

# Development Application

## Material Change of Use -

### Caravan and Recreation Park

At Mingo Crossing, 2670 Gayndah-Mount Perry Road, Mount Perry Q



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## Executive Summary

### Site and Proposal Details

Address of Site	2670 Gayndah-Mount Perry Road, Mt Perry, Queensland
Real Property Description	Lot 1 on SP221156 Lot 2 on BN37186 Lot 3 on BN37186
Site Area	24.6894 hectares
Local Authority	North Burnett Regional Council
Planning Scheme Zone	Rural - Intensive Agriculture Precinct
Planning Scheme Overlays	Flood Hazard Infrastructure
Purpose of Proposal under the Planning Scheme	Material Change of Use to 'Tourist park' and 'Park'
Registered Owner	North Burnett Regional Council

### Applicant's Details

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North Burnett Regional Council proposes an expansion and upgrade to the caravan park and campground at Mingo Crossing. The facilities have been the subject to previous expansions and redevelopment over the years, however there is some doubt about whether all relevant approvals have been obtained and exercised correctly. Therefore, to create certainty for the future, this application includes the current use and proposed future expansion. The development application includes:

- 21 powered caravan sites
- 6 glamping tent sites
- 109 un-powered sites
- Caretakers residence
- Kiosk
- 2 amenities blocks to service both paid campers and day trippers to the area
- Camp kitchen
- Day users parking area near existing boat ramp
- Play ground
- Caretakers storage shed/s
- Treatment facilities for water and waste water
- 2 day-user sheds
- Sewerage treatment facility
- Water treatment facility comprising of 2 sheds and tank

## Aspects of the Development

Types of Development	
Material Change of use	Impact assessable
Building Work	Code Assessable (to be subject to a subsequent application)
Plumbing	Code Assessable (to be subject to a subsequent application)

### 1. The Proposal

North Burnett Regional Council (NBRC) owns and operates the Mingo Crossing Caravan & Recreational Park (MCCRP), located at 2670 Gayndah- Mount Perry Road, Mt Perry, Queensland. Situated on the banks of the Burnett River, the MCCRP is a popular rural tourist destination primarily utilised by people accessing Paradise Dam for watersports and fishing. The existing caravan park draws approximately 7500 campers and day visitors annually and thus is a reliable source of revenue for NBRC and the nearby rural townships of Gayndah, Biggenden & Mount Perry. There are currently 12 powered caravan sites, approximately 4.5 acres of grassed camping areas, a kiosk, large undercover barbecue area and amenities block.

In recent years, NBRC has seen continued growth in the number of campers coming to MCCRP, particularly in peak holiday periods and for the annual 'Catch a Catty Family Fishing Competition' which attracted 320 participants in 2016. To support the growth in tourism at MCCRP, NBRC proposes the construction of an additional nine powered caravan sites, six new 'glamping cabins' and additional grassed campsites. To service the additional accommodation facilities NBRC also proposes the construction of a new amenities building, boat & trailer parking, children's playground and upgrade to existing water and sewerage treatment facilities'.

The site is also used for 'Park', as defined in the planning scheme. Such a use is exempt in the Rural zone and is therefore not part of this application. The report does not discuss it further.

### 2. Site Characteristics / Inspection of Subject Land

Location	Mingo Crossing.
Road Frontage	Approximately 270m along the Gayndah – Mount Perry Road (the entire road frontage is not accessible due to the Mingo Crossing Bridge.
Current Use of Site	Recreation and Tourist Park.
Existing Vegetation	Mostly grass with few trees. The existing caravan park area is mowed lawn area.
Topography	Gentle sloping land to the river, river frontage is approximately 633 metres with an inlet to the north-eastern side of the development.
Surrounding Land Use	Cattle breeding and fattening.



### 3. Strategic Framework

#### Introduction

The strategic framework sets out the strategic policy direction which forms the basis for ensuring appropriate development occurs in the most appropriate areas. As stated in the strategic intent the Burnett River is the 'life of the region' and MCCRCP has been developed and placed in this location to further enhance the community's capacity to utilise the Burnett River in their recreational life. The MCCRCP would create a strong connection to the Burnett River as it provides suitable access for all types of water sports including fishing, sailing, boating, skiing and tubing.

#### Outcomes in relation to a strong rural economy and futures

The MCCRCP fulfils element 3.4.2 (5) Strong Rural Economy and futures – Tourism and ecotourism. The North Burnett Region is a competitive domestic tourist destination, and the MCCRCP would create sustainable tourism opportunities and improve economic diversity by providing a range of visitor accommodation. This would ensure the region remains a popular holiday destination in the Wide Bay Burnett region.

The Planning Scheme also seeks an outcome that visitor accommodation establishes in a diverse range of styles, forms and locations. The MCCRCP satisfies this element in the following ways—

- It has 3 different styles of accommodation options: unpowered camping sites, powered caravan sites and glamping sites;
- It is in an area where there are no other camping sites available. The nearest sites are Mount Perry 30km, Gayndah 41km; Mountain View (Biggenden) 44km, and Paradise Dam 59km;
- It is in a regional area that is serviced by a State controlled road (Mt Perry – Gayndah Road), and is surrounded by appealing undulating hills as part of the Paradise Dam catchment area.

Conserving productive rural land is one of the key strategic outcomes for rural areas. The zoning of the land does not authentically represent the historical, current or intended use of the land, and it is unlikely that the site would have any practical use for rural purposes due to its small size, segregation by an inland waterway, and proximity to the Burnett River. The site provides an opportunity for unique development to occur as it has relatively little connection to nearby rural uses. The interface between land uses is effectively managed through separation distance and buffers to protect adjoining rural uses. Ultimately, MCCRCP does not detract from rural production or scenic amenity as it encourages and facilitates tourism that uses and benefits from the natural assets of the area.

#### **4. Planning scheme codes—summary statement**

Even though the application is impact assessable and requires assessment against the entire planning scheme, the following codes are the most relevant for the purposes of determining the application—

- the Rural zone code—since the site is in the Rural zone;
- the Infrastructure and operational work code—a code broadly applicable to development;
- the Flood hazard overlay code—the Flood hazard overlay affects the entire site;
- the Infrastructure Overlay code—the site fronts a state-controlled road and a 66 Kva Ergon powerline passes through the site.

Appendix 1 contains a detailed assessment against the planning scheme codes, however it is worth explaining how the proposal complies with the purpose and of outcomes for each of these codes—

##### **Rural zone code**

The zoning of the land does not authentically represent the historical use of the land, and the small site size does not allow for any functional or practical use for rural production to occur. The site is affected by the full supply level of the dam, which also divides the site. Following the construction of Paradise Dam, the site became much less sustainable as land that could be used for rural purposes. Furthermore, the nature of the MCCRCP is difficult-to-locate within urban areas as it requires high levels of accessibility to main transport networks, a sizeable water body, and separation from sensitive land uses. The site is therefore suitable for the use as it has adequate separation and buffering to sensitive uses and does not have a detrimental impact on the use of adjoining premises for rural purposes.

Notwithstanding the above, the main advantage of this type of use is that it doesn't compromise future rural development opportunities or the character of the area as tourist parks provide very little permanent buildings and structures. The land could be reverted back to rural purposes if required.

##### **Infrastructure and operational work code**

As per McMurtrie Consulting Engineers "Technical Specification for Construction", the MCCRCP will be provided with suitable infrastructure, including potable water, on-site effluent disposal systems,

stormwater drainage, bitumen sealed roads and electricity, that can support the use. Sufficient vehicle parking will be available in freely accessible areas.

### **Flood hazard overlay code**

The flood hazard overlay affects the entire site.

Personal safety and wellbeing would be maintained as permanent residential activities would be limited, and the transient nature of the MCCRCP ensures people can leave the site in advance of or during flood events.

The North Burnett Regional Council Disaster Management Plan to be developed later this year is to incorporate alert and evacuation procedures to protect people and property in the event of flooding within the Burnett River catchment.

Further, it is not possible to provide a flood-free camping and recreation area close to and accessing a water body. By its nature, it is necessary to locate such a facility on a floodplain. This is a necessary trade-off for having such a use.

### **Infrastructure overlay code**

The MCCRCP has adequate separation distances and buffers from the bridge and Mt Perry – Gayndah Road to mitigate the potential adverse impacts caused by the road corridor. Furthermore, the bridge and road corridor are higher than the camp ground and would have minimal, if any, impact on the use.

## **5. State referrals**

The application would require referral to the Department of Infrastructure, Local Government and Planning as a concurrence agency under the following parts of the *Sustainable Planning Regulation 2009*—

- Schedule 7, Table 3, Item 1 as the site is within 25m of a state-controlled road
- Schedule 7, Table 3, Item 2 for development impacting on state transport infrastructure— the premises would accommodate more than 75 people in the LGA population 2 area.

“Table B.3: Referral agency role” of the State Development Assessment Provisions (SDAP) requires the proposal to be assessed against the following modules and codes—

- Module 1: Community amenity
- Module 17: Public passenger transport
- Module 18: State transport infrastructure provision
- Module 19: State transport network functionality

As indicated previously, the facilities have been the subject of previous expansions and redevelopment over the years and the scale of use is not expected to increase significantly above the existing operations. As such, the MCCRCP would have minimal, if any, impact on the safety and efficiency of the state controlled road.

## 6. Conclusions and grounds for approval

The MCCRCP is a popular rural tourist destination primarily utilised by people accessing Paradise Dam for watersports and fishing. To support the growth in tourism at MCCRCP, NBRC proposes the construction of an additional nine powered caravan sites, six new 'glamping cabins' and additional grassed campsites. NBRC also proposes the construction of a new amenities building, boat & trailer parking, children's playground and upgrade to existing water and sewerage treatment facilities'.

The MCCRCP conflicts with few, if any, provisions of the planning scheme as there is a demonstrated need within the locality to establish and maintain visitor accommodation that provides convenient access to the Burnett River. As the Burnett River is the 'life of the region', the MCCRCP has been developed and placed in this location to further enhance the community's capacity to utilise the Burnett River in their recreational life.

Further, a use such as this can only locate on rural land adjacent to a watercourse. Exposure to flood hazards are intrinsic. Ordinarily, tourist parks are considered intense urban residential activities that ought to locate in an urban area, however there are circumstances where an urban area cannot accommodate a facility that depends on access to a natural feature or resource in rural location—this is the case with the MCCRCP.

The application should therefore be approved subject to reasonable and relevant conditions.

## Appendix one—Detailed assessment against Planning Scheme Codes

### Rural Zone Code

#### 6.2.7.1 Criteria for assessment

Table 0.1—Self-assessable and assessable development: Rural zone code

Performance outcomes (PO)	Acceptable outcomes (AO)	
<b>For self-assessable and assessable development</b>		
<b>Buffers to sensitive land uses</b>		
<p><b>PO1</b> Non-residential buildings and waste disposal areas have separation from existing sensitive land uses to mitigate potential adverse impacts from the emission of dust, noise or odours.</p>	<p><b>AO1.1</b> The following facilities are not less than 150 metres from any existing dwelling in the Rural zone or land included in the General residential zone—</p> <ul style="list-style-type: none"> <li>(a) animal enclosures;</li> <li>(b) buildings used for storage, processing and packing of produce; and</li> <li>(c) waste disposal areas.</li> </ul>	<p>There are no other dwellings on neighbouring properties that are within the 150m area exclusion area.</p> <p>The caretakers residence and nearest caravan sites are greater than 150m from the onsite waste disposal area (refer to drawing 0821617-1001 by McMurtrie Consulting Engineers). The treatment plant is to the back of the facility but only 50m to the nearest caravan site and 40m to the caretaker's residence. Due to the site's natural characteristics it enhances the appearance of separation.</p> <p>Given the existing use of the site and that there has been a sewerage treatment plant at the stated location for some time - Council has not received any complaints regarding odour or noise.</p>
<b>Intensity and scale</b>		
<p><b>PO2</b> The Rural zone maintains a relatively sparsely settled landscape and a high level of scenic amenity with buildings an appropriate scale for their setting.</p>	<p><b>AO2.2</b> If for Tourist park—</p> <ul style="list-style-type: none"> <li>(a) there are no more than six caravan or camping sites for every 100 hectares of site area;</li> <li>(b) no caravan or camping sites are within 100 metres of a boundary, road, or watercourse.</li> </ul> <p><b>AO2.3</b> If for Rural workers' accommodation—</p> <ul style="list-style-type: none"> <li>(a) no more than six rural workers per 100 hectares of site area reside on the premises;</li> </ul>	<p>The site is 24.6894 hectares and there are 21 powered caravan sites, 6 glamping tent sites and 109 un-powered sites making a total of 136 sites.</p> <p>The sites are within the 100 metres required setback for all of these features. Referring to the image below the natural inlet between the camp sites and the road add a natural buffer between the road and the site.</p> <p>The park is designed over three separate titles and if the setbacks where adhered to the park</p>

**Table 0.1—Self-assessable and assessable development: Rural zone code**

Performance outcomes (PO)	Acceptable outcomes (AO)	
	<p>(b) unless within an existing building, no accommodation is within 100 metres of a boundary, road, or watercourse.</p>	<p>would appear disjointed with large areas that where not developed would cause issues with infrastructure design and maintenance.</p> <p>As with any river side designed recreation area the attraction to the stay would be greatly diminished if not for the actual capacity to stay right on the river side. Mingo would loose its most compelling attraction if located back 100m from the water's edge.</p>



<http://turu.com.au/parks/qld/sunshine-coast/mingo-crossing-caravan-and-recreation-park.aspx> - accessed: 15.5.2017

<b>Setbacks and boundary clearances</b>		
<p><b>PO3</b> Buildings maintain separation from other premises to protect privacy and amenity appropriate to expectations of rural residents.</p>	<p><b>AO3.4</b> New building work is no closer to a boundary than the minimum stated in Column 8 of <b>Error! Reference source not found.</b></p> <p><b>AO3.5</b> New building work is no closer to a frontage than the minimum frontage setbacks stated in Column 8 of <b>Error! Reference source not found.</b></p>	<p>Without taking into consideration the internal boundaries. The development complies with all setback parameters. The nearest structure is the water treatment facility at 35m.</p>
<b>Lighting</b>		
<p><b>PO4</b> The intensity, direction, overspill or glare of artificial lighting does not adversely affect—</p> <p>(a) the amenity of the locality; or</p> <p>(b) the safety of road users.</p>	<p><b>AO4.6</b> Technical parameters, design, installation, operation and maintenance of outdoor lighting complies with AS4282—Control of the Obtrusive Effects of Outdoor Lighting.</p>	<p>As per McMurtrie Consulting Engineers “Technical Specification for Construction” Item 2.4.2 all road and path lighting shall comply with AS1158. (Appendix 1).</p>
<b>Development involving Caretaker’s accommodation</b>		
<p><b>PO5</b> Caretaker’s accommodation—</p> <p>(a) meets the immediate and essential management, security or operational needs of the non-residential use operating from the same premises;</p> <p>(b) is of a size that meet the essential accommodation needs of the caretaker and their reasonably associated household members.</p>	<p><b>AO5.7</b> A maximum of one caretaker’s accommodation locates on a lot.</p> <p><b>AO5.8</b> One car parking space is available on-site for the exclusive use of residents.</p>	<p>There is already one caretaker’s residence onsite and parking provided. As detailed on the sketch plan there is to be fencing provided around the caretaker’s accommodation to enhance privacy and aesthetics. The caretaker’s area already includes a shed that has parking available for the exclusive use of the caretaker.</p>
<p><b>PO6</b> Caretaker’s accommodation provides an acceptable level of amenity, privacy and comfort suitable for long-term habitation.</p>	<p><b>AO6.9</b> Residents have exclusive use of private open space at ground level, at least 35m<sup>2</sup> in area, having a minimum dimension of three metres, and directly accessible from the caretaker’s accommodation.</p>	<p>The area within the fenced area is for the sole use of the caretakers and is directly accessible from the residence.</p>
<b>Development involving a Roadside stall</b>		
<p><b>PO7</b> The on-site display and sale of agricultural produce does not adversely affect—</p> <p>(a) the amenity, character or safety of rural areas; or</p> <p>(b) the safety and efficiency of roads.</p>	<p><b>AO7.10</b> Any building or structure used for the sale of goods or produce is no greater than 10m<sup>2</sup> in covered or uncovered floor area.</p> <p><b>AO7.11</b> Access to the stall—</p> <p>(a) is not from a state-controlled road; and</p> <p>(b) is via the primary property access point.</p> <p><b>AO7.12</b> One parking space is available adjacent to the stall within the boundaries of the lot.</p>	<p>Development does not involve a road side stall.</p>

For assessable development only		
<b>Appropriate use</b>		
<p><b>PO8</b> Land uses in which occupants are likely to be sensitive to high levels of dust, light, noise, odours, chemical spray drift, vibrations and other potential environmental contaminants—</p> <p>(a) have appropriate separation distances or buffering from existing industrial, rural or other incompatible land uses and infrastructure; and</p> <p>(b) do not locate close to a State-controlled road or a significant local government road.</p>	<p><b>AO8.13</b> If involving development that increases the number of people who live, work or congregate on the premises no buildings or structures locate within 250 metres of a solid waste management facility or sewerage treatment plant.</p>	<p>As stated previously the site sewerage plant is within the separation distances allowed. This site has already been operational 8 years and as yet Council has not received any complaints regarding the onsite sewerage treatment plant.</p>
<p><b>PO9</b> Infrastructure operates safely and efficiently without interference by incompatible uses or works.</p>	<p>no acceptable outcome identified</p>	<p>The site has been designed to operate safely and efficiently without impact to neighbouring rural land uses and the park residents.</p> <p>As per McMurtrie Consulting Engineers “Technical Specification for Construction” the control boards for all of the infrastructure is to be located above the Q100 flood level.</p>
<b>Site suitability</b>		
<p><b>PO10</b> Sites are suitably-sized and configured for the intended use and any associated works, including building work, vehicle parking and manoeuvring areas, landscaping, buffering and waste management.</p>	<p>no acceptable outcome identified</p>	<p>Refer to McMurtrie Consulting Engineers “Technical Specification for Construction” Drawings 0821617-1001; 8021617-1101; 0821617-1201; and Preliminary Sketch Plan Issue B.</p>
<b>Natural environment</b>		
<p><b>PO11</b> Either—</p> <p>(a) works avoid adverse environmental impacts; or</p> <p>(b) where avoiding impacts is not reasonably possible, works minimise and offset any residual impacts.</p>	<p><b>AO11.14</b> The total footprint containing activities, buildings, structures, driveways and other works or activities is minimal.</p> <p><b>AO11.15</b> Uses and works avoid further fragmentation of areas of environmental significance and strengthen linkages through rehabilitation where possible.</p> <p><b>AO11.16</b> Uses and works occur only on areas of lesser</p>	<p>The site has been selected and utilised to protect and enhance the natural layout of the site. The natural inlets have been used to created separation buffers to the road and the effluent disposal areas to the facility.</p>

	importance in terms of biodiversity values and conserves areas of higher value to the greatest extent practicable. <b>AO11.17</b> Uses and works maintain areas of environmental significance in patches of greatest possible size and with the smallest possible edge to area ratio.	
<b>PO12</b> Development maintains riparian areas and water quality, including minimising the transport of sediment from the site.	<b>AO12.18</b> A vegetated buffer not less than 50 metres wide, within which no building or operational work occurs, extends from the high bank of any watercourse, lake or wetland protection area.	The only facility that is with 50 metres of the high water mark is the boat ramp and associated all weather parking for the boat ramp. Moving the boat ramp above this level would make it impossible for launching a boat.
<b>Natural hazard</b>		
<b>PO13</b> The location of uses and works is not at significant risk of landslip.	<b>AO13.19</b> Works do not occur on slopes greater than 15 per cent. <b>AO13.20</b> Buildings and works locate more than— (a) 20 metres from a ridgeline or escarpment; and (b) 100 metres from a watercourse.	Complies - Slope is less than 15 percent.
<b>Operating hours</b>		
<b>PO14</b> Non-residential uses operate during hours that are appropriate to the locality.	no acceptable outcome identified	The opening hours of the Mingo Crossing Caravan and Recreational Park are 7am to 5pm 7 days a week. These hours are acceptable for the use and are will not disturb any other land use neighbouring the site.
<b>If in the Conservation precinct</b>		
<b>PO15</b> Uses are complementary to the environmental values of the site.	no acceptable outcome identified	Not in conservation precinct
<b>PO16</b> Ecotourism and recreation facilities locate where there is an overriding community need.	no acceptable outcome identified	Not in conservation precinct
<b>PO17</b> Environmentally sensitive design and infrastructure support the development to avoid degradation of water quality and protect the ecological and hydrological processes of wetlands and waterways.	no acceptable outcome identified	Not in conservation precinct
<b>PO18</b> Rehabilitation works and landscaping enhance the biological diversity, water catchment and ecological	no acceptable outcome identified	Not in conservation precinct

functioning of the site.		
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<b>If in the Intensive agriculture precinct</b>		
<p><b>PO19</b> Uses do not—</p> <p>(a) prevent the use of land for cropping; or</p> <p>(b) have a detrimental impact on the use of adjoining premises for cropping; or</p> <p>(c) restrict a full range of agricultural practices.</p>	no acceptable outcome identified	<p>The use does not allow for any agricultural use for cropping on the subject land. The site being only 24.6ha in size does not allow for an area size that would be profitable for intensive agricultural use.</p> <p>The subject site is affected by the full supply level of the dam, which also divides the site. Following the construction of Paradise Dam, the site became much less sustainable as land that could be used for rural purposes.</p> <p>The adjoining land is used for beef cattle raising. The proposed use as a recreation and caravan park will not prevent the adjoining uses from continuing nor increasing on the neighbouring properties.</p>
<p><b>PO20</b> Uses enhance or value-add to agricultural pursuits.</p>	no acceptable outcome identified	<p>The use does not detract from the agricultural use for the area, if anything could possibly add as it gives a place of accommodation for short-time itinerant workers.</p>
<b>Development involving a local heritage place<sup>1</sup></b>		
<p><b>PO21</b> Any material change of use is compatible with the conservation and management of the cultural heritage significance of a local heritage place.</p>	no acceptable outcome identified	Not involving a local heritage place
<p><b>PO22</b> Local heritage places remain as sited, unless there is no prudent and feasible alternative to the demolition or removal of the place.</p>	<p><b>AO22.21</b> Only internal building work occurs on a local heritage place.</p>	Not involving a local heritage place
<p><b>PO23</b> Development conserves the features and values of the local heritage place that contribute to its cultural heritage significance.</p>	<p><b>AO23.22</b> Significant features of the place remain unaltered, intact and visible.</p> <p>OR</p> <p><b>AO23.23</b> Changes to the features of the place are minor and necessary to maintain the significant use for the place.</p>	Not involving a local heritage place

<p><b>PO24</b> The management and documentation of changes to a local heritage place occurs appropriately and sensitively.</p>	<p><b>AO24.24</b> Development is compatible with a conservation management plan prepared in accordance with the Australia ICOMOS Charter for Places of Cultural Heritage Significance.</p> <p><b>AO24.25</b> An archival quality photographic record records the features of the place destroyed, removed or altered as part of the development.</p>	<p>Not involving a local heritage place</p>
<p><b>PO25</b> Development does not adversely affect the character, setting or appearance of the local heritage place.</p>	<p><b>AO25.26</b> The scale, location and design of the development is compatible with the existing character, setting and appearance of the local heritage place including—</p> <ul style="list-style-type: none"> <li>(a) utilisation of similar materials; and</li> <li>(b) incorporation of similar architectural detailing and ornamentation.</li> </ul> <p>OR</p> <p><b>AO25.27</b> Development is unobtrusive and screened from view from the street or other public places by—</p> <ul style="list-style-type: none"> <li>(a) its location behind the rear alignment of the place; or</li> <li>(b) a landscaping buffer.</li> </ul>	<p>Not involving a local heritage place</p>
<p><b>PO26</b> Excavation or other earthworks do not have a detrimental impact on archaeological sites.</p>	<p><b>AO26.28</b> The impact of excavation is minor and limited to parts of the local heritage place disturbed by previous excavation.</p> <p><b>AO26.29</b> If involving a high level of surface or subsurface disturbance an archaeological investigation precedes the commencement of work.</p>	<p>Not involving a local heritage place</p>

## Flood Hazard Overlay Code

### 8.2.2.3 Criteria for Assessment

**Table 8.2.2—Self-assessable and assessable development: Flood hazard overlay**

Performance outcomes (PO)	Acceptable outcomes (AO)	
<b>For self-assessable and assessable development</b>		
<p>People on the development site are safe from floodwaters during all floods up to and including a 1 per cent AEP flood event.</p>	<p><b>AO1.1</b> New buildings without habitable rooms locate— outside the Flooding and inundation area</p> <ul style="list-style-type: none"> <li>(a) identified on Overlay maps OM-FH-001 to OM-FH-008; or</li> <li>(b) above the defined flood level for the DFE identified on Overlay maps OM-FH-009 to OM-FH-015; or</li> <li>(c) above the flood level of a 1 per cent AEP flood event.</li> </ul> <p>OR</p> <p><b>AO1.2</b> New buildings with habitable rooms (Class 1, 2, 3 and 4 buildings under the BCA)—</p> <ul style="list-style-type: none"> <li>(a) locate outside the Flooding and inundation area identified on Overlay maps OM-FH-001 to OM-FH008; or</li> <li>(b) on premises below the defined flood level identified on Overlay maps OM-FH-009 to OM-FH-015 – have habitable rooms with finished floor levels at least 300 millimetres above the defined flood level; or</li> <li>(c) below the flood level of a 1 per cent AEP flood event – have habitable rooms with finished floor levels at least 300 millimetres above the flood level of a 1 per cent AEP flood event.</li> </ul> <p><b>AO1.3</b> Where involving extensions to an existing Class 1 building situated below the Flooding and inundation area, or the defined flood level, or the flood level of a 1 per cent AEP flood event, and the additions constitute less than 50% of the existing floor area of the building—</p> <ul style="list-style-type: none"> <li>(a) the extension has a floor area not exceeding 50m<sup>2</sup>; and</li> <li>(b) the finished floor level of habitable rooms is not less than the floor level of existing habitable rooms.</li> </ul> <p><b>AO1.4</b> Development incorporates clear and direct</p>	<p>All buildings on this site are within the flood and inundation area that is identified on OM-FH-005.</p> <p>As this site offers temporary accommodation to campers and caravans the impact of flooding to habitable rooms would only affect the caretaker's accommodation and the glamping sites as these are the only structures of the class 1, 2, 3 and 4.</p> <p>The North Burnett Regional Council Disaster Management Plan to be developed later this year is to incorporate alert and evacuation procedures to protect people and property in the event of flooding within the Burnett River catchment.</p> <p>All buildings on the site are built, and future structures are to be built to meet the building assessment provisions under the Building Act 1975.</p>

Performance outcomes (PO)	Acceptable outcomes (AO)																
	<p>pedestrian and vehicle evacuation routes from the site.</p> <p>Editor's note—Building work in a designated flood hazard area must meet the requirements of the relevant building assessment provisions under the Building Act 1975.</p>																
<p><b>PO2</b> The impacts of floodwater on hazardous materials manufactured or stored in bulk causes no adverse effect on public safety or the environment.</p>	<p><b>AO2.1</b> The manufacture or bulk storage of hazardous materials of 50 litres or more of chemicals of class C1 or C2 combustible liquids under Australian Standard AS1940 occurs—</p> <p>(a) outside the Flooding and inundation area identified on Overlay maps OM-FH-001 to OM-FH008; or</p> <p>(b) above the defined flood level identified on Overlay maps OM-FH-009 to OM-FH-015; or</p> <p>(c) above the flood level of a 1 per cent AEP flood event.</p>	<p>There is no storage of bulk chemicals of this classification on site. The site does have gas cylinders for use as follows:</p> <table border="1" data-bbox="1379 391 1814 550"> <thead> <tr> <th>No</th> <th>Location</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Residence</td> <td>90kg</td> </tr> <tr> <td>2</td> <td>Amenities</td> <td>190kg x 2</td> </tr> <tr> <td>3</td> <td>East Day Shed</td> <td>90kg</td> </tr> <tr> <td>4</td> <td>West Day Shed</td> <td>9kg</td> </tr> </tbody> </table>	No	Location	Size	1	Residence	90kg	2	Amenities	190kg x 2	3	East Day Shed	90kg	4	West Day Shed	9kg
No	Location	Size															
1	Residence	90kg															
2	Amenities	190kg x 2															
3	East Day Shed	90kg															
4	West Day Shed	9kg															
<p><b>PO3</b> Components of infrastructure that are likely to fail or cause contamination because of inundation maintain their function during flood events.</p>	<p><b>AO3.1</b> The location of services infrastructure within a site (including electricity, gas, water supply, sewerage and telecommunications) is—</p> <p>(a) outside the Flooding and inundation area identified on Overlay maps OM-FH-001 to OM-FH008; or</p> <p>(b) outside the defined flood event identified on Overlay maps OM-FH-009 to OM-FH-015; or</p> <p>(c) above the flood level of a 1 per cent AEP flood event.</p> <p>OR</p> <p>The design and construction of services infrastructure within a site (including electricity, gas, water supply, sewerage and telecommunications)—</p> <p>(a) prevent floodwater intrusion and infiltration; and</p> <p>(b) resist hydrostatic and hydrodynamic forces resulting from a 1 per cent AEP flood event.</p>	<p>As stated in McMurtrie Consulting Engineers “Technical Specification for Construction” all of the control panels for the onsite sewerage and water systems are to be located outside of the Q100 flood level or within a dedicated control room.</p>															
<p><b>PO4</b> Development siting enables vehicular access in the event of a flood.</p>	<p><b>AO5</b> Development ensures that buildings used for passenger vehicle storage have a trafficable access to a public road during a 5 per cent AEP flood event.</p>	<p>The North Burnett Regional Council Disaster Management Plans for flood events to be written later 2017 are to include a evacuation timeframe for have all people from the site before this access is restricted. Also, refer to Appendix Three for detailed flood levels for the site.</p>															
<p><b>PO5</b> Community infrastructure is able to function effectively during and immediately after flood events (where appropriate).</p>	<p>no acceptable outcome identified</p>	<p>Being located on the Burnett River, the site would be affected by any large flood events. The park has been designed so that a flood event does not hugely impact on the infrastructure of the park.</p>															

Performance outcomes (PO)	Acceptable outcomes (AO)	
<b>If involving reconfiguring a lot</b>		
<p><b>PO6</b> New lots provide for an appropriate level of flood immunity.</p>	<p><b>AO6</b> All lots contain an appropriate building envelope—</p> <ul style="list-style-type: none"> <li>(a) outside the Flooding and inundation area identified on Overlay maps OM-FH-001 to OM-FH-008; or</li> <li>(b) outside the defined flood event identified on Overlay maps OM-FH-009 to OM-FH-015; or</li> <li>(c) above the flood level of a 1 per cent AEP flood event.</li> </ul> <p>If involving operational work or building work involving filling or excavation</p>	<p>No applicable as not reconfiguring a lot.</p>
<b>If involving operational work or building work involving filling of excavation</b>		
<p><b>PO7</b> Filling or excavation does not directly, indirectly or cumulatively, cause any significant increase in water flow depth, duration or velocity on the site and does not result in an unacceptable risk to people or property from flood hazard.</p>	<p><b>AO7.1</b> Filling or excavation does not result a net increase in filling of more than 50m<sup>3</sup>—</p> <ul style="list-style-type: none"> <li>(a) within 100 metres of a wetland or waterway; or</li> <li>(b) within the Flooding and inundation area identified on Overlay maps OM-FH-001 to OM-FH-008; or</li> <li>(c) within the Defined flood event identified on Overlay maps OM-FH-009 to OM-FH-015; or</li> <li>(d) below the flood level of a 1 per cent AEP flood event.</li> </ul> <p><b>AO7.2</b> On site flood storage capacity remains the same.</p>	<p>There is to be minimal site works just to create level areas for caravan / tent sites and glamping site or road ways. Refer to appendix 1 – McMurtrie Consulting Engineers “Technical Specification for Construction”.</p>
<p><b>PO8</b> Works avoid changes to flood characteristics outside the site that may result—</p> <ul style="list-style-type: none"> <li>(a) in loss of flood storage;</li> <li>(b) alterations to flow paths;</li> <li>(c) acceleration or retardation of flows; or</li> <li>(d) reductions in flood warning times elsewhere in the flood plain.</li> </ul>	<p>no acceptable outcome identified</p>	<p>The works will not impact on the flood characteristics of the site or the flood plain.</p>
<p><b>PO9</b> If the development is for community infrastructure for power lines of an electricity entity it is able to function effectively during and immediately after flood events.</p>	<p>no acceptable outcome identified</p>	<p>Not applicable</p>

## Infrastructure overlay code

### 8.2.3.1 Application

This code applies to assessing development involving a material change of use, building work, operational work and reconfiguring a lot in proximity to identified infrastructure.

### 8.2.3.2 Purpose

- (1) The purpose of the Infrastructure overlay code is to protect the function of existing significant infrastructure and future infrastructure areas and minimise community impacts.
- (2) The purpose of the code will be achieved through the following overall outcomes—
  - high standards of health and safety for people and property;
  - maintained or enhanced function of the identified infrastructure; and
  - an appropriate level of amenity for development nearby the identified infrastructure.

### 8.2.3.3 Criteria for assessment

Table 0.1—Assessable development: Infrastructure overlay

Performance outcomes (PO)	Acceptable outcomes (AO)	
<b>Road corridors</b>		
Adequate separation distances and buffers along identified road corridors mitigate the potential adverse impacts to premises caused by the road corridor, including traffic noise, headlights and streetlights.	Development fronting a road corridor identified on Overlay maps OM-INFR-001 to OM-INFR-008 incorporates— <ul style="list-style-type: none"> <li>a minimum frontage setback of 15 metres from any boundary adjacent to the corridor; and</li> <li>a landscaped buffer along the frontage of the site—               <ul style="list-style-type: none"> <li>a minimum width of five metres;</li> <li>consisting of three tiered planting (groundcovers, shrubs, trees);</li> <li>trees with an expected minimum mature height of three metres; and</li> <li>are consistent with the landscaping policy.</li> </ul> </li> </ul>	The setback from the road is greater than 15 metres to all structures other than the entrance sign.  There is a buffer currently at the developed site which has limited planting. The bridge and Mt Perry - Gayndah Road is significantly higher than the camp ground. Having a buffer of trees expected to grow to 3 metres will not create a buffer that this description allows. Also, the Mingo Crossing Caravan and Recreation park attracts potential visitors by spontaneous stopovers due to travelling past travelers. If the park was not as visible from the roadway, it would reduce the sell ability of the park.

**Table 0.1—Assessable development: Infrastructure overlay**

Performance outcomes (PO)	Acceptable outcomes (AO)	
<b>Stock Routes</b>		
<p>The stock route network is protected from development (both on the stock route and adjacent) that would compromise the network's primary use or capacity for stock movement and other values including conservation and recreational.</p>	<p>Where possible, avoid locating development that may compromise the use of the stock route by travelling stock, particularly if the stock route has a record of frequent use.</p> <p>OR</p> <p>Where development or land use impacts on a stock route cannot be avoided—</p> <ul style="list-style-type: none"> <li>provide alternate watered stock route access;</li> <li>ensure grade separation where railways, haul roads or other transport infrastructure, crosses the stock route; and</li> <li>consider revocation of the stock route declaration if suitable alternative stock route exists.</li> </ul>	Not applicable
<b>Aerodromes</b>		
<p>Uses near aerodromes do not attract flying vertebrates or release emissions that may affect pilot visibility or interfere with flight communication.</p>	no acceptable outcome identified	Not applicable
<p>Works maintain the safe operation of aerodromes and there are no bright lights, patterns of light, reflective materials or protrusions into operational airspace that could confuse, distract, or interfere with a pilot's vision.</p>	no acceptable outcome identified	Not applicable
<p>Works do not adversely affect operational airspace.</p>	Works do not intrude into operational airspace.	Not applicable
<b>Petroleum and natural gas pipelines</b>		
<p>Adequate separation distances from petroleum and natural gas pipelines minimises risk to the safety of people, property and the infrastructure.</p>	<p>If involving development that increases the number of people who live, work or congregate on the premises, or involves the storage of flammable, explosive or other hazardous materials – no buildings or structures locate within 200 metres of the petroleum and natural gas pipeline</p>	Not applicable

**Table 0.1—Assessable development: Infrastructure overlay**

Performance outcomes (PO)	Acceptable outcomes (AO)	
	infrastructure identified on Overlay maps OM-INFR-001 to OM-INFR-008.	
<b>Electricity infrastructure</b>		
<b>If involving a material change of use, building work or operational work</b>		
<p>Adequate separation distances from electricity easements and substations—</p> <p>protect to an acceptable level the safety and amenity of occupants or users of premises; and</p> <p>do not constrain the existing or future operation or function of the easement or facility.</p>	<p>No buildings or structures locate within—</p> <p>20 metres of any part of a tower or structure foundation; or</p> <p>5 metres of the area between the outside conductors of a transmission line when at rest, vertically projected to ground level.</p> <p>The minimum separation distance between any buildings (other than Class 10) associated with a sensitive land use and the closest boundary of any substation or easement for major electricity infrastructure is 20 metres.</p> <p>Machinery or equipment used within the electricity easement does not infringe the exclusion zones prescribed in Schedule 2 of the Electrical Safety Regulation 2002.</p> <p>Blasting within 500 metres of an easement complies with AS2187-1998 Explosives Storage Transport and Use.</p> <p>Changes in ground level maintain the statutory ground to conductor clearance distances prescribed by the <i>Electrical Safety Act 2002</i> and the Electrical Safety Regulation 2002.</p>	Not applicable
<b>If reconfiguring a lot</b>		
<p>Reconfigured lots adjoining a substation or easement for major electricity infrastructure protect the safety of users and visual amenity with adequate vegetation buffers and separation distances.</p>	<p>All lots retain all existing endemic vegetation of mature height within 20 metres of the boundary of the substation or easement for major electricity infrastructure, outside a complying building envelope.</p> <p>A minimum 3 metre wide densely planted landscaped buffer is provided along the boundary</p>	Not applicable

**Table 0.1—Assessable development: Infrastructure overlay**

Performance outcomes (PO)	Acceptable outcomes (AO)	
	adjoining the electricity infrastructure, including advanced trees and shrubs that will grow to a minimum height of 10 metres.	
<b>Railway</b>		
Development results in noise levels appropriate to the wellbeing of site users, including their ability to sleep, work or otherwise undertake quiet enjoyment without unreasonable interference from rail noise.	Development of a sensitive land use within 100 metres of the identified rail infrastructure on Overlay maps OM-INFR-001 to OM-INFR-008 achieves an indoor design criteria average L <sub>max</sub> (10:00 pm – 6:00 am) not greater than 45dB(A).	Not applicable
Adequate separation distances prevent constraints on the existing or future operation or function of important rail corridors.	Works not associated with the rail corridor provide a separation of 20 metres from the rail corridors identified on Overlay maps OM-INFR-001 to OM-INFR-008.	Not applicable

## **Appendix Two—McMurtrie Construction Report**



# Technical Specification for Construction

*Mingo Crossing Caravan Park Extension  
Gayndah-Mount Perry Road  
Lot 1/SP221156, 2/BN37186, 3/BN37186*

***Prepared For: North Burnett Regional Council***

February 2017  
Revision A  
Job No. 0821617

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# Technical Specification for Construction

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**Submission to:**

North Burnett Regional Council

PO Box 390

Gayndah QLD 4625

**Prepared by:**

McMurtrie Consulting Engineers

63 Charles Street

North Rockhampton QLD 4701

Rev.	Description	Prepared By		Reviewed By		Date
		Name	Ini.	Name	Ini.	
A	Submitted for Tender	Kristy Felhaber		Mark Wyer		27/02/17

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# Technical Specification for Construction

## *Mingo Crossing Caravan Park Extension*

### 1. General

#### 1.1. Introduction

This Specification applies to the construction of an extension to Mingo Crossing Caravan Park located at 2670 Gayndah-Mount Perry Road, Mount Perry. Works include clearing, earthworks, drainage, paving and surfacing, water infrastructure & sewerage infrastructure, and the supply and installation of proprietary glamping tents, playground equipment and amenities building. Refer to Appendix A for *Mingo Crossing Caravan Park Extension Master Plan Rev A*.

The Administrator shall be the Principal's Representative with the role as defined in the Contract.

#### 1.2. Reference Documents

Documents referenced in this specification are listed below:

- Capricorn Municipal Development Guidelines (CMDG)
- Department of Transport and Main Roads Materials Testing Manual
- Manual of Uniform Traffic Control Devices (MUTCD)
- Australian Standards as listed in the above documents.

#### 1.3. Quality System Requirements

##### 1.3.1. Quality System

The Contractor shall establish, implement and maintain a Quality System. The Quality Plan shall be submitted to the Superintendent for approval **no less than two weeks** prior to the commencement of works on site.

Construction activities shall be carried out in accordance with the contractors approved Inspection and Test Plan (refer Section 4.4) and in accordance with the Construction Standards noted within this Technical Specification.

The quality planning for the project shall be documented in a project specific quality plan.

##### 1.3.2. Construction procedures

The Contractor shall prepare written procedures for all construction processes, including statement of equipment to be utilised for work processes as warranted and all controls to be exercised to ensure satisfactory achievement of Contract requirements, where the absence of such procedures could adversely affect quality of the work. Where appropriate, such procedures may be included in the Inspection and Test Plans or other documentation.

The Contractor shall submit to the Administrator all construction procedures nominated in the Contract and any construction procedures requested by the Administrator during the execution of the Contract.

Construction procedures shall be submitted to the Administrator at least 14 days before construction of the relevant work commences unless alternative times are specified elsewhere in the Contract.

Construction procedures shall contain the purpose and scope of the activity, what is to be done and by whom; when, where and how it is to be done; what materials, equipment and documents are to be used; and how the activity is to be controlled and recorded.

### 1.3.3. Hold Points

#### 1.3.3.1. General

Where a Hold Point applies in the specification, the text is highlighted at the appropriate point and a summary of all such points is included in the Quality Clause of the relevant Technical Specification.

A Hold Point is indicated in the text as **Hold Point**. A list of Hold Points is shown in Table 1.3.

#### 1.3.3.2. Hold Point

Hold Point means an identified point in a process beyond which the Contractor shall not proceed without written authorisation from the Administrator authorising release of the Hold Point.

Hold Points shall apply as follows:

- as specified in the Contract or as otherwise nominated by the Administrator
- on issue of a nonconformance report, or
- on issue of a corrective action request by the Administrator.

To obtain the Administrator's authorisation to proceed past a specified Hold Point, the Contractor shall provide evidence to the Administrator that all applicable work has been completed and tested and inspected by the Contractor in accordance with the Contract. Following provision of all specified information, the Contractor shall allow at least one working day for a response from the Administrator.

To obtain the Administrator's authorisation to proceed past a Hold Point associated with a nonconformance or corrective action request, the Contractor shall demonstrate amendments to its Quality System to prevent recurrence of the nonconformance and propose disposition of the nonconforming product, where applicable.

Hold Points specified in the Contract are those required by the Principal. The Contractor may designate additional Hold Points in the Contractor's Quality Plan and nominate a person responsible for authorisation of continuation past those points.

Table 1.3– Hold Points

Clause	Hold Point
1.3.2	Submission of construction procedures to superintendent.
2.1.2	Pre-Start Meeting
2.5, 2.6, 2.7	Detailed Design Review of D&C proprietary Designs by superintendent including amenities building, play equipment and Glamping tents prior to delivery on site
2.5, 2.6, 2.7	Inspection by Superintendent & NBRC representative of proprietary equipment on site prior to installation

#### 1.3.3.3. Compliance inspection and testing

Compliance inspections and tests shall be carried out by the Contractor to ensure compliance with the Contract requirements and shall include at least all inspections and tests which are specified in the Contract.

#### 1.3.3.4. Surveillance

The Administrator and/or Principal may inspect any process or procedure at any time to gain assurance that the Contractor's system, including subcontractor systems, is in compliance with the Quality System and the Contract. Visual inspections or surveillance may reduce the need for audit testing.

Surveillance activities for laboratories may include but are not limited to:

- observation of laboratory operations, including storage and handling of samples as well as sampling and testing techniques
- assessment of test results through analysis of trends and use of other statistical techniques.
- CMT Supplier Registration System provides further detail regarding surveillance activities.

### 1.3.4. Conformance and nonconformance

#### 1.3.4.1. Conformance reports

A Conformance Report shall be prepared for each lot and shall be accompanied by the following:

- completed inspection and test records
- analysis of the results to demonstrate compliance with the relevant Technical Specification
- where there has been an engineering variation during the construction process, "as constructed" drawings – with the amended design RPEQ certified by the designer, and
- as-constructed surveys.

Where the 'Issue for Construction' drawings are not required to be amended during the construction process, the Administrator (in the case where the Principal has supplied the 'Issue for Construction' drawings), or Contractor's representative (in all other cases), shall sign a statement stating that "the works shown on the drawings is a factual representation for works constructed" and reissue the drawings as 'As-constructed' drawings.

#### 1.3.4.2. Nonconformance

For every nonconformance which occurs, the Contractor shall promptly initiate the nonconformance and corrective action procedures defined in the Contractor's Quality Plan.

The Contractor shall notify the Administrator of each nonconformance within one working day of its detection where:

- there is potential for progress of the work to be seriously affected
- the proposed action to correct the nonconformance will result in work not complying with the requirements of the Contract
- the Contractor has failed to comply with the time requirements of the Contract
- the nonconformance may cause a health and safety hazard
- the nonconformance has resulted from a deficiency in the Drawings or Technical Specification
- client supplied product is involved
- the Administrator has directed that specific types of nonconformances be notified
- material or serious environmental harm has occurred
- items of cultural heritage significance are discovered, or
- contaminated land or contaminated materials delivered to the Site are identified.

Each such notification by the Contractor shall include details of the action proposed for correction of the nonconformance or the arrangements made for its disposition and the amendments to its quality system to mitigate recurrence of the nonconformance.

The Contractor shall not proceed to cover up or otherwise incorporate the nonconforming work or materials before the Administrator has approved of the proposed action in writing.

If the Administrator observes a nonconformance and the Contractor, when informed of such, does not take appropriate action, the Administrator will issue a corrective action request. Within one working day of receipt of the corrective action request, the Contractor shall issue a Nonconformance Report.

Where the proposed action to correct the nonconformance will result in work not complying with the requirements of the Contract, the identification of a nonconformance and the subsequent issue of a nonconformance report and/or corrective action request shall constitute a Hold Point in accordance with Clause 8.3.2.

Throughout the Technical Specifications, requirements in the event of a nonconformance which may occur are identified in the text as **Nonconformance**. Areas where the Administrator may have cause to raise a corrective action request are identified as **Corrective Action Request**.

## 2. Specific Design & Construction Specifications

### 2.1. Primary Contractor - Civil Construction

Civil Construction works are to be performed in accordance with Civil Detailed Design Drawings 0821516-0001, 1001, 0002, 1101, 1201,1301 included in appendix B

#### 2.1.1. Notice to commence work

A written Notice of Intention to Commence Works is required fourteen (14) days prior to any works being undertaken. No works will be permitted to commence until the following information is provided:

- name and telephone number of the person to be contacted in regard to any matter arising from the construction of the works;
- intended date of commencement of works, and contract period;
- this submission will form official notification of the date of the "Pre-Start" meeting.

#### 2.1.2. Pre-start meeting

A pre-start meeting shall be held onsite prior to the commencement of works (**HOLD POINT**). Items to be considered at this meeting will include but not be limited to the following:

- review of construction requirements;
- review of site access;
- Identification of the 'footprint' for the works and confirmation by QPWS;
- review of environmentally significant areas and/or trees for preservation;
- discussion of the contractors proposed Erosion Control and Stormwater Management Strategy;
- review of construction procedures including a review of nominated Hold Points;
- review of Quality Plan
- review of Traffic Management Plan.

#### 2.1.3. Control of Traffic

##### 2.1.3.1. Scope

The work as shown below applies during the construction of roadworks and shall be read in conjunction with applicable reference documents including C201 Control of Traffic (CMDG).

The work to be executed shall consist of all measures necessary to provide for the safe movement of traffic and the protection of persons and property through and/or around the work site.

The extent of work includes the design, construction, maintenance and removal of temporary roadways and detours, barriers and any other items required.

All temporary traffic arrangements required by works are included under this Specification except where specified otherwise.

Control of traffic shall be in accordance with the Queensland Department of Main Roads (DMR) Manual of Uniform Traffic Control Devices (MUTCD), this Specification, and the Drawings.

Wherever the word 'should' occurs in the MUTCD the word 'shall' applies and the required action is the Contractor's responsibility.

##### 2.1.3.2. Traffic Management

All other traffic control through and in the site for construction traffic shall be the responsibility of the Contractor.

## 2.1.4. Environmental Management

### 2.1.4.1. Scope

The work to be executed shall consist of all measures necessary to implement suitable the environmental control and scour protection and as detailed in the Standard Specifications.

Work Operations incorporated in this item include the following:

Site investigations (where required) to ensure proposed construction methodology supports responsibility for controlled environmental management, and;

Inspections completed in conjunction with QPWS Officers and the Superintendent;

Undertake all works and activities described in accordance with the guidelines and standards.

All construction water is to be provided by the Contractor to meet the environmental requirements of the Specification (ie dust control). **Proposed sources for obtaining water must be identified to the Client as a component of the Tender Submission.**

### 2.1.1. Clearing and Grubbing

#### 2.1.1.1. Scope

The work as shown below applies during the clearing of vegetation for the establishment of glamping sites, powered sites, and unpowered grassed area and shall be read in conjunction with applicable reference documents including C212 Clearing and Grubbing.

The work to be executed shall consist of the clearing of all vegetation, both living and dead, all minor man-made structures (e.g. fences), all rubbish and other materials which are unsuitable for use in the Works.

The work to be executed also includes the disposal of all materials that have been cleared and grubbed to an approved site.

In advance of or in conjunction with clearing and grubbing operations, effective erosion and sedimentation control measures shall be implemented in accordance with the Specification C211 Control of Erosion and Sedimentation.

Unless otherwise directed, clearing and grubbing operations shall be limited to the dimensions shown in the drawings.

#### 2.1.1.2. Disposal of cleared and grubbed materials

Cleared and grubbed material (other than any material mulched) shall be disposed of by the contractor in any areas stated in the documents in accordance with the contract.

If no such disposal instructions are stated, the cleared and grubbed material shall be removed from the Site and disposed of in accordance with all relevant Statutory Requirements.

### 2.1.2. Control of Erosion and Sedimentation

#### 2.1.2.1. Scope

The work to be executed consists of the construction of structures and the implementation of measures to control erosion and sedimentation. These may be temporary or permanent.

The Contractor shall plan and carry out the whole of the Works to avoid erosion and sedimentation of the site, surrounding country, watercourses, waterbodies and wetlands in compliance with the requirements of the Environmental Protection Act, 1994 and Amendments, Regulations and Policies, and Local Government's Adopted Policies where available.

Prior to pre-start meeting, the Contractor shall submit to the Administrator an Erosion and Sedimentation Control Strategy. The Strategy should incorporate the measures included on the plan to protect adjoining landowners, significant areas and receiving waters.

The contractor shall incorporate into the Strategy those additional measures deemed necessary to accommodate the proposed construction methods and construction sequence to be employed for the construction of the works.

### 2.1.3. Earthworks

#### 2.1.3.1. Scope

The work as shown below applies during the construction of roadworks and shall be read in conjunction with applicable reference documents including C213 Earthworks and C224 Open Drains (CMDG).

The work activities to be executed shall consist of: -

- removal of topsoil
- all activities and quality requirements associated with site regrading, the excavation of cuttings, the haulage of material and the construction of embankments to the extent defined in the Drawings and Specification.
- removal and replacement of any unsuitable material,
- any spoil or borrow activities associated with earthworks, and
- any additional processing of selected material for the selected material zone
- all activities associated with Subgrade Treatment.

All construction water is to be provided by the Contractor to meet the earthworks requirements of the Specification.

**Proposed sources for obtaining water must be identified to the Client as a component of the Tender Submission.**

Requirements for quality control and testing, including maximum lot sizes and minimum test frequencies, are cited in Annexure C213A.

#### 2.1.3.2. Unsuitable Material

Unsuitable material is material located below the designed floor level of cuttings and below the nominated depth for stripping topsoil beneath embankments that is identified as unsuitable for use as a foundation for earthworks, structures, and/or general fill and backfill.

It shall be the sole responsibility of the Contractor to prove that material is Unsuitable Material.

Where Unsuitable Material or potentially Unsuitable Material is encountered on the Site, the Contractor shall, before proceeding to remove or cover such material, notify the Administrator (**Hold Point**).

The Administrator will advise the Contractor of the required treatment, if any, and the extent of such treatment.

### 2.1.4. Pavement

#### 2.1.4.1. Scope

The work as shown below applies during the construction of roadworks and shall be read in conjunction with applicable reference documents including C242 Flexible Pavements (CMDG).

The work to be executed shall consist of the spreading, compaction and trimming of flexible pavements to the specified levels and thicknesses as shown on the Drawings.

The Contractor is to supply all pavement material in accordance with the Specification.

All construction water is to be provided by the Contractor to meet the construction requirements of the Specification.

**Proposed sources for obtaining water must be identified to the Client as a component of the Tender Submission.**

Stockpiles and stockpile sites shall be maintained so as to prevent the stockpiled materials from becoming intermixed or contaminated with foreign material.

At the completion of the works, stockpile sites shall be cleared of all surplus material and left in a clean and tidy condition.

Requirements for quality control and testing, including maximum lot sizes and minimum test frequencies, are cited in Annexure C242A.

### 2.1.5. Landscaping

#### 2.1.5.1. Scope

The work as shown below applies during construction and shall be read in conjunction with applicable reference documents including C273 Landscaping (CMDG).

The work to be executed includes landscaping in accordance with the approved plans including the vegetation of cut and fill batters, open drains and other areas within the site.

Vegetation includes the initial surface preparation, topsoiling, fertilising, sowing of seed and may include surface protection works, hydroseeding, hydromulching, straw mulching and watering of seeding.

Landscaping works are to include:

- Construction of garden beds and planting of approved species to match existing around proposed powered caravan sites and glamping tents.
- Extension of underground irrigation to service all new areas of garden and turf
- 150m of fencing around the caretaker's residence and surrounding buildings to identify & reduce visibility into private areas while enhancing the aesthetic appeal of the park entrance.
- Entrance feature signage as located on the *Mingo Crossing Caravan Park Master Plan*.
- Mingo Crossing information board & connecting concrete pathways located centrally in the park.

### 2.1.6. Contractor's Site Facilities

#### 2.1.6.1. Scope

The work to be executed for establishment and disestablishment of contractors site facilities shall include:

- Supply and transport of all personnel, plant, equipment and materials including buildings and structures, other than materials required for the construction of the Works to and from the Site
- Hire or purchase of the Site for the Contractor's site facilities
- Preparation of the Site for the Contractor's site facilities
- All labour, plant, materials and hire associated with the establishment, maintenance and disestablishment of the Contractor's site facilities, including connection, operation and disconnection of communications, power, water, sewerage, garbage disposal and similar services
- Obtaining all necessary licenses and permits under relevant legislation
- Removal of all facilities upon completion of the Contract, and
- Cleaning up the Site following removal of all items
- The Contractor shall supply, equip, service and neatly maintain all necessary buildings, workshops and storage areas for the satisfactory completion of the Work.
- The Contractor shall provide toilets and washing facilities at the Contractor's site facilities for the use of personnel.
- Erosion and sedimentation control measures shall be implemented during the construction and operation of the Contractor's site facilities.
- The Contractor shall ensure that adequate rubbish receptacles are provided. These receptacles shall be serviced regularly to ensure that the Contractor's site facilities area remains tidy.
- The Contractor shall be responsible for the security of the buildings, construction plant and machinery.
- The Contractor shall also take all necessary precautions to make the area safe to the public.
- On completion of the Works, all areas disturbed by the Contractor's construction activities shall be restored to their original condition, or as may be otherwise acceptable to the Administrator.

## 2.2. Proprietary Supplier - Sewerage Infrastructure Design & Construct

### 2.2.1. Scope

Detailed Design and Construction of Sewerage Treatment Plant and associated infrastructure in accordance with AS4902-2000 (*General Conditions of Contract for Design and Construct*)

### 2.2.2. Design Criteria

The following information details the specification of sewage and wastewater loading and the performance criteria that must be met by the sewerage treatment process (STP).

Table 2 shows the expected influent conditions of the sewage / wastewater and the target specifications for the treated water. The design basis for the treatment plant is a flow of 27 m<sup>3</sup>/day for a 30 day period; however, the plant must also be designed to handle peak flows of ~45 m<sup>3</sup>/day continuously for 6 days during busy holiday periods. The plant must also be able to operate at low flows of ~5 m<sup>3</sup>/day during the low season.

Waste Generator	No. of Generators	No. of Persons / Generator	Wastewater per person - Related Generator	Wastewater flow per generator (L/generator)	Total Wastewater (L/d)	Reference
Existing Caravan sites (Existing)	12	4	130	520	6240	Table H4, p124 AS1547:2012
Transient Day Visitors (Existing)	1	125	20	2500	2500	Estimation
Additional caravan sites	9	4	130	520	4680	Table H4, p124 AS1547:2012
Glamping (Tent style cabins)	6	3	130	390	2340	Table H4, p124 AS1547:2012
Unpowered Camp sites	109	3	65	195	21255	Table H4, P124 AS1547:2012
Caravan Dump Station	20	1	20	20	400	Estimation
Waste from drinking water plant	1	1	120	120	120	Estimation
				Sub Total	37535	
				20% Contingency	7507	
				<b>Design Total</b>	<b>45042</b>	

Table 1- Wastewater Generation

Parameter	Units	Influent (Average Conditions)*	Design (Maximum)	Treated Water
Peak Design Flowrate (6 days)	m <sup>3</sup> /d		46	
Base Design Flowrate (30 days)	m <sup>3</sup> /d		28	
Low Season Flowrate	m <sup>3</sup> /d		5	
BOD	mg/l	250	400	< 20
Total Nitrogen	mg/l	200	300	< 30
Total Phosphorous	mg/l	12	20	< 10
pH	pH			7 to 8.5
Suspended solids	mg/l			< 30
Faecal Coliforms	cfu / 100 ml			< 100

Table 2- STP Performance Specification

Based on the previous information, design of proposed treatment system shall be as follows:

- Supply of two pump wells of  $> 7 \text{ m}^3$  volume each. Pump wells are to have N=1 redundancy pumping, high level alarms and ability to readily isolate during flood conditions. It is recommended that any pump well control and electronics be installed above the Q100 flood level.
- Piping from pump wells to STP location.
- Treatment system capable of handling instantaneous flow from two pump wells.
- Treatment system capable of processing maximum influent flow and maximum influent loading and treating to the required treatment standard of Table 1.
- Balance tank storage capacity of at least 1 day i.e.  $46 \text{ m}^3$ .
- Treated water storage volume. It is recommended that wet weather storage of treated water for 4 days be included i.e.  $185 \text{ m}^3$ .
- Water meter on treated water stream that enables calculation of daily treated water flow.
- Irrigation pump and irrigation controller to irrigate 6 separate irrigation runs. Pump duty  $4 \text{ m}^3/\text{h}$  @ 400 kPa.
- Any control panels to be housed in a weather proof cabinet above Q100 flood level, or within a dedicated control room.
- Footprint or plan drawing of treatment plant
- Hydraulic plans detailing layout and design of connections to all required areas including but not limited to glamping tents, powered sites and amenities.
- Process layout information or sketch of the treatment system.
- Piping and Instrumentation Diagrams.
- Electrical Drawings.
- Installation information.
- Supply of Operation and Maintenance manual.
- Information regarding service requirements, inclusive of frequency, nature of work and if a local agent would perform these tasks.
- Cost of supply, including costs of delivery to the Mingo Crossing site, 125 km west of Bundaberg, via Gin-Gin (400 km north-west of Brisbane).
- Supply to include all crane and installation costs, inclusive of earth works.
- Supply to include commissioning and performance demonstration for period of three (3) months operation. This three months must include a peak loading period.
- Provide training to site personnel after commissioning.

To support design documentation, the following technical information is required:

- Process layout information or sketch of the treatment system.
- Key process information, such as whether the system is fixed or suspended growth.
- Method of water clarification or filtration.
- Disinfection process utilised.
- Proposed methodology and treatment system control for both standard operation and for the low or no load periods.
- Process volumes of key process vessels, such as aeration, anoxic, or aerobic tanks.
- Volume of balance and wet weather storage tanks.
- Specifications for treated water discharge pump, including pump curve and discharge fitting size.
- Information regarding service requirements, inclusive of frequency, nature of work and if a local agent would perform these tasks.

Note:

The treatment plant is to include a caravan dump station and all water treatment facilities, except pump wells are to be positioned above ground.

## 2.3. Proprietary Supplier - Water Infrastructure Design & Construct

### 2.3.1. Scope

Detailed Design and Construction of Sewerage Treatment Plant and associated infrastructure in accordance with AS4902-2000 (*General Conditions of Contract for Design and Construct*)

### 2.3.2. Design Criteria

Table 3 shows the expected influent conditions of the raw river water and the target specifications for the potable water. The design basis for the treatment plant is a flow of 33 m<sup>3</sup>/day for a 30 day period; however, the plant must also be designed to handle peak flows of ~56 m<sup>3</sup>/day continuously for 6 days during busy holiday periods. The plant must also be able to operate at low flows of ~5 m<sup>3</sup>/day during the low season.

Parameter	Units	Raw Water (Average conditions)	Raw Water (Design Maximum)	Potable Water**
Volume of treated water	m <sup>3</sup> /d	33	56	
Conductivity @ 25°C	µs/cm	512	536	
pH		8.04	8.2	6.5 – 8.5
Total Hardness	mg CaCO <sub>3</sub> /L	134	140	<200
Silica	mg/L	12	14	<80
Total Dissolved Ions	mg/L	311	329	
Total Dissolved Solids	mg/L	263	276	<600
True Colour	Hazen	15	20	<15
Turbidity	NTU	2.7	100	< 2
E.Coli	Cfu/1000 ml			<1
Thermotolerant coliforms	Cfu/1000 ml			<1
Coliforms	Cfu/1000 ml			<1

Table 3 - WTP Performance Specification

\*\*All other parameters are to conform to Australian Drinking Water Guidelines 2011

Based on the previous information, design of proposed treatment system shall be as follows:

- Treatment system capable of producing potable water and treating to the required treatment standard of Table 1 and the Australian Drinking Water Guidelines.
- Treatment system control which operates over the full range of conditions i.e. no load, low load, design basis and maximum flows. Any electronics or control panels should be positioned above the Q100 flood level and be housed in a weatherproof cabinet.
- Raw water feed tank. This tank should be sized to hold 1 day of raw water i.e. 55 m<sup>3</sup>.
- Potable water tank. This tank should be sized to hold 2 days of potable water i.e. 110 m<sup>3</sup>.
- Water meter on treated water stream that enables calculation of daily potable water production.

- Process layout information or sketch of the treatment system.
- Footprint or plan drawing of treatment plant.
- Piping and Instrumentation Diagrams.
- Hydraulic plans detailing layout and design of connections to all required areas including but not limited to glamping tents, powered sites and amenities.
- Electrical Drawings.
- Installation information.
- Operation and Maintenance Manual.
- Cost of supply, including costs of delivery to the Mingo Crossing site, 125 km west of Bundaberg, via Gin-Gin (400 km north-west of Brisbane).

To support design documentation, the following technical information is required:

- Volume of raw water tank, potable water tank and key process vessels.
- Proposed methodology and treatment system control for normal operation, low or no load periods and maximum flows.
- Indication of chemicals used and anticipated chemical requirements of the water treatment system.
- Information regarding service requirements, inclusive of frequency, nature of work and if a local agent would perform these tasks.

## 2.4. Primary Contractor - Electrical Infrastructure Design & Construct

### 2.4.1. Scope

Detailed Design and Construction of Sewerage Treatment Plant and associated infrastructure in accordance with AS4902-2000 (*General Conditions of Contract for Design and Construct*)

### 2.4.2. Design Criteria

Detailed design and Construction of electrical upgrade to MCCP shall include/be in accordance with the following:

- Site investigation of existing electrical installation for compliance. Determine any non-compliances for upgrade/replacement.
- Any shutdowns to be co-ordinated with Caravan Park and generator backup allowed for.
- Review of existing electrical supply capacity, current site load and calculations for expected load increase.
- Arrange electrical supply upgrade with local electrical supply authority as required.
- Upgrade/new site switchboards as required for additional loads and supply's, including consumers mains and submain cabling.
- Upgrade of existing electrical supply to sewer treatment plant expansion.
- New electrical supply to new water treatment plant.
- Power reticulation and equipment for new powered sites. Including underground conduits, pits, cabling, proprietary power turrets, outlets to turrets and concrete plinths/footings for turrets.
- General light and power to new proposed amenities, camp kitchen and grounds shed including reticulation of supply to each. Lighting to AS1680.
- Power turrets to be K-Mac KP series or equal with 2off 15Amp outlets to each (confirm during design outlet requirements).
- Suitably sized pits and conduits for cabling and to maintain minimum 1m depth below ground for all underground electrical services to comply with AS3001.
- All locations of turrets, pits, reticulation runs, switchboards etc to be documented for approval.
- All works to comply with AS3000, AS3008, AS3001 and any other applicable standards and codes. All design work shall be certified by registered RPEQ.
- Road and path lighting shall be in accordance with AS1158.

Note: Water treatment facilities are to be located above ground.

## 2.5. Propriety Supplier -Glamping Tents Design & Construct

### 2.5.1. Scope

Detailed Design and Construction of six (6) Glamping tents in accordance with AS4902-2000 (*General Conditions of Contract for Design and Construct*)

### 2.5.2. Design Criteria

Successful contractor is to provide detailed design and specification of six (6) glamping tents in accordance with the following:

Two (2) *Eco Structures 3m Deluxe Eco Tent* with Ensuite & Kitchenette (or approved equivalent) comprising:

- Sleeping area suitable for 2 Adults
- Ensuite with toilet, shower, Vanity and Basin
- Kitchenette with cooktop and sink
- Deck

Two (2) *Eco Structures 4.2m Deluxe Eco Tent* with Ensuite & Kitchenette (or approved equivalent) comprising:

- Sleeping area suitable for 2 Adults
- Ensuite with toilet, shower, Vanity and Basin
- Kitchenette with cooktop and sink
- Deck

Two (2) *Eco Structures 6.3m Deluxe Eco Tent* with Ensuite & Kitchenette (or approved equivalent) comprising: Sleeping area suitable for 2 Adults & 2 Children

- Ensuite with toilet, shower, Vanity and Basin
- Kitchenette with cooktop and sink
- Deck

### 2.5.3. Hold Points

**Hold point** for review of detailed design is to be exercised before delivery of prefabricated items to site.

### 2.5.4. Product Examples



Figure 1



Figure 2

## 2.6. Proprietary Supplier -Amenities Design & Construct

### 2.6.1. Scope

Detailed Design and Construction of amenities building in accordance with AS4902-2000 (*General Conditions of Contract for Design and Construct*)

### 2.6.2. Design & Construction Criteria

Amenities block shall be designed to include:

- 4 x Unisex ambulant toilets
- 3 x Unisex ambulant showers
- 1 x Unisex disabled combined shower & toilet.

Amenities are to be constructed in accordance with Australian Standards including access and mobility standard AS1428-2009. Construction is to include all works required for completion of the amenities building including site preparations & earthworks, footings, slab on ground, plumbing works, form 15 structural certification.

Internal fixtures shall include at minimum:

- 5 x Porcelain Toilet Pans & Concealed Cisterns
- 5 x Stainless Steel Wash Hand Basins with Time Flow Taps (1 Large, 4 Small)
- 2 x Sets of Stainless Steel Grab Rails
- 5 x Single Toilet Roll Dispensers
- 1 x Baby Change Station
- 1 x Universal Shower Unit
- 1 x Wall Mounted Fold Down Bench for Universal Shower
- 3 x Durable Aluminium Shower Units
- 3 x 600mm Long, Floor Mounted Aluminium Bench Seats
- 1 x Distribution Enclosure with Main Switch and MCB/RCD
- 15x 600mm Batten Lights
- 2 x Hot Water Systems
- Salto electronic access system

### 2.6.3. Hold Points

**Hold point** for review of detailed design is to be exercised before delivery of prefabricated items to site.

### 2.6.4. Product Examples



Figure 3

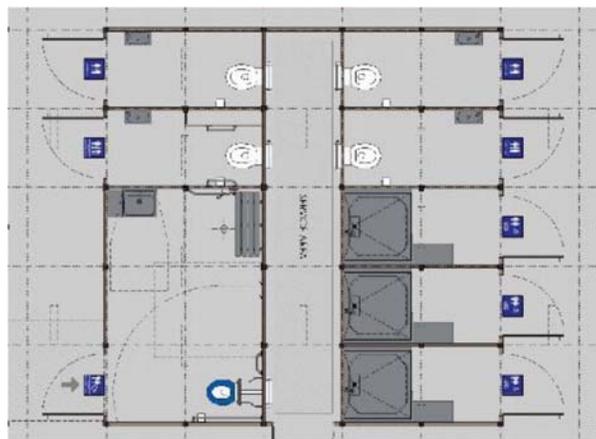


Figure 4

## 2.7. Proprietary Supplier -Play Equipment Design & Construct

### 2.7.1. Scope

Detailed Design and Construction of children's playground in accordance with AS4902-2000 (*General Conditions of Contract for Design and Construct*)

### 2.7.2. Design & Construction Criteria

Detailed design shall include, but not be limited to the following elements:

- Children's playground structure facilitating climbing and sliding activities. Playground to be *Urban Play PCM200103 Two Tower, Physical* or approved equivalent.
- Preparation of site and subgrade
- CSBR rubber softfall or approved equivalent for extent of playground area
- Steel framed shade structure to cover playground including commercial grade shade fabric, all fixtures and fittings and form 15 structural certification.
- All materials and labor required for complete installation of children's playground in accordance with accepted design.

### 2.7.3. Hold Points

Hold point for review of detailed design is to be exercised before delivery of prefabricated items to site.

### 2.7.4. Product Examples



Figure 5



Figure 6

**END OF SPECIFICATION**

## Appendix A

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### Mingo Crossing Caravan Park -Master Plan

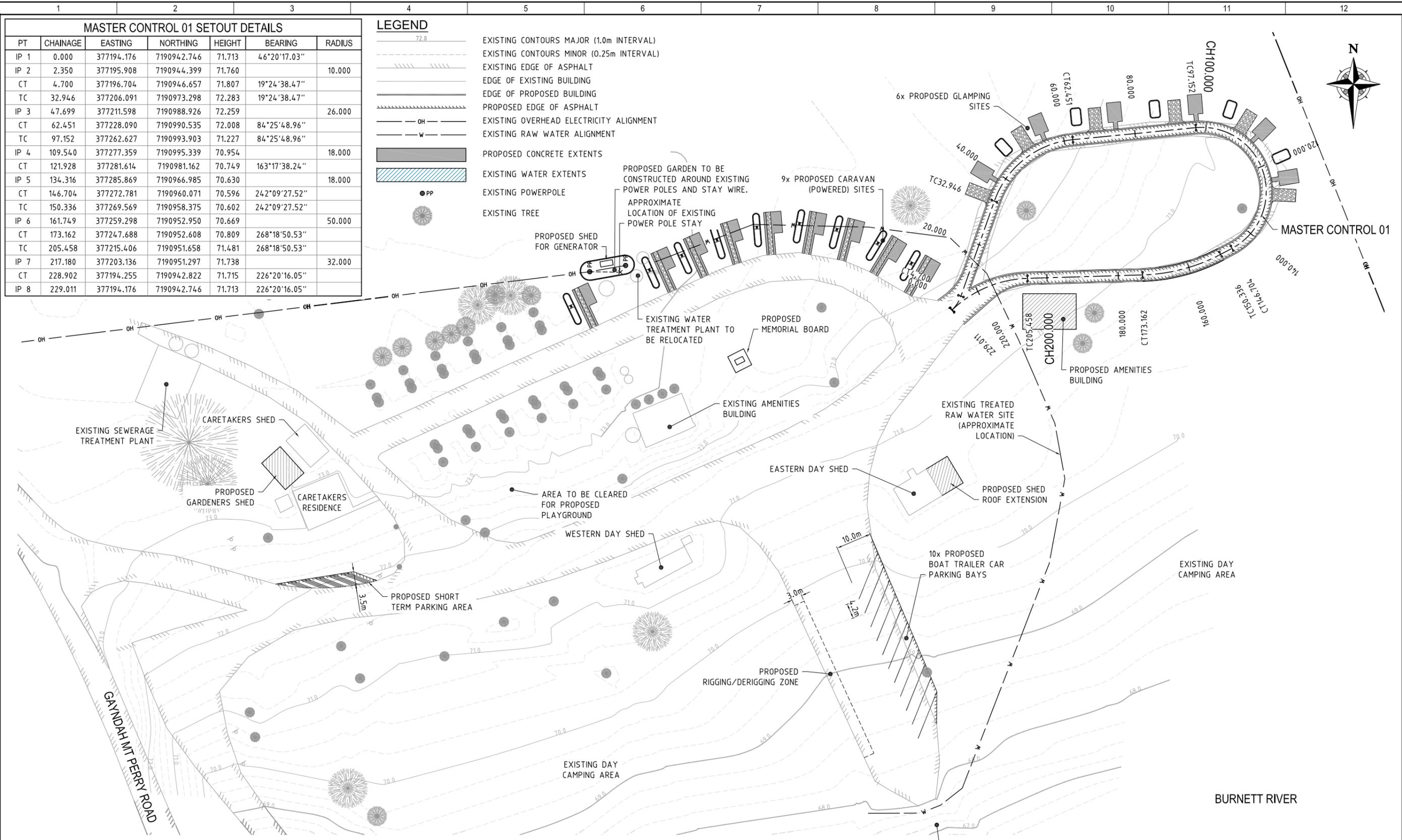


## Appendix B

### Civil Design Drawings

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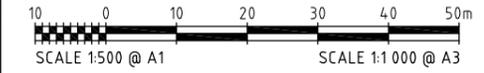




MASTER CONTROL 01 SETOUT DETAILS						
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RADIUS
IP 1	0.000	377194.176	7190942.746	71.713	46°20'17.03"	
IP 2	2.350	377195.908	7190944.399	71.760		10.000
CT	4.700	377196.704	7190946.657	71.807	19°24'38.47"	
TC	32.946	377206.091	7190973.298	72.283	19°24'38.47"	
IP 3	47.699	377211.598	7190988.926	72.259		26.000
CT	62.451	377228.090	7190990.535	72.008	84°25'48.96"	
TC	97.152	377262.627	7190993.903	71.227	84°25'48.96"	
IP 4	109.540	377277.359	7190995.339	70.954		18.000
CT	121.928	377281.614	7190981.162	70.749	163°17'38.24"	
IP 5	134.316	377285.869	7190966.985	70.630		18.000
CT	146.704	377272.781	7190960.071	70.596	242°09'27.52"	
TC	150.336	377269.569	7190958.375	70.602	242°09'27.52"	
IP 6	161.749	377259.298	7190952.950	70.669		50.000
CT	173.162	377247.688	7190952.608	70.809	268°18'50.53"	
TC	205.458	377215.406	7190951.658	71.481	268°18'50.53"	
IP 7	217.180	377203.136	7190951.297	71.738		32.000
CT	228.902	377194.255	7190942.822	71.715	226°20'16.05"	
IP 8	229.011	377194.176	7190942.746	71.713	226°20'16.05"	

LEGEND	
	EXISTING CONTOURS MAJOR (1.0m INTERVAL)
	EXISTING CONTOURS MINOR (0.25m INTERVAL)
	EXISTING EDGE OF ASPHALT
	EDGE OF EXISTING BUILDING
	EDGE OF PROPOSED BUILDING
	PROPOSED EDGE OF ASPHALT
	EXISTING OVERHEAD ELECTRICITY ALIGNMENT
	EXISTING RAW WATER ALIGNMENT
	PROPOSED CONCRETE EXTENTS
	EXISTING WATER EXTENTS
	EXISTING POWERPOLE
	EXISTING TREE

PLAN  
SCALE 1:500(A1) 1:1000(A3)



**INFORMATION ONLY**

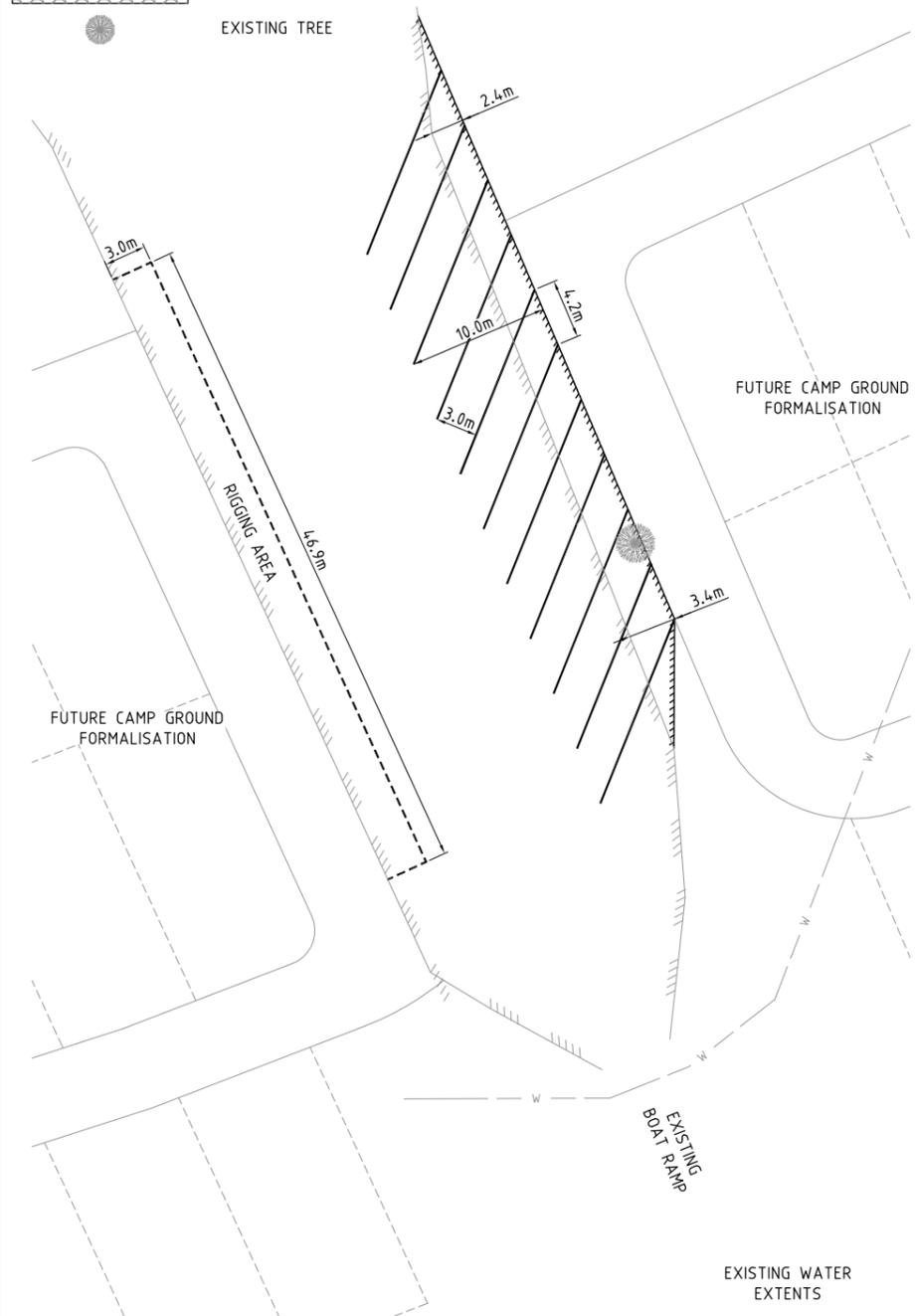
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ADDRESS:		REVIEWED				NORTH BURNETT REGIONAL COUNCIL		mcmurtrie		CONSULTING ENGINEERS		NORTH BURNETT REGIONAL COUNCIL	
CO-ORDINATE DATUM		RPEQ ENG				NOTE: THIS DRAWING IS SOLELY THE PROPERTY OF MCMURTRIE CONSULTING ENGINEERS PTY LTD. THE INFORMATION CONTAINED IS NOT TO BE DISCLOSED, REPRODUCED OR COPIED IN WHOLE OR PART WITHOUT WRITTEN APPROVAL FROM MCMURTRIE CONSULTING ENGINEERS PTY LTD.		Address: 63 Charles Street		Phone: (07) 4921 1780		PROJECT	
HEIGHT DATUM		RPEQ No:				SCALE: AS SHOWN		Post: PO BOX 2149, WANDAL QLD 4700		Mobile: 0407 631 066		MINGO CARAVAN PARK	
REV		DATE		REVISION DESCRIPTION		© MCMURTRIE & ASSOCIATES PTY LTD		E-mail: mail@mcmurtrie.com		Fax: (07) 4921 1790		TITLE	
A		20.02.17		PRELIMINARY ISSUE								ROAD WORKS	
				DRAFT								ROAD FUNCTIONAL LAYOUT AND CONTROL SETOUT - SHEET 1	
				DESIGN								DRAWING NUMBER	
												A1 0821617-1001	
												REVISION	
												A	

DRAWING LOCATION: S:\PROJECT RECORDS\16-7484-16-TAC\DRAWINGS\SET\STANDARD SUBDIVISION SHEET SET\TEMPLATE\SECTION 2 - ROAD WORKS\ROAD FUNCTIONAL LAYOUT AND CONTROL SETOUT - SHEET 1.DWG  
PLOT DATE: 24-Feb-17 12:50:09 PM

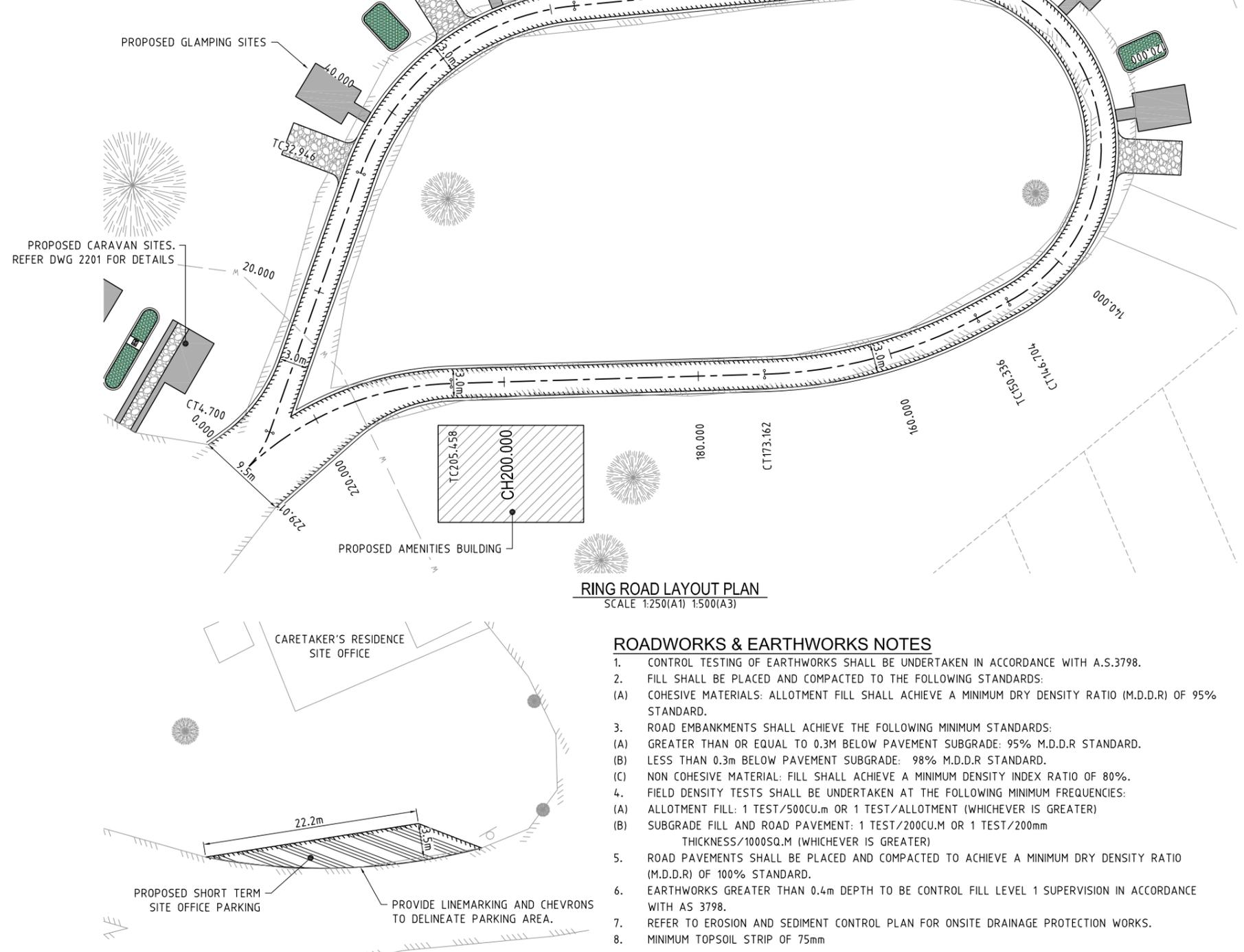
**LEGEND**

	PROPOSED CONTROL LINE
	PROPOSED BITUMEN EDGE
	EXISTING BITUMEN EDGE
	EXISTING WATERMAIN (INDICATIVE ONLY)
	SEALED PAVEMENT AREA
	FOOTPATH
	EXISTING TREE

**NOTE**  
 GLAMPING SITE SETOUT TO BE CONFIRMED WITH MANUFACTURER.  
 CONFIGURATION TO BE:  
 • 2 x COUPLES SITES  
 • 2 x  
 • 2 x FAMILY SITES



**RIGGING AREA AND TRAILER PARKING LAYOUT**  
 SCALE 1:250(A1) 1:500(A3)



**RING ROAD LAYOUT PLAN**  
 SCALE 1:250(A1) 1:500(A3)

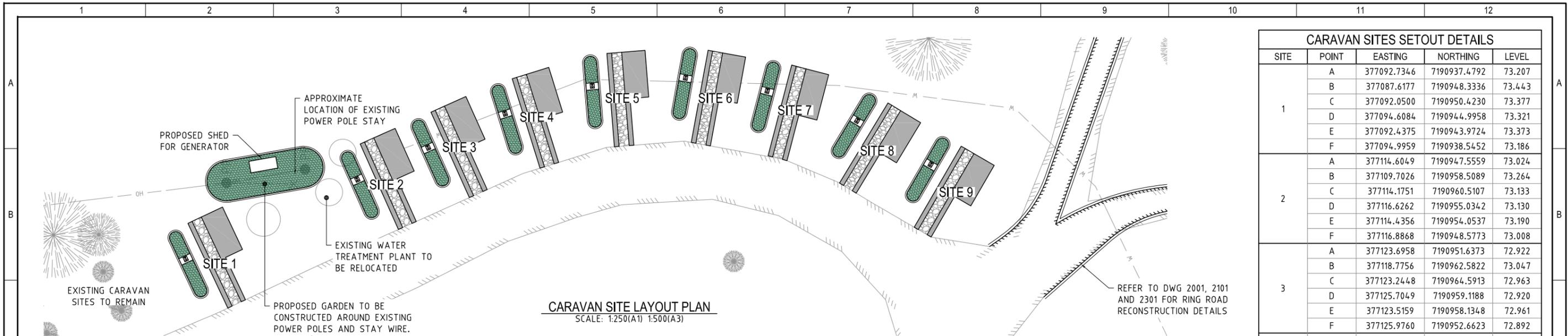
**SHORT TERM PARKING LAYOUT**  
 SCALE 1:250(A1) 1:500(A3)

**ROADWORKS & EARTHWORKS NOTES**

- CONTROL TESTING OF EARTHWORKS SHALL BE UNDERTAKEN IN ACCORDANCE WITH A.S.3798.
- FILL SHALL BE PLACED AND COMPACTED TO THE FOLLOWING STANDARDS:
  - COHESIVE MATERIALS: ALLOTMENT FILL SHALL ACHIEVE A MINIMUM DRY DENSITY RATIO (M.D.D.R) OF 95% STANDARD.
- ROAD EMBANKMENTS SHALL ACHIEVE THE FOLLOWING MINIMUM STANDARDS:
  - GREATER THAN OR EQUAL TO 0.3M BELOW PAVEMENT SUBGRADE: 95% M.D.D.R STANDARD.
  - LESS THAN 0.3M BELOW PAVEMENT SUBGRADE: 98% M.D.D.R STANDARD.
  - NON COHESIVE MATERIAL: FILL SHALL ACHIEVE A MINIMUM DENSITY INDEX RATIO OF 80%.
- FIELD DENSITY TESTS SHALL BE UNDERTAKEN AT THE FOLLOWING MINIMUM FREQUENCIES:
  - ALLOTMENT FILL: 1 TEST/500CU.M OR 1 TEST/ALLOTMENT (WHICHEVER IS GREATER)
  - SUBGRADE FILL AND ROAD PAVEMENT: 1 TEST/200CU.M OR 1 TEST/200mm THICKNESS/1000SQ.M (WHICHEVER IS GREATER)
- ROAD PAVEMENTS SHALL BE PLACED AND COMPACTED TO ACHIEVE A MINIMUM DRY DENSITY RATIO (M.D.D.R) OF 100% STANDARD.
- EARTHWORKS GREATER THAN 0.4m DEPTH TO BE CONTROL FILL LEVEL 1 SUPERVISION IN ACCORDANCE WITH AS 3798.
- REFER TO EROSION AND SEDIMENT CONTROL PLAN FOR ONSITE DRAINAGE PROTECTION WORKS.
- MINIMUM TOPSOIL STRIP OF 75mm

**INFORMATION ONLY**

SURVEYOR			BY			DATE			CLIENT			PREPARED BY			0821617 CLIENT NORTH BURNETT REGIONAL COUNCIL		
ADDRESS:			REVIEWED						NORTH BURNETT REGIONAL COUNCIL			PROJECT MINGO CARAVAN PARK			TITLE ROAD WORKS		
CO-ORDINATE DATUM			RPEQ ENG						NOTE: THIS DRAWING IS SOLELY THE PROPERTY OF MCMURTRIE CONSULTING ENGINEERS PTY LTD. THE INFORMATION CONTAINED IS NOT TO BE DISCLOSED, REPRODUCED OR COPIED IN WHOLE OR PART WITHOUT WRITTEN APPROVAL FROM MCMURTRIE CONSULTING ENGINEERS PTY LTD.			Address: 63 Charles Street NORTH ROCKHAMPTON QLD 4701			Phone: (07) 4921 1780		
HEIGHT DATUM			RPEQ No:						SCALE: AS SHOWN			Postat: PO BOX 2149, WANDAL QLD 4700			Mobile: 0407 631 066		
REV A			DATE 20.02.17			PRELIMINARY ISSUE			RN DRAFT			RN DESIGN			Fax: (07) 4921 1790		
REVISION DESCRIPTION			DRAWING NUMBER			A1			0821617-1101			REVISION			A		



**CARAVAN SITE LAYOUT PLAN**  
SCALE: 1:250(A1) 1:500(A3)

**CONCRETE NOTES**

1. ALL CONCRETE WORK TO BE IN ACCORDANCE WITH AS3600 AND AS2870
2. CONCRETE TO BE GRADE N32 UNLESS OTHERWISE NOTED
3. MINIMUM COVER TO REINFORCING:
  - 3.1. 65mm TO FOOTINGS IN CONTACT WITH GROUND
4. ALL CONCRETE TO BE VIBRATED WITH MECHANICAL VIBRATOR
5. ALL CONCRETE TO BE CURED IN APPROVED MANNER

**LEGEND**

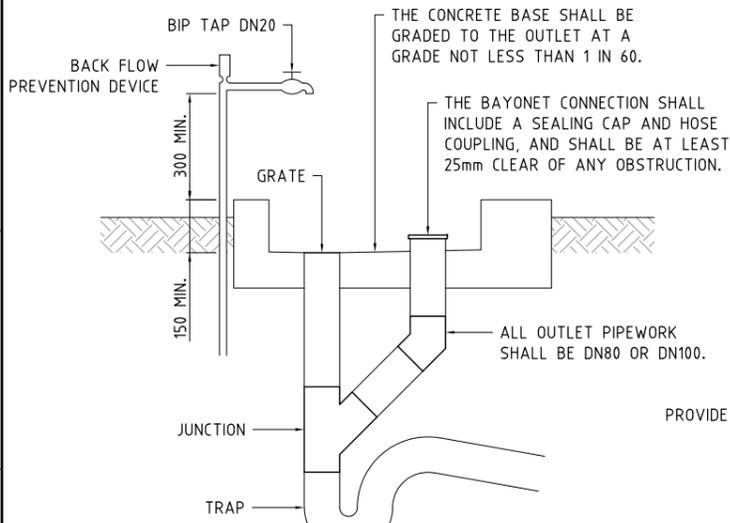
- PROPOSED CONCRETE EXTENTS
- PROPOSED LANDSCAPING/GARDEN BED
- PROPOSED GRANULAR FILL EXTENTS

**CONTROLLED FILL - CLASS 2:**

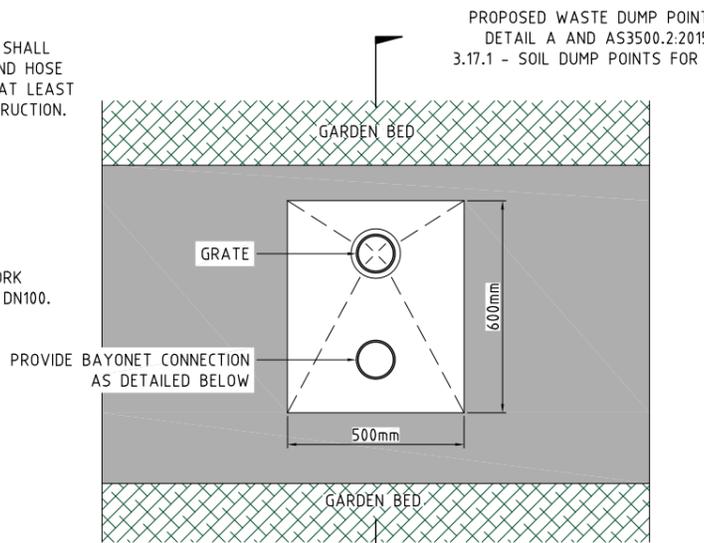
SOIL, ROCK OR OTHER INERT MATERIAL PLACED IN MAXIMUM 300mm THICK CONTROLLED FASHION TO ENSURE THAT THE RESULTANT MATERIAL IS CONSISTENT IN CHARACTER PLACED AND COMPACTED TO AN AVERAGE DRY DENSITY EQUIVALENT TO 95% (AND NO TEST RESULT BELOW 92%) OF THE MAXIMUM DRY DENSITY (STANDARD COMPACTIVE EFFORT) FOR THE MATERIAL WHEN TESTED IN ACCORDANCE WITH AS 1289.5.1.1.

**NOTE**

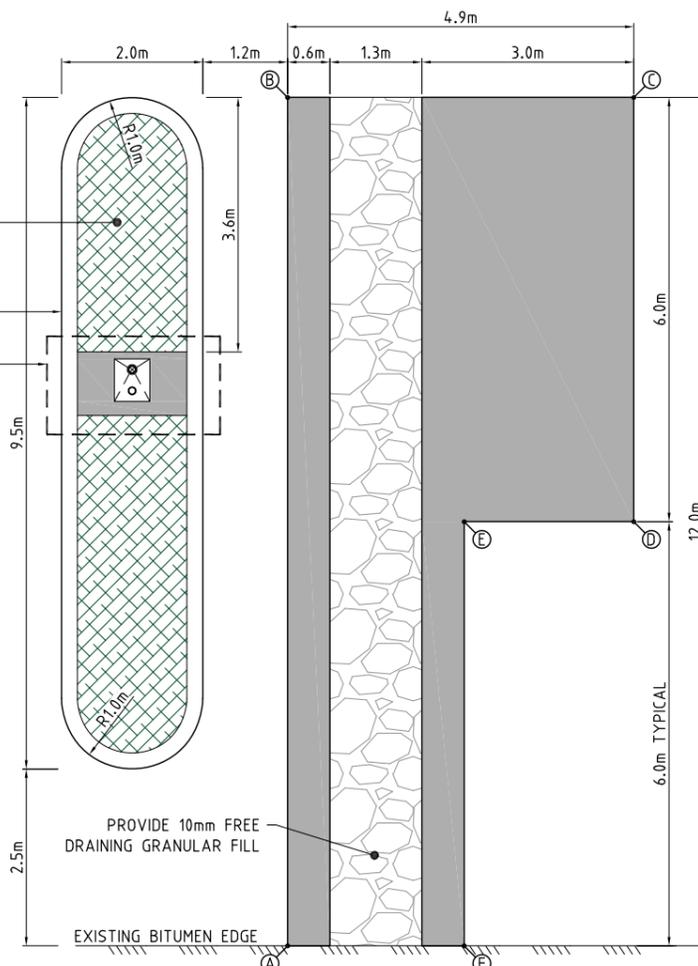
FOR COHESIONLESS SOILS, MATERIAL COMPACTED TO AT LEAST 65% DENSITY INDEX IS SATISFACTORY.



**WASTE DUMP POINT**  
SCALE: 1:10 (A1) 1:20 (A3)

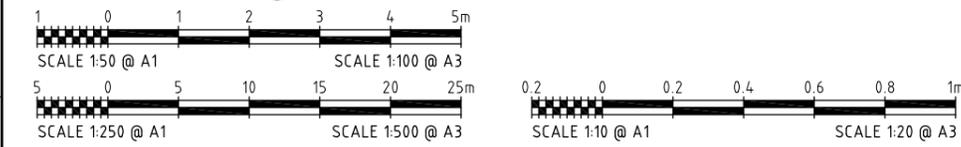


**DETAIL A - WASTE DUMP POINT**  
SCALE: 1:10 (A1) 1:20 (A3)



**CARAVAN SITE SETOUT DETAILS**  
SCALE: 1:50(A1) 1:100(A3)

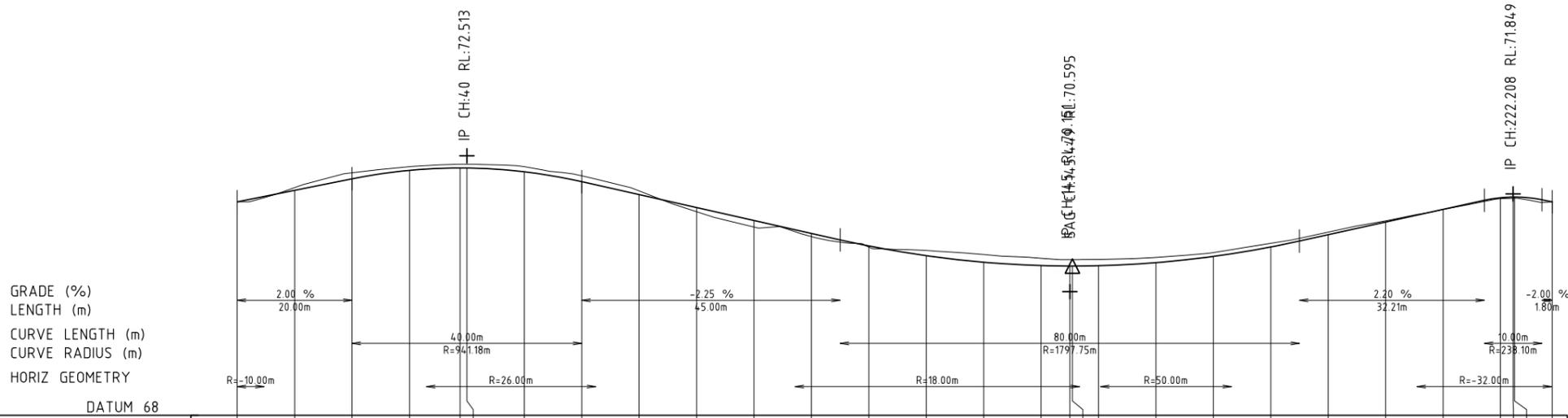
CARAVAN SITES SETOUT DETAILS				
SITE	POINT	EASTING	NORTHING	LEVEL
1	A	377092.7346	7190937.4792	73.207
	B	377087.6177	7190948.3336	73.443
	C	377092.0500	7190950.4230	73.377
	D	377094.6084	7190944.9958	73.321
	E	377092.4375	7190943.9724	73.373
	F	377094.9959	7190938.5452	73.186
2	A	377114.6049	7190947.5559	73.024
	B	377109.7026	7190958.5089	73.264
	C	377114.1751	7190960.5107	73.133
	D	377116.6262	7190955.0342	73.130
	E	377114.4356	7190954.0537	73.190
	F	377116.8868	7190948.5773	73.008
3	A	377123.6958	7190951.6373	72.922
	B	377118.7756	7190962.5822	73.047
	C	377123.2448	7190964.5913	72.963
	D	377125.7049	7190959.1188	72.920
	E	377123.5159	7190958.1348	72.961
	F	377125.9760	7190952.6623	72.892
4	A	377132.7538	7190955.4079	72.812
	B	377129.1894	7190966.8663	72.862
	C	377133.8683	7190968.3218	72.820
	D	377135.6505	7190962.5926	72.795
	E	377133.3588	7190961.8797	72.816
	F	377135.1410	7190956.1505	72.791
5	A	377142.2895	7190958.1484	72.720
	B	377141.3232	7190970.1094	72.777
	C	377146.2073	7190970.5040	72.719
	D	377146.6904	7190964.5235	72.682
	E	377144.2982	7190964.3302	72.718
	F	377144.7814	7190958.3497	72.682
6	A	377152.1365	7190958.7083	72.571
	B	377154.2913	7190970.5133	72.604
	C	377159.1116	7190969.6334	72.541
	D	377158.0342	7190963.7309	72.520
	E	377155.6732	7190964.1619	72.553
	F	377154.5958	7190958.2594	72.537
7	A	377161.9904	7190957.0043	72.433
	B	377165.0188	7190968.6159	72.510
	C	377169.7602	7190967.3793	72.481
	D	377168.2460	7190961.5735	72.434
	E	377165.9237	7190962.1792	72.448
	F	377164.4095	7190956.3734	72.398
8	A	377171.1442	7190953.4985	72.294
	B	377177.3520	7190963.7680	72.419
	C	377181.5454	7190961.2331	72.360
	D	377178.4445	7190956.0984	72.294
	E	377176.3876	7190957.3440	72.326
	F	377173.2836	7190952.2052	72.256
9	A	377180.7234	7190947.8381	72.133
	B	377186.7372	7190958.2224	72.281
	C	377190.9775	7190955.7668	72.213
	D	377187.9706	7190950.5746	72.119
	E	377185.8937	7190951.7774	72.161
	F	377182.8868	7190946.5852	72.066



**INFORMATION ONLY**

SURVEYOR		BY		DATE		CLIENT		PREPARED BY		0821617		CLIENT		NORTH BURNETT REGIONAL COUNCIL	
ADDRESS:		REVIEWED								PROJECT MINGO CARAVAN PARK		TITLE ROAD WORKS		CARAVAN SITE SETOUT INFORMATION - SHEET 1	
CO-ORDINATE DATUM		RPEQ ENG				NOTE: THIS DRAWING IS SOLELY THE PROPERTY OF MCMURTRIE CONSULTING ENGINEERS PTY LTD. THE INFORMATION CONTAINED IS NOT TO BE DISCLOSED, REPRODUCED OR COPIED IN WHOLE OR PART WITHOUT WRITTEN APPROVAL FROM MCMURTRIE CONSULTING ENGINEERS PTY LTD.		Address: 63 Charles Street NORTH ROCKHAMPTON QLD 4701 PO BOX 2149, WANDAL QLD 4700 mail@mcmurtrie.com		Phone: (07) 4921 1780 Mobile: 0407 631 066 Fax: (07) 4921 1790		DRAWING NUMBER		REVISION	
HEIGHT DATUM		RPEQ No:				SCALE: AS SHOWN		© McMurtrie & Associates Pty Ltd		A1		0821617-1201		A	
1		2		3		4		5		6		7		8	
1		2		3		4		5		6		7		8	

**NOTE:**  
PAVEMENT DETAILS ARE PROVISIONAL AND MUST BE CONFIRMED BY SUPERINTENDENT ONSITE THROUGH GEO-TECHNICAL TESTING. REFER TO PLAN 0821617-#### FOR TYPICAL DETAILS AND SECTIONS.



HORIZ GEOMETRY		DATUM 68	
GRADE (%)	LENGTH (m)	CONTROL LINE DESIGN HEIGHTS	EXISTING SURFACE
2.00 %	20.00m	71.713	71.713
		71.913	71.96
		72.113	72.218
		72.26	72.323
		72.301	72.367
		72.301	72.367
		72.235	72.324
		72.063	72.165
		71.838	71.902
		71.613	71.541
		71.388	71.274
		71.163	71.108
		70.945	70.926
		70.776	70.867
		70.662	70.795
		70.604	70.73
		70.596	70.706
		70.595	70.706
		70.601	70.712
		70.654	70.745
		70.763	70.831
		70.927	70.99
		71.14	71.186
		71.36	71.381
		71.58	71.58
		71.784	71.767
		71.797	71.778
		71.797	71.778
		71.713	71.713
DEPTH TO EXISTING SURFACE		MC CONTROL LINE CHAINAGE	
0		0.000	
0.047		10.000	
0.105		20.000	
0.063		30.000	
0.066		38.824	
0.067		40.000	
0.089		50.000	
0.102		60.000	
0.064		70.000	
-0.072		80.000	
-0.114		90.000	
-0.055		100.000	
-0.019		110.000	
0.091		120.000	
0.134		130.000	
0.126		140.000	
0.11		145.000	
0.111		145.449	
0.111		150.000	
0.091		160.000	
0.068		170.000	
0.062		180.000	
0.045		190.000	
0.021		200.000	
-0		210.000	
-0.017		220.000	
-0.019		222.208	
-0.018		222.446	
0		229.011	

**LONGITUDINAL SECTION**  
HORIZ SCALE: 1:1000(A1) 1:2000(A3)  
VERT SCALE: 1:100(A1) 1:200(A3)



**INFORMATION ONLY**

SURVEYOR		BY		DATE		CLIENT		PREPARED BY		0821617 CLIENT		NORTH BURNETT REGIONAL COUNCIL	
ADDRESS:		REVIEWED								NORTH ROCKHAMPTON QLD 4701		PROJECT MINGO CARAVAN PARK	
CO-ORDINATE DATUM		RPEQ ENG				<small>NOTE: THIS DRAWING IS SOLELY THE PROPERTY OF MCMURTRIE CONSULTING ENGINEERS PTY LTD. THE INFORMATION CONTAINED IS NOT TO BE DISCLOSED, REPRODUCED OR COPIED IN WHOLE OR PART WITHOUT WRITTEN APPROVAL FROM MCMURTRIE CONSULTING ENGINEERS PTY LTD.</small>		Address: 63 Charles Street PO BOX 2149, WANDAL QLD 4700 mail@mcmurtrie.com		Phone: (07) 4921 1780 Mobile: 0407 631 066 Fax: (07) 4921 1790		TITLE ROAD WORKS ROAD LONGITUDINAL SECTIONS - SHEET 1	
HEIGHT DATUM		RPEQ No:				SCALE: AS SHOWN				DRAWING NUMBER		REVISION	
A		A		A		A		A		A1		A	
20.02.17		PRELIMINARY ISSUE		RN		RN		RN		RN		RN	
DATE		REVISION DESCRIPTION		DRAFT		DESIGN		DRAFT		DESIGN		DESIGN	

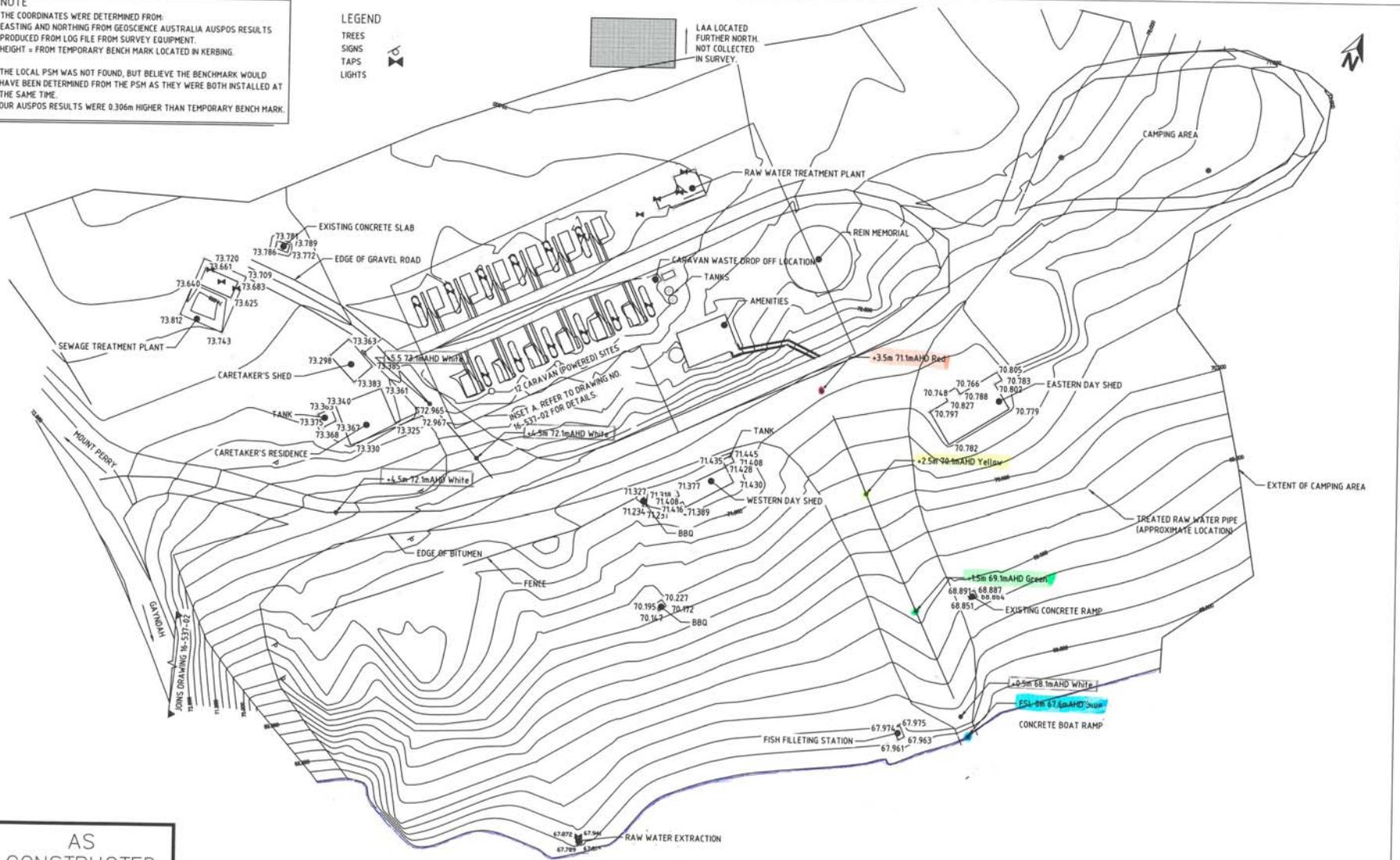


# Appendix Three—As constructed plan

**NOTE**  
 THE COORDINATES WERE DETERMINED FROM:  
 EASTING AND NORTHING FROM GEOSCIENCE AUSTRALIA AUSPOS RESULTS  
 PRODUCED FROM LOG FILE FROM SURVEY EQUIPMENT.  
 HEIGHT = FROM TEMPORARY BENCH MARK LOCATED IN KERBING.  
 THE LOCAL PSM WAS NOT FOUND, BUT BELIEVE THE BENCHMARK WOULD  
 HAVE BEEN DETERMINED FROM THE PSM AS THEY WERE BOTH INSTALLED AT  
 THE SAME TIME.  
 OUR AUSPOS RESULTS WERE 0.306m HIGHER THAN TEMPORARY BENCH MARK.

**LEGEND**  
 TREES  
 SIGNS  
 TAPS  
 LIGHTS

LAA LOCATED  
 FURTHER NORTH  
 NOT COLLECTED  
 IN SURVEY.



**AS  
 CONSTRUCTED**

**SITE PLAN  
 SCALE 1:1000**

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LH	28/09/2018
GA	28/09/2018
PH	28/09/2018

MINGO CROSSING  
 AS CONSTRUCTED  
 PLAN SHEET 1

16-537-01

1 2

NORTH BURNETT SHIRE COUNCIL 0

GA AS CONSTRUCTED DRAWING PH 28/09/2018