATE
2020/2021

CONSTRUCTION COST
USD\$ 575,000,000

STANTEC SERVICES
ARCHITECTURE, INTERIOR
DESIGN, LANDSCAPE
ARCHITECTURE, ACOUSTICS,
MECHANICAL, ELECTRICAL AND
ICT ENGINEERING

LOCATIONPERTH, WESTERN AUSTRALIA

COMPLETION DATE2018

CONSTRUCTION COSTUSD\$ 700,000,000

STANTEC SERVICESMECHANICAL AND ELECTRICAL
ENGINEERING, ACOUSTICS,
SUSTAINABILITY

ARCHITECT

HASSELL, COX, HKS

FEATURED PROJECT

Optus Stadium

The multi purpose 60,000 seat Optus Stadium is considered a world-class venue.

Key design and fans-first features included future-proofed stadium technology (such as full 4G Wi-Fi coverage) and more than 70 food and beverage outlets that you can enjoy without missing a thing. The stadium includes the widest range of seating and hospitality options of any stadium in Australia, and the lightweight fabric roof covers 85% of seats and responds to Perth's climate conditions. At night, it presents a spectacular glowing halo effect.

The design acknowledges Western Australia's unique sporting, cultural and Aboriginal heritage and the Sports Precinct landscape provides a spectacular vista across the Swan River to the City

Among its numerous accolades since opening in 2018, Optus Stadium holds the Prix Versailles 2019 World Architecture Design Award and has also been named 2018 Project of the Year at The Stadium Business Awards in London.

LOCATION

PERTH, WESTERN AUSTRALIA

COMPLETION DATE

2016

CONSTRUCTION COST

AUD\$ 209,000,000

STANTEC SERVICESACOUSTICS, AUDIO VISUAL,
ELECTRICAL, FIRE ENGINEERING,
FIRE PROTECTION, HYDRAULICS,
INTEGRATION (SCADA AND ICT),
SUSTAINABILITY, VERTICAL
TRANSPORTATION

ARCHITECT

GHD

**FEATURED PROJECT**

Perth Busport

The new underground Perth Busport replaces the aging Wellington Street Bus Station. This project is the first bus station in Australia to include the latest technology in airport-style dynamic stand allocation to unlock space and passenger efficiency enabling up to 200 buses per hour by 2031. Stantec were engaged by the City Busport Alliance (Public Transport Authority, Brookfield Multiplex and BG&E) to deliver the complex building services for this major infrastructure project.

Given the highly complex nature of the Perth Busport, services integration was defined as a separate discipline to engineer the interfaces between specialist engineering services. This resulted in reduced capital costs through the 'sharing' of infrastructure across the project.

The project was awarded the 2017 MBA WA Excellence in Construction Awards – Best Civil Engineering Works project and the 2017 Bankwest Best Project finalist.

FEATURED PROJECT

San Ysidro Land Port of Entry

Supporting long-term expansion efforts for the busiest international border crossing in the western hemisphere, Stantec and contractor Hensel Phelps are undertaking a complete reconstruction of the pedestrian and bus inspection facilities on behalf of the U.S. General Services Administration and their tenant, The Department of Homeland Security, Customs and Border Protection.

Initial project efforts focused on the new Virginia Avenue Transit Center and a temporary office complex allowing for the relocation of the majority of GSA and CBP staff. The VATC provides transportation options for the daily influx of 20,000 pedestrian travelers, including bus, taxi, pedicab, and general-purpose pick-up/drop-off. This effort was designed, permitted, and constructed in just nine months. Virtual Reality (VR) was used extensively to share design progress with all the stakeholders. Given the nature of the project, security requirements were stringent. The use of VR enabled the users to experience their future home in a virtual environment and to work with the designers to make spatial changes that would enable them to carry out their critical mission more effectively; ensuring a well-coordinated and compliant design before construction.

LOCATION

SAN DIEGO, CALIFORNIA

COMPLETION DATE

2019

CONSTRUCTION COST

USD 134,555,000

STANTEC SERVICESARCHITECTURE, INTERIOR
DESIGN, ELECTRICAL
ENGINEERING, ACOUSTICS,
LIGHTING DESIGN,
SUSTAINABILITY

JOINT VENTURE

HENSEL PHELPS

LOCATIONSEATTLE, WASHINGTON

COMPLETION DATE2012

CONSTRUCTION COSTUSD\$ 209,000,000

STANTEC SERVICESELECTRICAL ENGINEERING,
LIGHTING DESIGN & ACOUSTICAL
ENGINEERING

ARCHITECTOWEN RICHARDS ARCHITECTS

**FEATURED PROJECT**

Chihuly Garden and Glass

Located steps away from Seattle's iconic Space Needle, Chihuly Garden and Glass has become another jewel on the Seattle Center campus. Designed by Owen Richards Architects, the stunningly unique museum features three primary components: the garden, the glasshouse, and the interior exhibits, with significant secondary spaces including a 90-seat café with additional outdoor dining, a 50 seat multi-use theater and lecture space, retail and lobby spaces, and extensive public site enhancements beyond the Garden.

The museum's structure, a vast concave glass surfaces and a polished concrete floor, posed a serious acoustic issue because of its highly reverberant space. Our challenge was to create a comfortable interior space, one that reduced reverberation to allow the space to be used for social events. With severe constraints within the museum environment (we could not block the glass or alter the concrete with acoustical treatments) our team had to get creative. We filled the structural I-beams that held up the glass with sound absorptive material and added perforated plates as fascia. With this approach we were able to reduce the room's liveliness and associated mid-frequency reverberations from 11 seconds to 2.7 seconds, making the space usable for large groups of people requiring good speech intelligibility.

FEATURED PROJECT

New Museum

The New Museum for Western Australia provides a modern and significantly larger home for exhibition content—much of which has remained in storage for many years. In addition to permanent galleries, it contains spaces for temporary and touring exhibitions, offices, restaurants, and function spaces.

The project includes the refurbishment and revitalisation of the existing heritage-listed buildings as well as a contemporary new building. Site planning is formed around a large undercover outdoor space that is the central entry point of the museum. The new buildings include a 1000 sm temporary exhibition gallery for special exhibitions, as well as nearly a range of flexible and dynamic gallery and public spaces.

Stantec's role involves the technically challenging design of all engineering services, with specialist input and assistance from international practice Atelier Ten. The museum creates a modern civic and learning environment that shares the stories of the State's people and place, acting as a gateway to explore Western Australia.

LOCATIONPERTH, WESTERN AUSTRALIA

COMPLETION DATE2020

CONSTRUCTION COSTUSD\$ 378,500,000

STANTEC SERVICESACOUSTICS, AUDIO-VISUAL,
ELECTRICAL, FIRE ENGINEERING,
FIRE PROTECTION, HYDRAULICS,
ICT, MECHANICAL, SPECIALIST
LIGHTING, VERTICAL
TRANSPORTATION

ARCHITECTHASSELL + OMA



FEATURED PROJECT

Gold Coast Aquatic Centre

In anticipation of the Pan-Pacific games in 2014 and the Commonwealth Games in 2018, New South Wales needed a new stadium—one that could accommodate and impress spectators. The Gold Coast Aquatic Centre project involved the creation of a new swimming complex with a capacity of 10,000 seated spectators. From an acoustic design perspective there were two main goals: minimal environmental noise impacts during events on nearby residences, and delivering a robust enough design to account for two completely different scenarios—legacy mode and Games mode. Our solution? We worked with the architect to develop noise control solutions for the crowds, and we worked with the mechanical and swimming pool specialist to deliver custom solutions, including a tailor-made acoustic wall.

Designed for life beyond the Games, the complex is now an integral part of the community and enjoyed by local residents year-round.

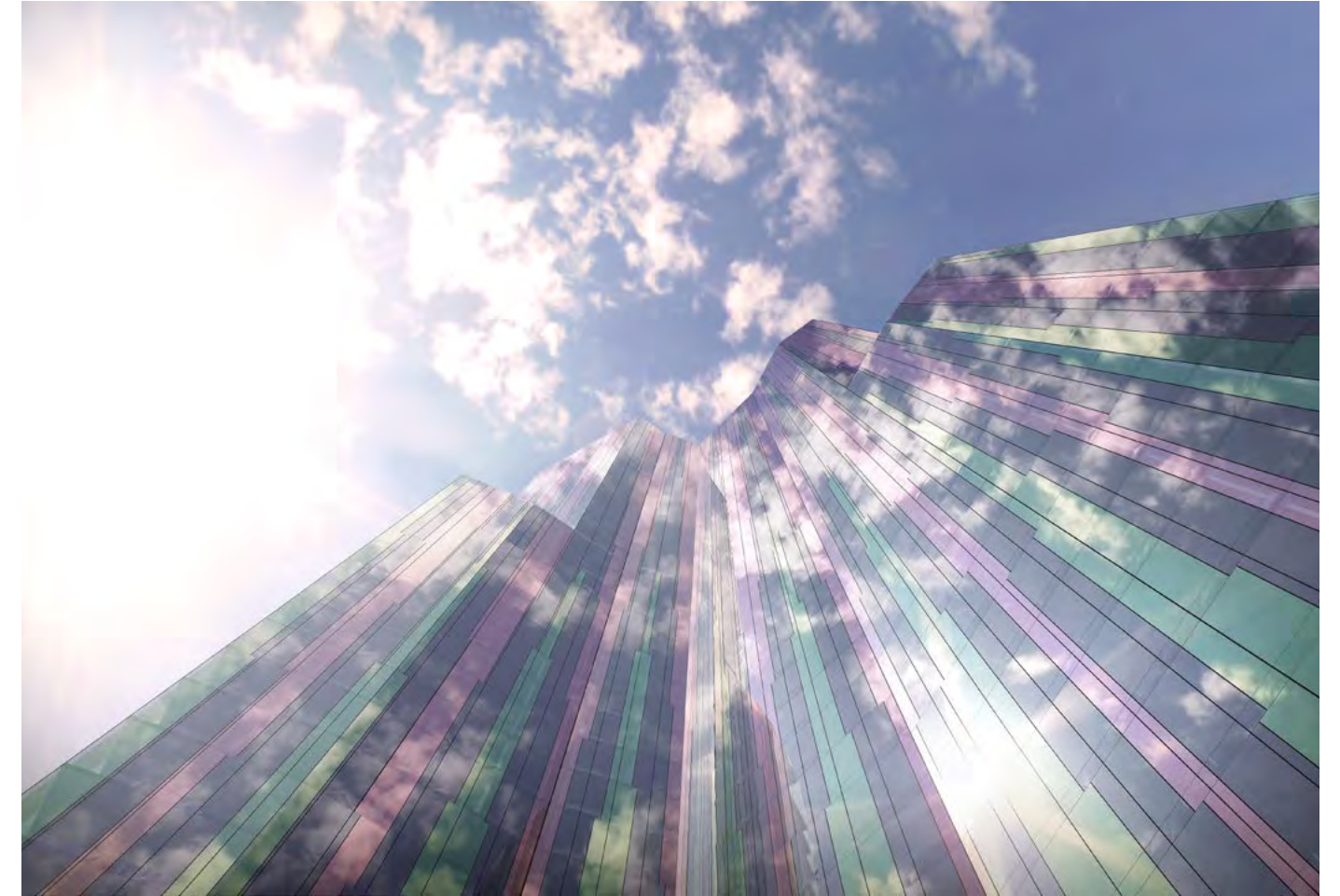
LOCATION
SOUTHPORT, QUEENSLAND

COMPLETION DATE
2014

CONSTRUCTION COST
AUD\$ 41,000,000

STANTEC SERVICES
ACOUSTICS, FIRE PROTECTION
(WET) ENGINEERING

ARCHITECT
COX RAYNER ARCHITECTS



FEATURED PROJECT

Swanston Central

Located in the middle of the Melbourne CBD, this mixed-use development consists of a residential complex with 1,040 apartments and 2,254 sm of retail space.

The retail component is primarily located within an existing heritage building that is over 70 storeys high.

Swanston Central has become one of the tallest residential buildings in Victoria, as well as becoming a rich and vibrant landmark.

LOCATION
MELBOURNE, AUSTRALIA

COMPLETION DATE
2019

CONSTRUCTION COST
AUD\$ 340,000,000

STANTEC SERVICES
ACOUSTICS, ELECTRICAL,
FIRE ENGINEERING, FIRE
PROTECTION, HYDRAULICS,
MECHANICAL, SUSTAINABILITY

ARCHITECT
ELENBERG FRASER



LOCATION

SYDNEY, AUSTRALIA

COMPLETION DATE

2018

CONSTRUCTION COST

AUD\$ 120,000,000

STANTEC SERVICES

ACOUSTICS

ARCHITECT

FJMT

FEATURED PROJECT

SICEEP

SICEEP is located within Darling Harbour, a 60ha waterfront precinct on the south-western edge of Sydney's CBD that provides a vibrant mix of functional uses including recreational, tourist, business, and entertainment.

This new mixed use residential complex is located within the South West development plot of the "The Haymarket" neighbourhood at Darling Harbour.

The development comprises a new mixed use residential complex, including a podium building with components of retail and car park together with three towers (SW1, SW2 and SW 3) erected thereon.

The project has been recognized with a Master Builders Australia's NSW Excellence in Construction Awards with: Outstanding Construction Award, Best Use of Glass Award, Best Use of Concrete, Excellence in Energy Efficiency and Best Public Buildings over \$35 million.



FEATURED PROJECT

13-17 Cordelia Street

A new 30 storey residential tower, with a land size of 1800 sm. The residential tower houses 250 apartments and provides approximately 260-300 car parking spaces.

The development required a very sensitive acoustic and vibration design approach, with constraints found on three sides of the development site. On one side there was a heritage listed vibration sensitive building, an apartment building and on the other, an occupied commercial building.

A noise impact assessment for the project was completed assessing the impact of road traffic noise on the façade and the determination of acoustic treatments to mechanical plant. Assessment of vibration created during construction was also assessed for the heritage building.

LOCATION

SOUTH BRISBANE, QUEENSLAND

COMPLETION DATE

2017

CONSTRUCTION COST

AUD\$ 60,000,000

STANTEC SERVICES

ACOUSTICS, MECHANICAL,
ELECTRICAL, HYDRAULICS,
FIRE PROTECTION, VERTICAL
TRANSPORTATION ENGINEERING

ARCHITECT

MAKE ARCHITECTS



FEATURED PROJECT

Greenland Centre

Greenland Centre is the highest high-rise residential building in Sydney. The project was approved by the city of Sydney, allowing the developer to go over the maximum height in Sydney based on a voluntary planning agreement for community space located within the first six floors of the building called "Creative Hub".

This luxury, 66-storey, mixed-use residential tower is comprised of 498 apartments and extensive community space. It also includes dance, theatre and visual arts facilities within the state heritage-listed Sydney Water Board site at 115 Bathurst Street, Sydney. Our team was involved in the design of all services for this project, including mechanical and electrical engineering, fire protection and acoustics. The building features an innovative floor-plate layout that allows all apartments to have access to direct northern sun and expansive views, high performance recording studios and performing spaces, and integrated modular balcony design.

Upon completion, this building will be Australia's most slender tower. The community will not only have a brand new place to live, but also an extensive creative space to explore and grow in.

LOCATION

SYDNEY, AUSTRALIA

COMPLETION DATE

2019

CONSTRUCTION COST

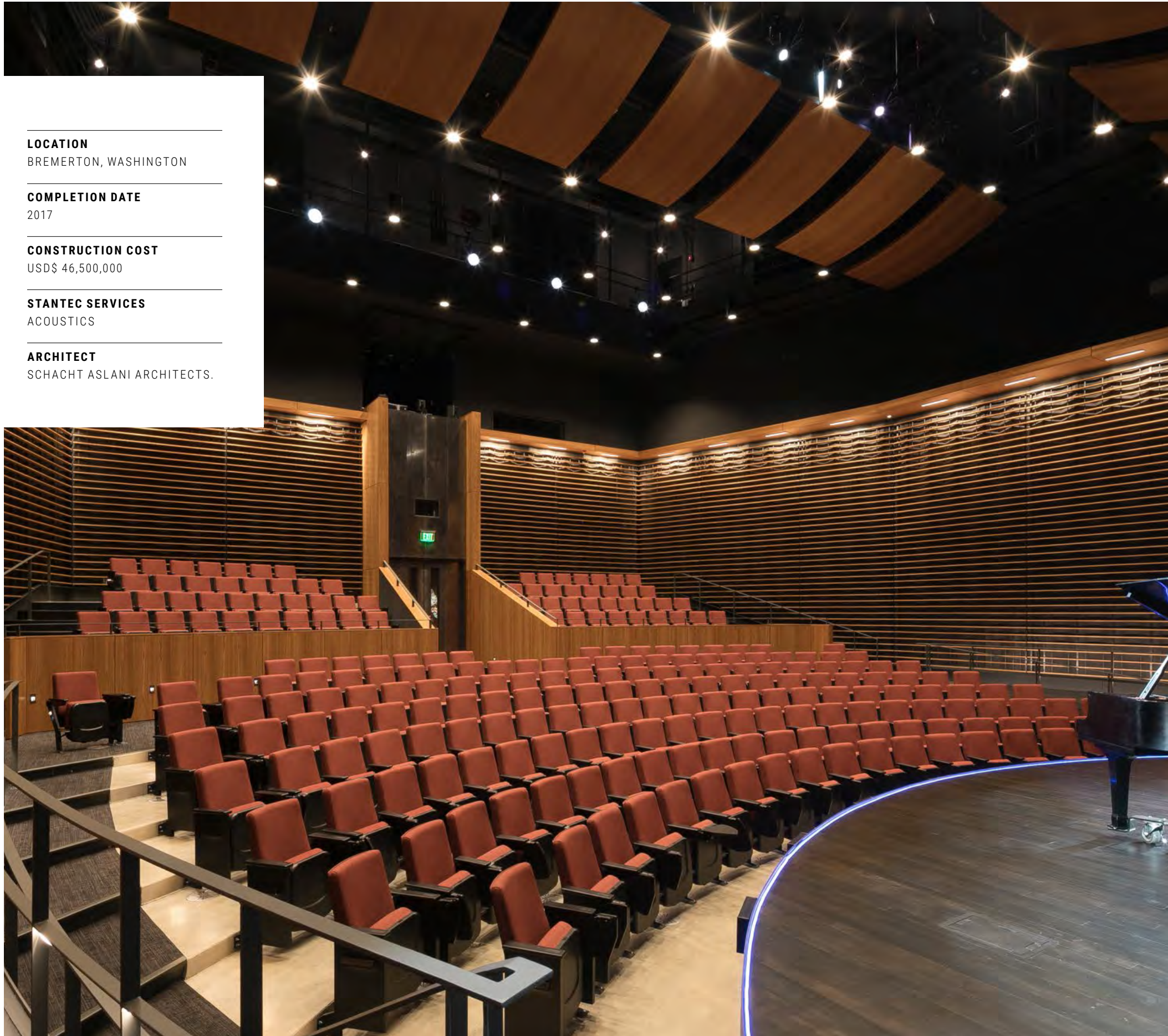
AUD\$ 350,000,000

STANTEC SERVICES

ACOUSTICS, ELECTRICAL, FIRE
PROTECTION, HYDRAULICS,
MECHANICAL ENGINEERING

ARCHITECT

BUN
WOODS BAGOT



LOCATION

BREMERTON, WASHINGTON

COMPLETION DATE

2017

CONSTRUCTION COST

USD\$ 46,500,000

STANTEC SERVICES

ACOUSTICS

ARCHITECT

SCHACHT ASLANI ARCHITECTS.

FEATURED PROJECT

Olympic College Instruction Center

Olympic College is committed to providing excellent academic opportunities for its students, as well as unique cultural experiences for its community. That's why the College Instruction Center (CIC) was proposed – a building that combines health occupation and fine, performing, and digital arts programs into one learning environment, and also serves as a performance space for the community to enjoy.

A multipurpose space like the CIC is bound to have a diverse set of needs, particularly in the realm of sound masking and acoustics. That's why Olympic College called in Stantec for the acoustical design. Our design provides identity for specialty spaces and connectivity between different functions within the building. We provided sound masking curtains in the performance space so it can be a lecture hall during the day and a concert venue at night. We also tuned the acoustics of each classroom to serve their individual purposes and provide the ideal learning environment for every student.

Today, the CIC is living up to Olympic College's two main goals: to provide the highest quality education to every student, and to be a gathering place for the community. Its state of the art classrooms provide students new opportunities and ways to learn. Its performance hall invites the community to attend plays and concerts throughout the year. The College Instruction Center is more than just a classroom. It is a unifying space for the whole community.



FEATURED PROJECT

Sandstone Buildings

When Pontiac Land Group was redeveloping two heritage buildings in Sydney CBD's Sandstone Precinct to become a grand hotel with pool, spa, restaurants, rooftop bar, ballroom and guest accommodation, they called on Stantec to help. Our team met the complex hotel requirements while minimising impact on the architecture and facade of the two structures—which extend over two blocks-linked by an underground tunnel.

The acoustic treatment of services was tailored around the architecture to achieve performance and comfort targets and our lighting scheme celebrates the beautiful features in circulation areas.

Stantec's integrated and sympathetic approach to design facilitated the transformation from offices to hotel, revitalizing these beautiful heritage buildings in central Sydney.

LOCATION
SYDNEY, AUSTRALIA

COMPLETION DATE
2018

CONSTRUCTION COST
AUD\$ 300,000,000

STANTEC SERVICES
ACOUSTICS, ELECTRICAL,
HYDRAULICS, MECHANICAL,
SUSTAINABILITY

ARCHITECT
MAKE ARCHITECTS AND RIDLEY
ARCHITECTS

FEATURED PROJECT

Presbyterian Ladies College

The College's new Performing Arts Centre (PAC) consists of 560-plus seat auditorium and main stage supported by a number of rehearsal, instrumental and classrooms.

Conceived as a place to perform, rehearse, discuss, teach and learn, the centre is a vital element of the cultural life and identity of PLC. Specialist music rehearsal spaces with 8-metre-high ceilings together with smaller studio spaces and classrooms will inspire state of the art teaching and purpose-built learning environments for a new generation of musicians and actors at PLC.

The design was developed in close coordination with the Architect (Cox Architecture), acoustics and theatre consultants, and required extensive modeling and detailing of all structure and building services.

LOCATION
BRISBANE AUSTRALIA

COMPLETION DATE
2017

CONSTRUCTION COST
AUD\$ 400,000,000

STANTEC SERVICES
ACOUSTICS, MECHANICAL,
ELECTRICAL AND STRUCTURAL
ENGINEERING, LIGHTING DESIGN

ARCHITECT
COX ARCHITECTURE



FEATURED PROJECT

Raine Square Redevelopment

The renovation of Raine Square is underway, with buildings dating back to the 1800s being reimagined for modern needs. The precinct consists of six heritage buildings ranging from 1890 to 1984. We provided noise and vibration monitoring at the Raine Square redevelopment site during construction. As the development was in close proximity to the neighbouring Bankwest building, continuous noise and vibration monitoring was required to minimize disruption. If during construction noise or vibration levels were exceeded, the clients, construction team and stakeholders were alerted in real-time to ensure quick action to rectify via our customized monitoring software.

Our responsibilities include implementing a fully automated and continuous noise and vibration noise monitoring system of construction works. We conducted weekly offsite noise and vibration analysis and reporting, based on criteria levels set by the client. And, we assisted the landlord and tenant in establishing suitable criteria for noise and vibration, so they did not adversely impact both the construction and tenant's operations.

LOCATION
PERTH AUSTRALIA

COMPLETION DATE
2018

CONSTRUCTION COST
AUD\$ 75,000,000

STANTEC SERVICES
ACOUSTICS

ARCHITECT
TAYLOR ROBINSON CHANEY
BRODERICK

FEATURED PROJECT

Jackalope Hotel

A heritage site and functioning winery, the Willow Creek Winery has some of the oldest vines on the Mornington Peninsula. When we were brought in to consult on the construction of a luxury hotel and swimming pool—as well as restaurant and event centre—the design was a challenge.

Sensitive construction practices were required to ensure that there was no damage to the vines and that all heritage requirements were met. Plus, with limited existing infrastructure, the design had to be very detailed and efficient to make sure operational requirements were met for all services. In particular, extra attention was given to the water reuse systems.

With the addition of the boutique hotel, swimming pool, restaurant, and event centre, Willow Creek Winery has reset the benchmark for glamour in the Shire of Mornington Peninsula.

LOCATION
MELBOURNE AUSTRALIA

COMPLETION DATE
2017

CONSTRUCTION COST
AUD\$ 30,000,000

STANTEC SERVICES
ACOUSTICS, AUDIO-VISUAL,
CIVIL, ELECTRICAL, FIRE
ENGINEERING, HYDRAULICS,
MECHANICAL, SPECIALIST
LIGHTING, STRUCTURAL,
SUSTAINABILITY,
VERTICAL TRANSPORT

ARCHITECT
CARR

FEATURED PROJECT

Plumstead Library

Plumstead Library is a renovation and extension of the existing library building, originally constructed in 1903. The redevelopment creates an extension onto the existing listed building which will be refurbished allowing the whole space to be used as a mixed use, community space. Added to the library will be amenities such as a gym, sports hall and cafe. The library is owned and operated by London Borough of Greenwich, who appointed Hawkins Brown as the project architect and Stantec as the civil, structural & mechanical, electrical and plumbing (MEP) and noise and vibration engineering teams.

The acoustic team were responsible for developing the scheme from RIBA Stage 1 through to Stage 3B, providing effective initial design advice to be taken forward as part of the detailed design.

The scheme faced several challenges during the design development. The primary issue was developing a strategy which allowed improvements to be made to the acoustic separation between spaces, whilst constrained by the existing building fabric.

The acoustic team undertook a series of baseline sound insulation tests to determine the acoustic performance of the existing structure. Advice was then provided to the design team as to the most effective method of improving the acoustic performance where necessary.



LOCATION
LONDON, UK

COMPLETION DATE
2018

CONSTRUCTION COST
UNDISCLOSED

STANTEC SERVICES
STRUCTURAL ENGINEERING,
NOISE & VIBRATION,
BUILDINGS ENGINEERING

ARCHITECT
HAWKINS BROWN

LOCATION

BRISBANE, AUSTRALIA

COMPLETION DATE

IN PROGRESS

CONSTRUCTION COST

UNDISCLOSED

STANTEC SERVICESACOUSTICS, CIVIL, STRUCTURAL,
MECHANICAL, ELECTRICAL,
HYDRAULIC ENGINEERING

ARCHITECT

COTTEE PARKER

FEATURED PROJECT

Queen's Wharf Brisbane

The iconic Queens Wharf redevelopment is a major project in the heart of Brisbane's CBD, covering more than 26 hectares. The development is expected to include world-class hotels, restaurants, bars, gaming, outdoor public spaces and foreshore area including a new pedestrian link to South Bank. Stantec are the civil, structural, mechanical, electrical, hydraulic and acoustic engineering technical advisors to the Department of State.

Stantec have worked on the project since 2013 and look forward to being involved through to completion in 2022. The development area

contains numerous buildings of Heritage significance and the Riverside Expressway, the State's most heavily trafficked road. The project will include significant bulk earthworks and rock excavation for a nine-storey basement, as well as a new reclaimed river foreshore area immediately adjacent to the development.

The engineering challenges and technical issues required to be managed are extremely unique, requiring an innovative and bespoke design approach.



Leadership Team



OLIVIER GAUSSEN
GLOBAL ACOUSTICS LEAD, DIRECTOR



BASEL JURDY
ACOUSTICS DISCIPLINE LEAD,
PRINCIPAL, NORTH AMERICA



FRANK BABIC
ACOUSTICS PRACTICE AREA LEAD



ALEXANDRE BRIOT
ACOUSTIC TEAM LEAD, QUEBEC



MATTHEW BARLOW
ACOUSTIC TEAM LEAD, UK



JONATHAN CHUI
SENIOR NOISE SPECIALIST



Olivier Gaussen

GLOBAL ACOUSTICS LEAD,
DIRECTOR
Olivier.Gaussen@stantec.com



Olivier joined Stantec in 2009 as the acoustic section manager in the Sydney office. Since 2012, he's served as our national acoustics coordinator.

His experience and understanding of other disciplines relating to acoustics—such as mechanical, electrical, hydraulics, architectural, and structure—allows him to provide an integrated approach to acoustic design. He can ensure that a project's acoustic performance requirements are met without compromising the design intent.

Outside work, Olivier enjoys spending time with his family: Georgina and their two boys Noah and Leo. Olivier also likes to play beach volleyball which reminds him of the years when he used to play in the national league in France. Other than that, he enjoys skiing, playing the drums, and catching up with friends around a glass of Pinot Noir.



Basel Jurdy

ACOUSTICS DISCIPLINE LEAD,
PRINCIPAL, NORTH AMERICA
Basel.Jurdy@stantec.com



Basel believes that listening to a client's desired acoustical end results without preconceived solutions in mind is crucial to achieving a design that enhances a space. Asking questions invites the client to reveal more. Listening to answers and finding the best solutions for that unique project brings the client's vision to life.

With more than 27 years of experience, Basel is a dynamic project leader and a natural mentor. His advice to young acousticians is to listen first. Then, educate the team on the art and science behind acoustics, so it becomes apparent why standard acoustical treatments are not the right solution for every project.

An engineer by schooling, Basel pursued a career in acoustics where he discovered the artist in himself. His activities away from the office reflect his strategic side as an avid tennis player and his artistic side through ballroom dancing. He taps both attributes to create environments that delight project owners and users alike.



Frank Babic

ACOUSTICS PRACTICE AREA LEAD,
ONTARIO

Frank.Babic@stantec.com

Frank has a deep passion for integrating acoustics, noise, and vibration solutions into the variety and depth of projects offered by Stantec. This stems from combining his passion for music (has a solo project called High Park Society) with his civil engineering education—leading to unique, high-quality engineering approaches for his clients.

As a licensed professional engineer, Frank has over 20 years of engineering consulting experience. Areas of technical expertise include engineering consultation in environmental noise, transportation noise, building acoustics, vibration, and monitoring (noise and vibration). Frank is a recognized subject matter expert in his field, and he's presented at numerous technical conferences in Canada and the US.

As Stantec's Acoustic practice lead, Frank leads a core team of specialists and experts in the field of acoustics, noise, and vibration. This group of highly-specialized individuals offer quality engineering services and client-orientated focus to ensure that we deliver our solutions to the quality expected by Stantec and its clients.



Alexandre Briot

ACOUSTIC TEAM LEAD,
QUEBEC

Alexandre.Briot@stantec.com

Alexandre is the team leader for the acoustics and vibration services within the province of Quebec (Canada). With more than 21 years of design experience in acoustics, his expertise includes, in particular, acoustic impact studies which, utilize computer modeling, studies concerning architectural acoustics or studies related to rail transportation.

In addition, over the years, Mr. Briot has acquired great expertise in the field of soundproofing of buildings and ventilation. To this end, he is responsible for the acoustic part of the projects inside the Fixed Equipment Project Office of the Metro [partnership Stantec and Société de transport de Montréal (STM)] which aims to renew the fixed equipment of the metro in Montreal, including the repair of ventilation stations, the installation of large-capacity generators or even the construction of the new STM control center. In addition, he participated in the project to extend the metro line to Laval and Blue line with regard to the soundproofing of new ventilation stations, jet fans and ventilation of generator sets. Outside the office, you may come across Alexandre on his motorbike. He likes to discover new landscapes by traversing winding paths like the Alps. In terms of his other hobbies, soccer or kickboxing takes up some of his time.



Matthew Barlow

SENIOR ASSOCIATE,
ACOUSTIC TEAM LEAD, UK
Matthew.Barlow2@stantec.com



Matt is an acoustic consultant with a broad range of experience in the assessment of noise and vibration for a diverse range of private and public sector clients in the UK and overseas. He has particular expertise in environmental acoustics and building acoustics demonstrated by his work on residential and mixed use projects, infrastructure projects, industrial facilities, schools, healthcare as well as commercial, education, and energy generating facilities.

He has performed numerous environmental noise impact assessments to support planning applications and is familiar with a wide range of policy, standards and guidance including NPPF, NPSE, ProPG, BS8233, BS5228 and BS4142. In addition to more traditional methods of assessment he is an expert in the use of computer models. His involvement in buildings acoustics projects has provided valuable experience and knowledge in creating acoustically appropriate environments through the control of building services noise and vibration, noise and vibration intrusion and sound transmission between spaces.

Design work has been verified by on-site commissioning including pre-completion sound insulation tests, noise intrusion tests on shell constructions and acoustic measurements of building services noise.



Jonathan Chui

SENIOR NOISE SPECIALIST,
ALBERTA
Jonathan.Chui@stantec.com



Jonathan is a professional engineer with over 19 years of consulting experience in the acoustic industry. He specializes in noise impact assessment, regulatory policy, engineering noise control, source measurement, complaint investigation, baseline noise monitoring, and vibration measurements. He has completed numerous noise assessments for Canadian and international projects in North America, Central American, South America, and Africa.

Over the last decade, Jonathan has lead the Stantec western Canada noise team to serve different industrial and commercial clients in the three western and central provinces of British Columbia, Alberta, and Saskatchewan. The noise assessment projects cover different sectors such as renewable energy, conventional power generation, oil and gas, mining, military, manufacturing, and transportation.

Jonathan's passion includes photography and intrepid travel to far away countries. While at home in Calgary, he enjoys hiking, skiing, and cycling in the Canadian Rockies.

Communities are fundamental. Whether around the corner or across the globe, they provide a foundation, a sense of place and of belonging. That's why at Stantec, we always design with community in mind.

We care about the communities we serve—because they're our communities too. This allows us to assess what's needed and connect our expertise; to appreciate nuances and envision what's never been considered; to bring together diverse perspectives so we can collaborate toward a shared success.

We're designers, engineers, scientists, and project managers innovating together at the intersection of community, creativity, and collaboration. Balancing these priorities results in projects that advance the quality of life in communities across the globe. Stantec trades on the TSX and the NYSE under the symbol STN. Visit us at stantec.com or find us on social media.

