



MITCHELL FREEWAY EXTENSION - PRECAST

Transport - Road

Bridges - Retaining walls - Tunnels and underground structures

AUSTRALIA, Perth



Trapezoid arch with spandrel and wingwalls

Owner/Client
Main Roads WA

Engineer
GBJV (GHD and BG&E)

Main contractor
Mitchell Extension JV (Georgiou Group and BMD Constructions)

Terre Armée entity
Reinforced Earth Pty Ltd (Australia - Headquarter)

Date
2022

Activity :
Concrete arches and boxes

System :
Other

Key figures :
Span : 8.97 m
Length : 35.8, 36.5 and 41.1 m

Activity :
Other wall systems

System :
Other

Key figures :
Area : Approximately 1950 m²
Rise : 8.9 m

Activity :
Reinforced Earth

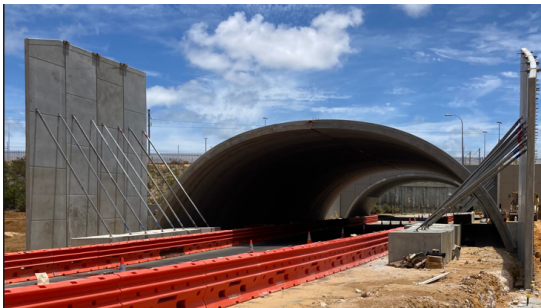
System :
TA "Classic"
Other

Reinforcement :
HA / HAR steel strips

Key figures :
Area : 3800 m²
Rise : 8.5 m



Precast abutment facing panels - rear



TechSpan underpass with TerraTilt wingwalls

The Project

The Mitchell Freeway Extension project will extend a critical transport link and provide many benefits to the local community, including improved access and travel times. The works include:

- Extend Mitchell Freeway from Hester Avenue to Romeo Road, with two lanes in each direction.
- Construct an interchange at Lukin Drive and widen the road to Connolly Drive.
- Construct an interchange at Butler Boulevard.
- Connect Romeo Road from Wanneroo Road to Marmion Avenue, including a new intersection with the freeway
- Upgrade Hester Avenue interchange.
- Construct a tunnel over Transperth's Nowergup Depot access road and realign to Hester Avenue.
- Construct a rail tunnel under the freeway north of Lukin Drive.
- Build a shared path on the western side of the freeway and on Romeo Road.





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- Construct a pedestrian underpass at Lukin Drive.

Reinforced Earth played a crucial role in the project, manufacturing and delivering precast elements at each of the above described intersections/locations. Mitchell Freeway Extension has been our largest client designed precast project to date in Western Australia, our scope included the following:

- Manufacture and delivery of three separate trapezoid shaped underpasses, including precast spandrel walls
- Manufacture and Delivery of L-shape retaining walls for underpass headwalls
- Manufacture of precast abutment panels
- Manufacture of precast column formers

As well as client designed precast elements, we also designed, manufactured and delivered:

- Reinforced Earth TerraTilt® walls at four bridge locations and one retaining wall
- Reinforced Earth TechSpan® arch
- Reinforced Earth TerraPlus® spandrel walls

Due to the scale of the project and size of the precast units, manufacturing was spread between our Landsdale facility and our recently commissioned Northam facility over approximately 11 months.

