



Contact

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Qualifications & Affiliations

- RPEQ (Structural)
- CPEng (Structural)
- MIEAust
- NER
- BEng (Civil) (Hons)
- NACE L1 Coatings Inspector
- Confined Space Entry
- Working at Heights

Skills

- Structural design
- Bridges
- Condition Assessment
- Liquid Retaining
- Finite Element Analysis

Work History

- 2022-Present – Senior Structural Engineer, Hansen Engineering Group
- 2018-2022 – Structural Engineer, AECOM
- 2017-2018 – Graduate Structural Engineer, GHD
- 2016-2017 – Undergraduate Structural Engineer, SMCE

Ethan Farrell

RPEQ, CPEng, MIEAust, NER

Senior Structural Engineer

Ethan has over four years' experience in structural analysis and design of reinforced concrete, masonry, steel, and timber structures. Areas of experience include Water and Sewer Infrastructure, Single and Multi-Level Buildings, Industrial Buildings/Sheds and Steel Support Framing, Bridges and Culverts, and Liquid Retaining Structures. He has also developed his technical skills with structural analysis and design software including Space Gass and Strand 7.



Project Experience - Transport

Banana Creek and Sandy Creek Bridge

The Banana Creek and Sandy Creek Bridge Replacement project included the detailed design of replacement bridges for Banana and Sandy Creek crossings. This was part of DTMR's ongoing program to gradually replace timber bridges of poor and very poor Condition State. Banana Creek Bridge was a 3-span timber bridge, and is to be replaced with a two-span PSC box girder bridge. Ethan was responsible for undertaking the detailed structural design of Banana Creek Bridge.

Townsville Ring Road Stage 5

The Duplication of Townsville Ring Road from Ross River to Shaws Road. Ethan undertook the detailed design of Beck Drive Overpass, large signs, and pedestrian underpasses. Ethan also developed the Project-wide Durability Plan Report for all structures.

Tommy Creek and Corella River Bridge Replacement

The Tommy Creek and Corella River Bridge Replacement project included the detailed design of replacement bridges for Tommy Creek and Corella River crossings. Ethan was responsible for undertaking the detailed structural design of Tommy Creek and Corella River Bridges.

Gregory Developmental Road Widening

Condition assessment and reporting of over 150 culverts for the purpose of future extension and roadway widening.

Mackay Regional Council Overmass Vehicle Assessment

Structural assessment of over 30 existing culverts (precast and cast-in-situ) for 6 heavy mass design vehicles. Further on-site testing was undertaken to confirm reinforcement arrangement and increase accuracy of assessment.

Mackay Northern Access Duplication

The detailed design of one bridge widening and four new bridges. Widening included the assessment of the existing structure and load effects seen due to widening. New bridges included a duplication of the widening and two three overpasses.

Little Fletcher Street Bridge Assessment

Structural assessment of Little Fletcher Street Bridge incorporating reduction factors derived from a level 3 condition assessment

Project Experience – Industrial

Sun Metals – Expansion: The detailed design of concrete liquid retaining structures that contained heated liquids, composite concrete and steel portal frame building extensions, steel support structures for industrial plant and equipment.

BHP – Daunia Mine Blast Compound Slab: Detailed design and construction services, including site inspections and certification, of concrete foundation and slab for multipurpose.

PowerWater – NT Pylon Sensitivity Analysis: Sensitivity analysis based on the levels of corrosion in existing cable pylons, and the effects on geotechnical foundation capacity.

Townsville City Council – Herveys Range Transfer Station Upgrade: Detailed design of portal frame sheds for workshops and loading areas.

Viva Energy – Tank 15 Recoating Inspections: Inspections of external and internal coating systems for a steel petroleum tank recoating.

Project Experience – Water

Townsville City Council – Cleveland Bay Purification Plant Upgrade: The detailed design of concrete liquid retaining structures, pipe supports and foundations.

Cairns Regional Council – Southern Waste Water Treatment Condition Assessment: Site inspection and general condition assessment of structures from manholes to buildings.

Rockhampton Regional Council – South Rockhampton Flood Levee: The detailed design of structural components of the levee, such as T-Walls, pump stations and pits.

Mackay Regional Council – Showgrounds Water Main Upgrade: Structural assessment of steel water mains pipe under road pavement. Detailed design of pipework including design of thrust blocks.

Project Experience – Marine

Northern Stevedoring Services – Berth 3 Structural Assessment for LHM550 MHC: Structural assessment of berth 3 subject to the loads imposed by a Mobile Harbour Crane.

Port of Townsville Limited – Berth 4 Backing Land: Detailed design and construction support for of a masonry building, and concrete pits and trenches.

Port of Townsville Limited – Berth 1 Structural Assessment: Structural assessment of concrete berth, including capacity reduction factors based on the condition assessment.

Project Experience – Buildings

St Patricks College East Precinct: Structural inspections during construction phase. Components inspected included slabs, columns, foundations, pile caps, steelwork.

Mater Hospital Extension: Detailed design and construction phase support of the Mater Hospital ambulance parking awning extension.

Kirwan State High School Hardstand and Covered Area: Detailed design and construction phase support of a new hardstand, and large stage covered by an ARAMAX roof on portal frames.

Lavarack Tank Interim Facilities: Construction Phase services during the construction of an armoury and living quarters on Lavarack Barracks.