



Reducing the Pressure on Redevelopments

Delivery of Urban Gas Infrastructure to enable
High Density Development in Perth's CBD

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AGENDA

Acknowledgement of Country

Background

Safety Driven Design

Construction Approach

Tales of Project Delivery

Project Performance

Key Learnings





ATCO Australia operates on the traditional land of Aboriginal and Torres Strait Islander peoples, and in the spirit of reconciliation, we commit to working together for our shared future

REDUCING THE PRESSURE ON REDEVELOPMENTS



An aerial night photograph of Perth, Australia. The city skyline is visible in the background with numerous lit-up buildings. In the foreground, a large industrial building, the East Perth Power Station, is illuminated with green lights. A highway with light trails from traffic runs through the middle ground. A small letter 'T' is visible on the highway in the middle ground.

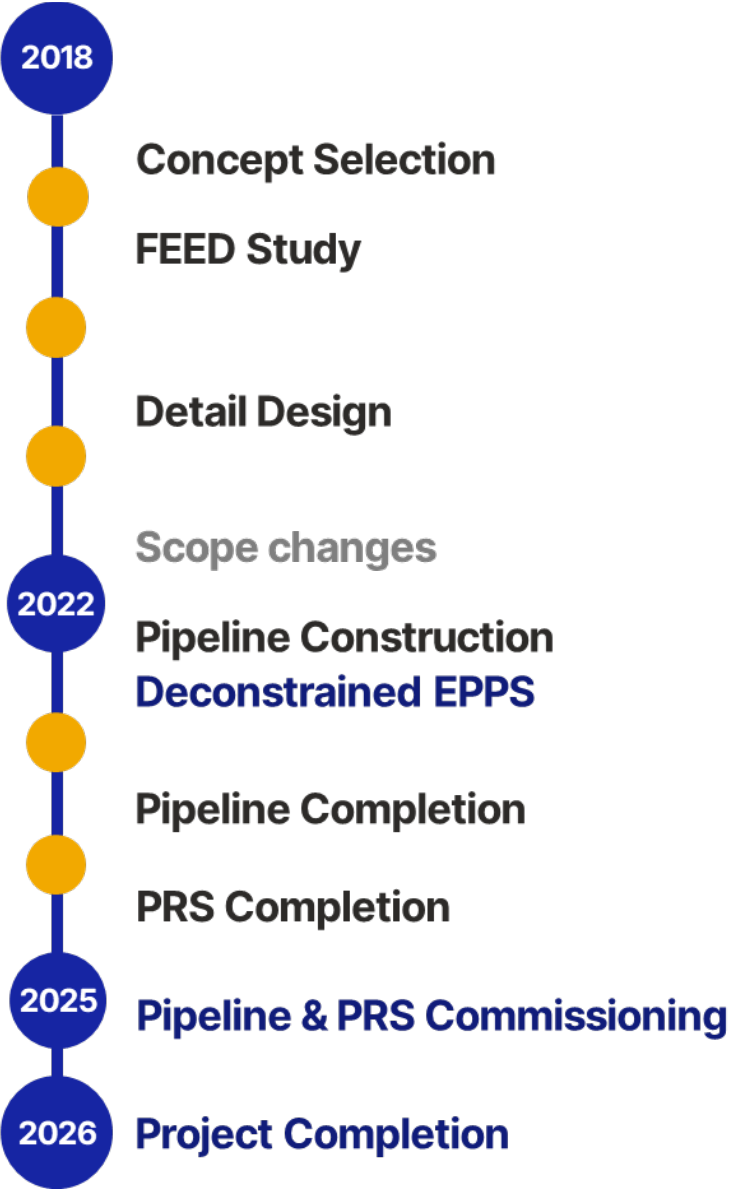
The Challenge

- East Perth Power Station redevelopment required removal of our largest Pressure Reduction Station
- With limited land available, **safely relocate** this critical infrastructure whilst maintaining gas supplies

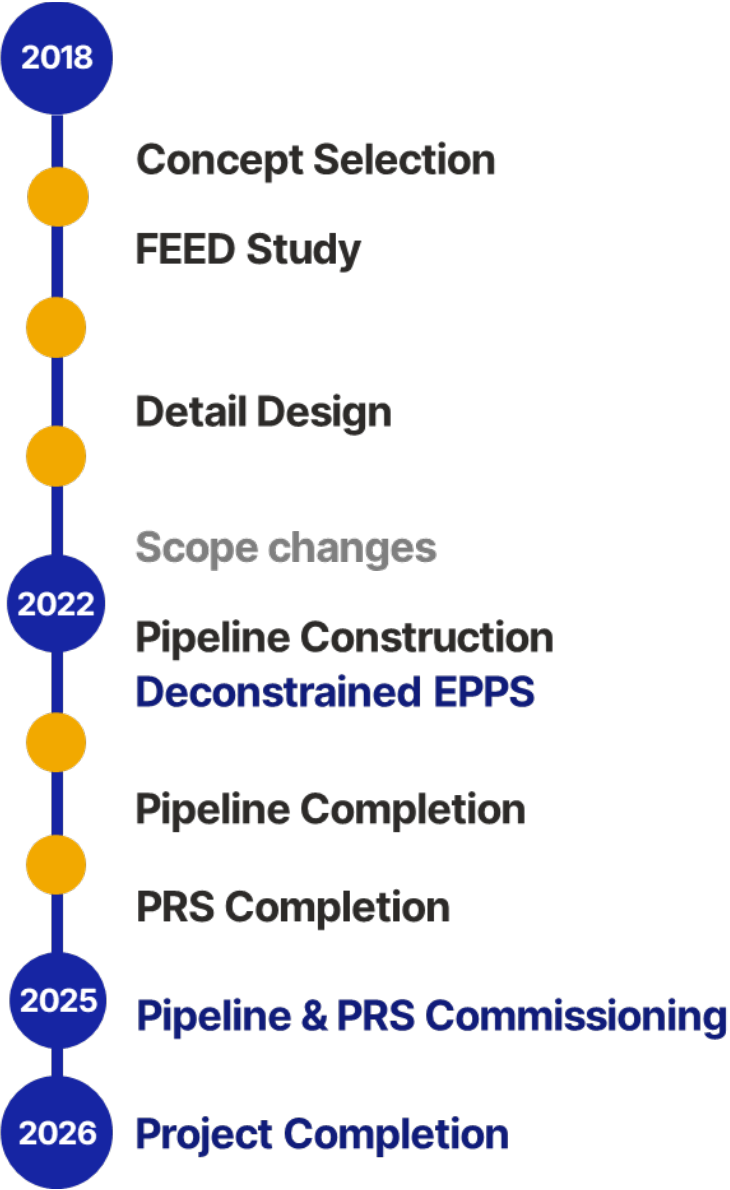
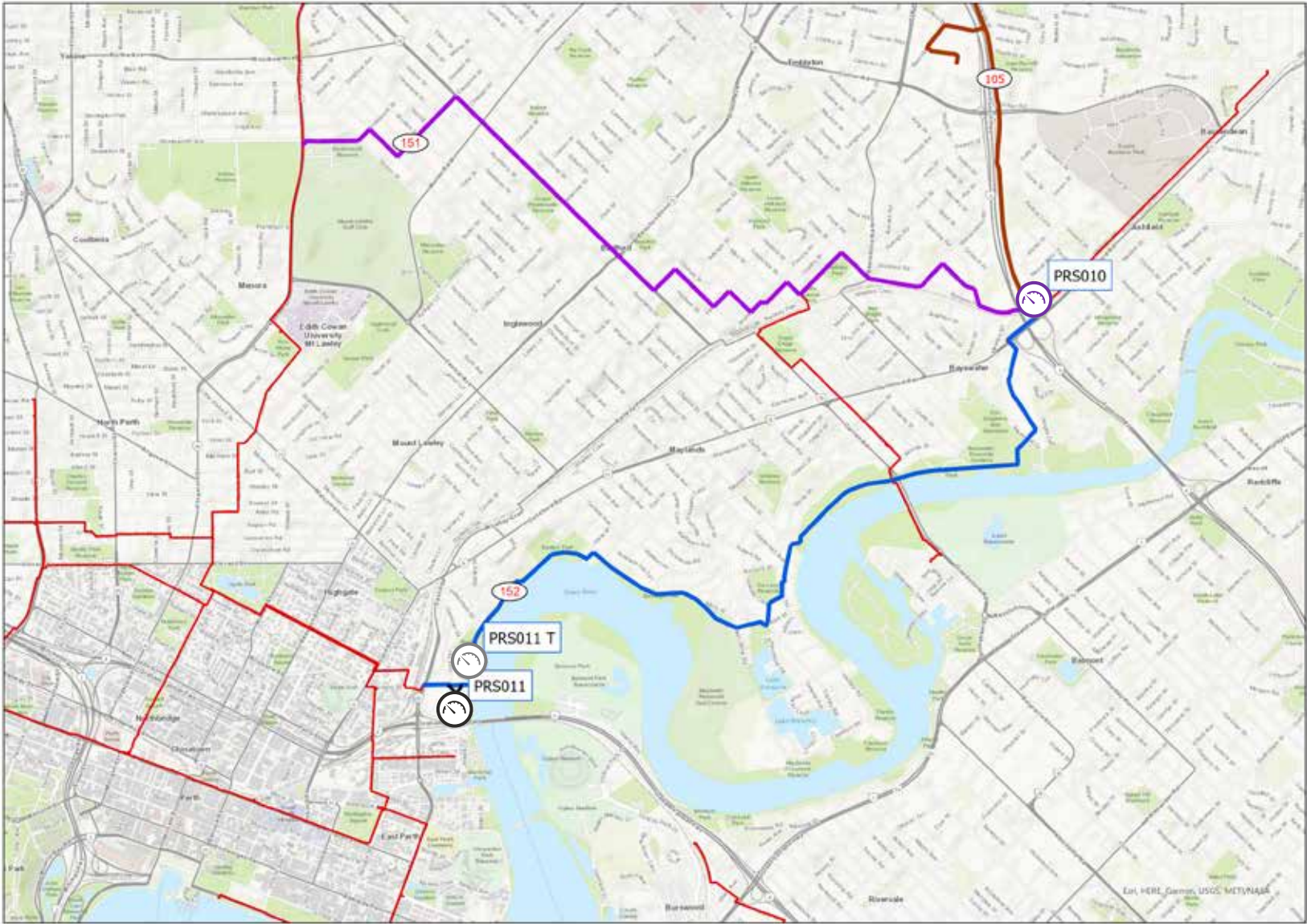
The Solution

- Construct a new **station** in Bayswater and maintain network integrity with a **reinforcement pipeline**

RELOCATION OF EAST PERTH PRESSURE REDUCTION STATION (PRS011)



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Pipeline

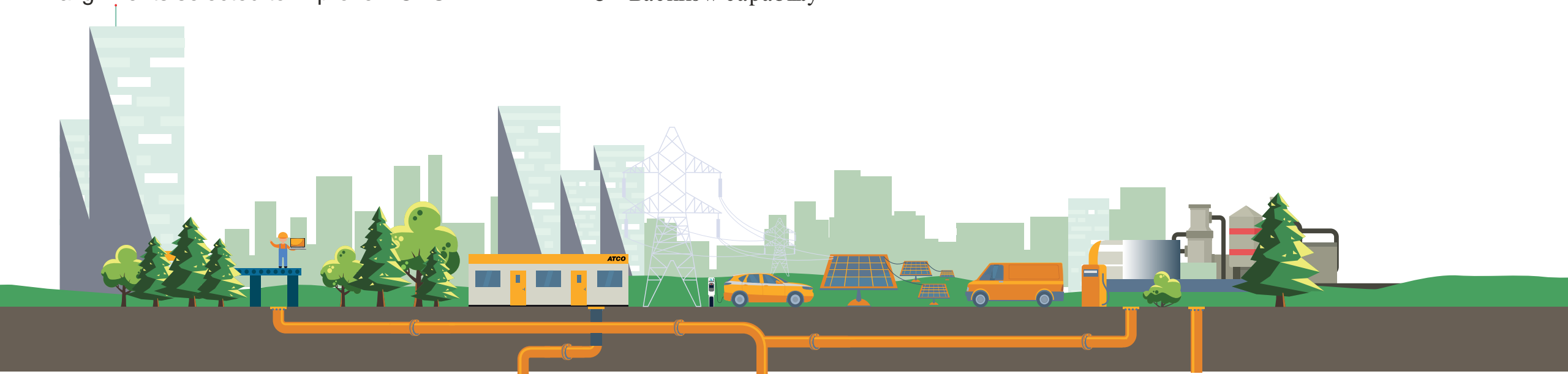
- Alignment through high density urban suburbs required careful route selection to maximise public safety through the design
- Pipe wall thickness defined by penetration resistance, coatings and internal lining suited for urban threats
- Design for the full asset lifecycle, alignments selected to improve DCVG

PRS

- Limited reference points for Station design
 - No documented Isolation Philosophy
 - Informal Human Factors guidance
- Designed for ongoing network resilience and operational flexibility
 - Interconnecting 5 pipelines
 - Backflow capability

Network Integration

- Carefully sequenced construction and commissioning of the pipelines and PRS
- Derating of the East Perth Lateral from 5000 kPa to 1900 kPa into the CBD
- Improved capacity to conduct future pigging operations (ILI) on CL150 pipelines



URBAN CONSTRUCTION PLANNING

- 👷 **Constructability** was a key driver for the pipeline design
- 👷 **Trenchless methods** included HDD and thrust boring
- 👷 **Joint community engagement** with Government
 - Community markets, workshops and presentations
 - SIMOPS with major transport infrastructure projects
- 👷 **Complex works staging** in constrained road corridors

Key Pipeline Construction Facts

- 59 HDD shots up to 330m long
- 1300+ service crossings
- 300m pipeline strings for HDD pullback
- 20 roads, 44 road crossings
- 84 water pipelines crossed with no isolations



Changes during Delivery

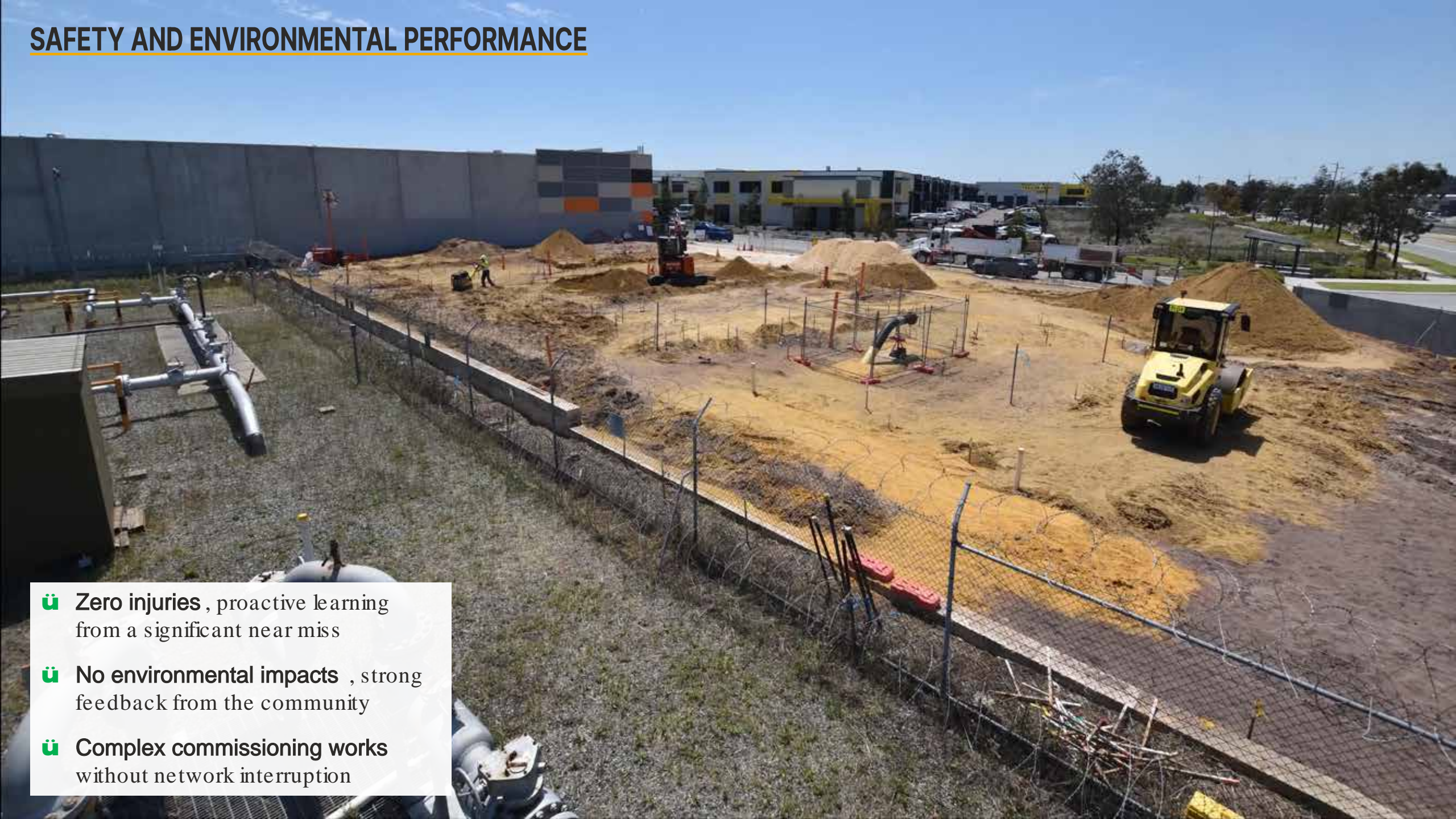


On site challenges

- ⚠ **Traffic and access constraints** around major landmarks, sensitive residential zones and busy industrial precincts
- ⚠ **Significant street furniture and trees** requiring protection of foundations and root systems along the pipeline route
- ⚠ **Unknowns beneath the surface**
 - Utility clashes
 - Dewatering up to 17 L/s
 - PFAS contaminated groundwater removal 24/7
 - Class 3 contaminated soils
- ⚠ **Achieving effective isolation** in flow stopping, poor valve sealing and dust within pipelines



SAFETY AND ENVIRONMENTAL PERFORMANCE

- 
- Ü **Zero injuries** , proactive learning from a significant near miss
 - Ü **No environmental impacts** , strong feedback from the community
 - Ü **Complex commissioning works** without network interruption

KEY TAKEAWAYS FOR URBAN PIPELINE PROJECTS

✓ Safety First in Project Delivery

Design to improve safety standards
Alignment of values with contractors



✓ Focus on Community outcomes

As critical as technical excellence
Rewarded for living our values



✓ Be flexible and prepared for change

Value of Front End Loading
Agile teams built to prepare for change



ANY QUESTIONS?





Thank you

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