

## BOTANICA STAGE 1 DEVELOPMENT – INTERSECTION, ENTRANCE ROAD AND CULVERT



**fgf's** Civil Construction Division was awarded Stage 1 of the Botanica Development in Caravonica. The works consisted of the upgrade of highway intersection, construction of an internal road, a new carpark at the State School and large-scale culvert works.

Part A involved the upgrade of the Cairns Western Arterial Road (CWAR) Intersection including:

- General Earthworks including road excavation and subgrade treatments
- Roadworks complete including various seal designs (sprayed bitumen, 30mm asphalt, 50mm asphalt)
- Remove existing 250mm dia AC water main and relocate with new 250mm dia oPVC PN16 complete
- Replace existing 450mm dia AC water main with new 450mm dia DICL PN35 under new intersection pavement complete
- Supply and install new 225mm dia uPVC PN16 water main to limit of intersection including connection to existing 450mm AC main, bends, end cap
- Intersection lighting, mains power, signals and intersection electrical works

Part B1 involved the construction of the internal road to provide access to the new carpark:

- Earthworks and road works including various seal designs and linemarking
- Construct footpath, fence and kerb ramps
- Stormwater drainage and water reticulation
- Road lighting

Part B2 involved the construction of the new Botanica Carpark:

- Bulk earthworks including cut to fill, trim and grade and revegetation
- Roadworks including trim and grade, pavement materials, 30mm asphalt sealing, 7mm primer seal, kerb and channel and subsoil drainage
- Concrete works including 1,200m<sup>2</sup> concrete footpath
- Stormwater works including supply and installation of RCP's, kerb inlet pits and headwalls to suit
- Water reticulation
- Carpark lighting works
- Erosion and sediment controls



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### Location:

Caravonica, Cairns

### Client:

Botanica Property  
Group Pty Ltd

### Design Engineers:

Jacobs

### Duration:

July 2017 – April 2018

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Part B3 involved the construction of a culvert bridge to provide access to the future development area:

- Supply and installation of the following box culverts with headwalls to suit:
  - 3000x1800 RCBC (approx. 89m)
  - 3300x1500 RCBC (approx. 91m)
  - 3000 link slab (approx. 23m)
- Roadworks including pavements, various seal designs, kerbing, road furniture
- Footpaths, kerb ramp, fencing and linemarking
- Water and sewer reticulation

Project opportunities and challenges included:

- Works were carried out during the wet season where there is a high chance of inclement weather. Being a local contractor, fgf is well experienced in programming works to accommodate for wet weather and were able to mitigate any risks by ensuring relevant erosion and sediment controls were in place.
- Working in an area with a high water table presented challenges with ground water management. Strategic dewatering along with the precise and effective installation of stormwater and subsurface drainage was key to ensuring the project's success.
- Working across State Government, Local Government and Private boundaries concurrently meant liaising with numerous stakeholders to ensure the streamlined delivery of work.
- Constructing a new signalled intersection while removing an existing intersection and carpark along the Cairns Western Arterial Road presented ever-changing challenges with traffic and pedestrian management. Ensuring that the 20,000 vehicles and countless pedestrians travelling through our site daily were kept safe and without delay required significant attention to detail and constant communication.



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