



LAN MU
STRUCTURAL DRAFTSPERSON
CURRICULUM VITAE

LAN MU CV



PROFILE

Before Lan joined Structus, she has worked as a structural engineer for almost 27 years in China. She has worked for First Harbour Consultants Co. Ltd for almost 17 years and worked for Butler (Tianjin) Inc for almost 8 years prior.

During her employment in First Harbour Consultants she was involved in many big harbour projects as the Chief Structure Engineer. These projects included Qingdao port, Yantai port, Tianjin port, Huanghua port, Weifang port, Rizhao port, Yingkou port and Jinzhou port. These projects included office buildings, service buildings and warehouse structures in the harbour area, and she had also obtained rich structural design experiences in areas as follows:

- Navigation tower structures
- Support structures for belt conveyor system
- Silo structures for storage of grain cereal, cement and coal
- Long span steel structure warehouses with storage for general cargo
- Foundation structures of tanks, storage of oil and chemical liquid
- Retaining wall structures
- Pond structures for waste water treatment systems
- Well and gutter structures for drainage system
- Foundation structures for many types of equipment in harbour transportation systems

During her employment with Butler (Tianjin) Inc. from 2002 to 2010, Lan worked as a senior structural designer and participated in the completion of approximately 30 complex projects. The main duties for which Lan has been responsible were as follows:

- Structural design
- Design checking and quality control
- Scheduling and designer work assignments
- Coordination with internal departments, contractors, and government agencies for structural design issues
- Make headcount annual operation plans (AOP) for the Design Department
- Execute the annual ISO performance review for the Design Department
- Conduct performance reviews for each structure engineer, and make a career plan for each engineer

- Arrange technical training for structural engineers
- Solving technical problems during design, and handling job site queries
- Routine reporting on design status, overtime and efficiency reviews

QUALIFICATIONS

Bachelor of Engineering, Department of Industrial and Civil Engineering, Tongji University, Shanghai, China 1990

27 years of design experience in structural engineering

4 years of management experience

Class 1 Registered Structural Engineer in China since December 1999

CAREER HISTORY

2017 – Present, Senior Draftsperson, Structus Consulting Limited

2010 – 2017 Senior Chief Structural Engineer, CCCC (China Communication Construction Company) First Harbour Consultants Co. Ltd

2002 – 2005 Structural Engineer, 2005 – 2010 Manager of Design Department, Butler (Tianjin) Inc. BlueScope Buildings-China (North)

2001 – 2002 Chief Structural Engineer, Tian You Architecture Design Co.

1990 – 2001 Structural Engineer, CCCC (China Communication Construction Company) First Harbour Consultants Co. Ltd

TECHNICAL SKILLS

- Use of appropriate software applications, such as AutoCAD, to create and modify

design structures and engineered elements.

- Read and understand architectural drawings and produce structural model drawings and details under limited guidance of structural engineers.

PROJECT EXPERIENCE, NEW ZEALAND

COMMERCIAL AND RETAIL PROJECTS

Supermarket Refurbishments, NZ wide, 2017-present, \$2-10m

Refurbishment of over 30 no. Countdown and Fresh Choice supermarkets to date for Woolworths NZ, including new mezzanines, concrete slabs, structural bracing, rooftop plantrooms, bulkheads, partition walls, pylon signs, building component seismic restraints and floor trenches.

Countdown Richmond, Nelson, 2019 - present, \$14m

The supermarket building consists of 4,500m² of Countdown Supermarket and 2 no. additional retail tenancies, drive through covered loading dock, standalone walkway and pickup canopies and on-grade carparking. Long span steel portal frames form the superstructure and a mixture of precast concrete panels and glazing form the façade. Structural engineering design, Revit documentation and construction monitoring.

151 Queen Street New Bar, Auckland, 2018-2019

Refurbishment of 151 Queen Street New bar for Robt. Jones 151 Limited, including demolition of the existing concrete wall and slab structures at Levels 3 and 4 respectively, and extensive strengthening works required to accommodate the demolished structures.

**Pak'nSave Botany Refurbishment,
Auckland, 2019-present, \$8m**

Refurbishment and extension of the existing store for Foodstuffs North Island Limited, including new entry area and store front structure, upgrade of existing rooftop plant platforms, and new rooftop plant platforms, new smokers deck support structure, new floor set downs, slab cuts for drainage and trenches

**Pak'nSave Warkworth, 2019 - present,
\$30m**

Landmark retail development of over 11,000m² area and consisting two major stores and several specialty retail stores, including loading dock, mezzanines, entry areas, canopies and retaining walls. Structural engineering design, Revit documentation and construction monitoring. Green Star project.

**Central Park Seismic Strengthening,
Auckland, 2018-2020**

Shear wall seismic strengthening of 3 no. Commercial Buildings at Central Park for Goodman Nominee (NZ) Limited, providing shear wall holding down details.

INDUSTRIAL PROJECTS

**El Kobar and Underwood 2500 Units,
Auckland, 2018 - 2020, \$20m**

New high specification warehouses – 3 no. for the El Kobar project and 1 no. for the Underwood 2500 project – with associated two storey offices for each warehouse, constructed on high profile sites along Highbrook Drive. The warehouses typically contain large spans for the hot rolled and welded beam section portal frames and spine beams to create large open warehouse space. There are canopies to each

warehouse. Site retaining walls required to overcome the site topography. Hard stand paving throughout the development for heavy vehicles. Structus were engaged for structural engineering design and construction monitoring from concept through construction.

**Island Units, Auckland, 2019 - present,
\$9m**

New high specification warehouses – 6 no. conjoined and a single standalone – with associated single and two storey offices for each warehouse, constructed on a high profile site in Highbrook. The warehouses typically contain large spans for the rolled section portal frames, saw-tooth roofs and precast concrete dado panels, plus canopies. Stepped floor levels to overcome the site topography. Hard stand paving throughout the development for heavy vehicles. Structus are engaged for structural engineering design and construction monitoring.

**Timberley Development, Auckland, 2019 -
present, \$8m**

New high specification 4,700m² warehouse with associated two storey offices. The warehouse contains large span Steltech section portal frames, precast concrete dado and full height panels and large canopies. Site retaining walls required to overcome the site topography, and RC bored pile bridging required for a large public stormwater pipe. Hard stand paving for heavy vehicles. Structus are engaged for structural engineering design and construction monitoring.

RESIDENTIAL PROJECTS

**Eden View Apartments, Auckland, 2017-
Present, \$40m**

New 6 storey apartment building in two blocks with carparking and retail at ground level on

street frontage. The structure is typically steel framed with precast concrete double tee floors. The lateral system consists of steel concentrically braced frames in the transverse direction and steel moment resisting frames in the longitudinal direction.

Line Epping & Derna Tobruk, Auckland, 2019-present

Large two storey terraced housing residential developments for Fletcher Living in Glenn Innes and East Tamaki. Predominantly plywood portal frame and GIB braced timber frame structures, with rib raft floor slabs and some steelwork, plus pipe bridging structures and site retaining walls. Structural engineering design and construction monitoring.

HEALTHCARE AND AGED CARE PROJECTS

Aria Bay, Auckland, 2016-present, \$60m

New retirement village development consisting of 2 no. 5 storey apartments blocks and a 4 storey day clinic block (Importance Level 3) within an existing operational retirement village campus, plus a two storey link and bridge structure in a very constricted part of the site. Significant RC soldier pile tiered retaining structures with ground anchors, RC bored pile foundations, precast concrete shear walls and steel frames. Structural engineering design, Revit documentation and construction monitoring.

SELECTED OVERSEAS PROJECT EXPERIENCE

Car Unloading System for Tianjin Coke Terminal

300 meters long by 21 meters high with Slurry Concrete Wall System, which was the first

ever application in the Tianjin Port area, where the soil is soft.

Stereoscopic Storehouse for Huanghua Port

6,000m² stepped roof steel structure building with two 10-ton cranes.

Fertilizer Storehouse for Yantai Port

32,200m² space tube truss steel structure building, for which thermal effects was considered. The structure is 84m wide by 384m long, with a single span of 84m.

Car Dumper System foundation for Jin Zhou Port Coal Terminal

Reinforced concrete structure. The entire system was provided by Metso Minerals Industries Inc. This is a complicated system of unloading coal from the train into the hopper, for which the coal then is transported via a conveyor located under the hopper. The Dumper Drive Unit, Positioner, Charger and Roller are included in the system. The ventilation, dust elimination, crusher and electrical supply systems were considered in the structural design and foundation system. There are three rail lines in this project. For each rail, two carriages will be unloading each time. The foundation structure is about 48m in length and 66m in width, and the embedded depth is about 20m.

Cement Silo for Qinhuangdao Port

The Silo, with a volumetric capacity of 12,000 tons, is 22 meters in diameter and 32 meters in height.

Lujiang Road coastal underground parking for Xiamen City

15,000m² reinforced concrete frame structure and pile foundations.

QingDao Sailun Tyre Plant

384m wide by 105m long Butler steel structure building with a 3,500 m² mezzanine along the sidewall and complicated lateral loads. Inverted "V" bracing with tube section compressive members were used for seismic loads.

HanSheng Plant in Zhuhai City

22,000m² Butler steel structure building with 5 mezzanines, in high wind area. "K" bracing with tube sections were used for seismic loads in both directions for the mezzanines design.

YangZhou KeLong #5 Plant

99,000m² Butler steel structure building, for which thermal effects was considered. The building is 459m wide by 216m long.

Tianjin ASC Plant

6,500m² Butler steel structure building with FM 1-90 requirement. There are two 5-ton top running cranes in one aisle, and portal frames are used for both the building bracing and the crane bracing.

Zhengzhou Richan Plant

18,000m² Butler steel structure building with truss purlins roof system.

SEDA SanHe Plant

11,700m² Butler steel structure building, with sway bracing used for roof beam flange bracing.

Procter and Gamble (Egypt) project

The plant has three parts and covers an area of about 50,000m² in total. It is designed according to the U.S. standards.

