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Statement of Enviromental Effects

Expand Temporary Workers Accommodation

Client: Long Necks Developments
Site Address: Lot 32 DP 750773

18 May 2023

Our Reference: 17239-PR02_A

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DISCLAIMER

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Report Title:	DA Modification supporting information
Project Name:	Expand existing temporary workers accommodation
Project Location:	Lot 32 DP 750773
Client:	Long Necks Developments
Project Number:	17239
Report Reference:	17239-PR02_A
Date:	18/05/2023

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1.0 INTRODUCTION

1.1 Background

Barnson Pty Ltd has been engaged by Long Necks Developments to prepare information in support of a Section 4.55(1A) Development Application (DA) modification to DA0135/2012 to expand a temporary workers accommodation at Lot 32 DP 750773, commonly known as Ulan Village Green on 94 Main Street, Ulan NSW 2850.

The subject site is located on the eastern side of Main Street, and western side of the Goulbourn River with an approximate area of 4.05ha. The subject site is generally flat and includes an existing temporary workers accommodation.

The proposed development shall consist of the installation of fourteen (14) additional transportable buildings each containing four (4) units. Each unit consists of a bedsit area and ensuite. The proposal also involves a new laundry building in proximity to the original laundry facility.

The purpose of the expansion is to provide additional rooms for workers primarily supporting the local mining industry in Ulan. Ulan Village Green is in proximity to three (3) large coal mines that are currently undergoing expansion and employ over 1,000 mine workers and contractors.

The site is zoned RU1: Primary Production under the *Mid-Western Regional Local Environmental Plan 2012*. The proposed expansion is for a 'Temporary Workers Accommodation', which was originally approved in DA0135/2012, and modified in MA0036/2019 and ME0024/2023.

The proposed development as modified would remain substantially the same development as the development for which consent was originally granted and before that consent as originally granted was modified.

This application consists of:

- One (1) PDF of this written statement, including plans.

1.2 Proponent

The proponent for the DA is Long Necks Developments.

1.3 Consultant

Barnson Pty Ltd

Jim Sarantzouklis

Riverview Business Park

Unit 1, 36 Darling Street

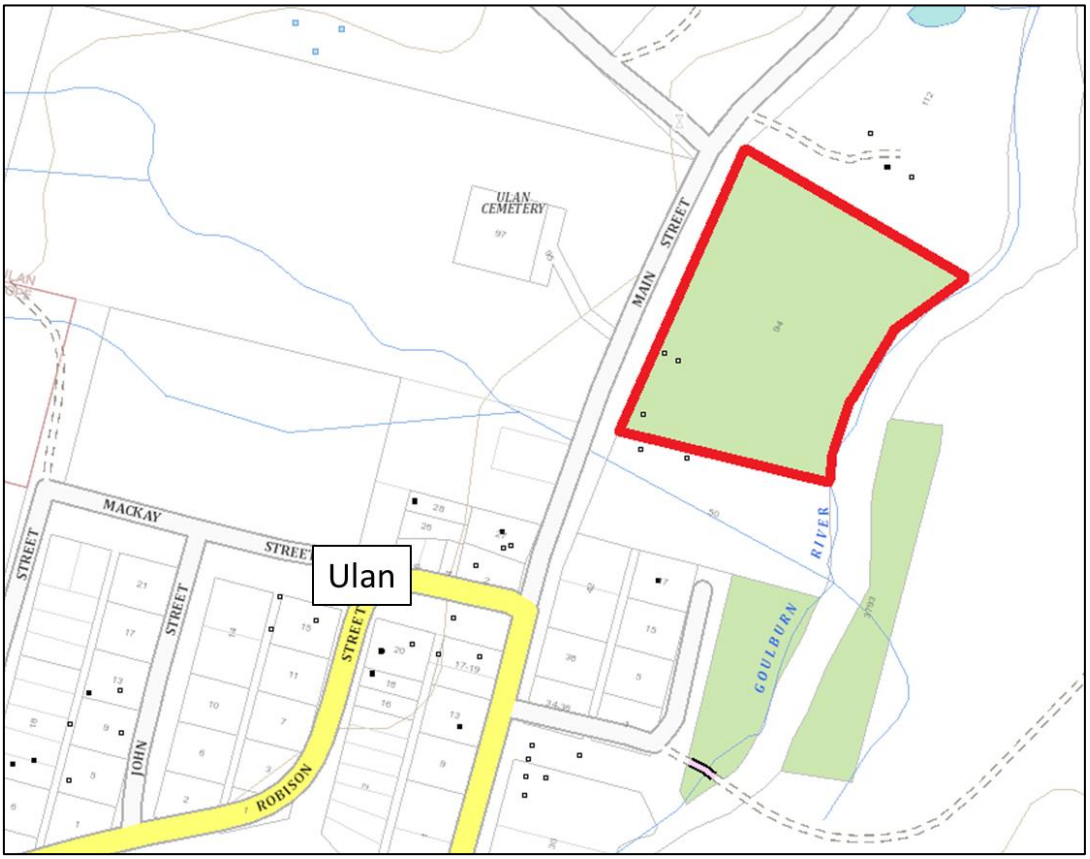
Dubbo NSW 2830

2.0 EXISTING ENVIROMENT

2.1 Location and Title

The subject site of this application is Lot 32 DP 750773, known as 94 Main Street, Ulan. The site is located on the eastern side of Main Street, and the western side of the Goulburn River.

Please refer to Figure 1 below.



Source: Sixmaps 2021

Figure 1 – Site Location

The site is leased from the Crown.

The site has an overall area of approximately 4.05ha (Please refer to DP and latest detailed survey in Appendix A). The site is currently used for the existing Temporary Workers Accommodation and maintains the Ulan Community Hall. Please refer to Plates 1-3 for photos of the site and the locality.

Plate 1 – Aerial Photo of facility location.

Plate 2 – Proposed Development Site.

Plate 3 – View of Access and existing Structures.

2.2 Land Use

The subject land is part of the Ulan township. The site comprises existing buildings, amenities, car parking, gymnasium and eatery; all associated with the temporary workers accommodation.

The Ulan Hall has been improved and remains part of the site and available to the community.

The surrounding area involves mixed uses including rural; residential; Ulan Water and mine related land activities.

2.3 Topography

The subject site is relatively flat throughout, falling slightly towards the east towards the Goulburn River.

2.4 Flora and Fauna

The subject site is part of a reserve formerly used for recreation (cricket oval) and still as a meeting place for the Ulan community.

The original temporary workers approval required an asset protection area of 40m which required a small amount of clearing and ongoing maintenance.

The proposed expansion shall occur within a maintained cleared area. No significant trees need to be removed nor is any significant risk posed to fauna.

Further landscaping is proposed to enhance the overall amenity of the development.

2.5 Natural Hazards

The subject site is not on land that has been identified as impacted by the Flood Planning Area.

The subject site is considered Category 2 bushfire prone land pursuant to the *Mid-Western Regional Local Environmental Plan 2012* (the LEP) and the ePlanning Spatial Viewer. Refer to Figure 2 below and Appendix B for Bush Fire Assessment Report (BFAR).

Figure 2 Bush Fire Prone Land Map

Source: (ePlanning Spatial Viewer, 2023)

2.6 Visual Amenity

The character of the site and surrounding area is defined by rural lands with scattered buildings and infrastructure.

2.7 Services

All required services are available to the site.

2.8 Access and Traffic

The subject site fronts Main Street. Main Street has wide verges is bitumen sealed with table drains.

2.9 Heritage

The subject site has not been listed as containing a heritage item under Schedule 5 of the *Mid-Western Regional Local Environmental Plan 2012* (the LEP).

Following an online search on the *Aboriginal Heritage Information Management System* (AHIMS), it was concluded that there are eight (8) Aboriginal Sites located within 200m of the subject site. All identified sites have been located in a northerly direction of the subject site. Given the current use of the subject site and the nature of the development being wholly located with the site's boundaries. It can be considered that the proposed development will not impact on the existing Aboriginal Sites located outside the property's boundaries.

Please refer to Appendix C for the AHIMS Report.

3.0 PROPOSED DEVELOPMENT

The proposed development involves the expansion of temporary workers accommodation to serve needs of nearby mining operations at Lot 32 DP 750773, 94 Main Street, Ulan.

The proposal involves the addition of fourteen (14) buildings each containing four bed units with an ensuite. The buildings are sited to follow existing rows in an orderly manner within a clear and maintained area. This will result in an overall total of 200 bed units. The proposal also involves a new laundry building.

It is not intended to alter hours of operation, which is currently in keeping with mining operation requirements; and staff numbers are to be managed at current levels. Meals and crib will continue to be provided.

Further details on the proposal include:

- Each accommodation building to have approximate dimensions of 14.4m long x 3.3m wide x 3m high, constructed of steel; colorbond wall cladding and zincalume roofing;
- Each accommodation unit to have approximate dimensions of 3.45m long x 3.3m wide x 2.4m high, with space for king size bed, desk and cupboard, and small fridge; and ensuite with shower, basin and toilet;
- Addition of verandah 1.8m wide along full length of building with awning over constructed of steel and supported by steps according to height above ground;
- Laundry building 12.2m x 2.44m x 2.8m;
- Extension and connection of proposed buildings to existing water, sewer and power services, noting that a generator exists to provide back-up supply;
- Roofwaters to be harvested with any overflow directed to existing stormwater system;
- Concrete footpaths to connect to existing pathways and community facilities and parking areas;
- Final construction of car park area, total of 163 off-street parking spaces including accessible spaces;
- Water deliveries will be maintained below two (2) carts maximum requirement;
- Onsite effluent irrigation area to be maintained, as required;
- Fire extinguishers to support each building;
- Existing landscaping to be enhanced and maintained; and
- Implementation of Erosion and sediment control measures.

The development remains substantially the same development as originally approved.

Refer to Development Plans in Appendix D of this report. Refer also to Servicing Plans in Appendix E and updated Management Plans in Appendix F.

4.0 LAND ZONING

The subject site is zoned RU1: Primary Production pursuant to the provisions under the *Mid-Western Regional Local Environmental Plan 2012* (the LEP). The proposed development is to support expansion of an existing approved 'temporary workers accommodation' which is defined (separately to the Dictionary) under the LEP as follows:

> *"…any habitable buildings and associated amenities erected on a temporary basis for the purpose of providing a place of temporary accommodation for persons employed to carry out large-scale infrastructure, including development for the purposes of an extractive industry, mining, renewable energy or an electricity transmission or distribution network."*

We note that Clause 6.11 of the LEP enables the 'temporary workers accommodation' to be permissible with consent at the site.

Further permissibility of the proposed development is assessed in terms of the heads of consideration in Section 4.15 of the Environmental Planning and Assessment Act 1979, which incorporates consideration of the LEP, and the objectives and permissible uses outlined in the RU1 Zone, as outlined in Section 5 of this report.

5.0 PLANNING CONSIDERATION

5.1 Biodiversity Conservation Act 2016

5.1.1 Is the development likely to significantly affect threatened species?

Clause 7.2 of the Biodiversity Conservation Act 2016 (BC Act) identifies the following circumstances where a development is likely to significantly affect threatened species:

(a) It is likely to significantly affect threatened species or ecological communities, or their habitats, according to the test in Section 7.3, or
(b) The development exceeds the biodiversity offsets scheme threshold if the biodiversity offsets scheme applies to the impacts of the development on biodiversity values, or
(c) It is carried out in a declared area of outstanding biodiversity value.

Each of these is addressed below.

5.1.1.1 Section 7.3 Test

To determine whether a development is likely to significantly affect threatened species or ecological communities, or their habitats, the following is to be taken into account in accordance with Section 7.3 of the BC Act:

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,
(b) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:
  (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or
  (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,
(c) in relation to the habitat of a threatened species or ecological community:
  (i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and
  (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and
  (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species or ecological community in the locality
(d) whether the proposed development or activity is likely to have an adverse effect on any declared area of outstanding biodiversity value (either directly or indirectly),
(e) whether the proposed development or activity is or is part of a key threatening process or is likely to increase the impact of a key threatening process.

Comment: The subject site is largely cleared and manipulated to support the existing temporary workers accommodation and before that as a community and recreational facility. The site does not include any vegetation considered significant within the general area to be developed. Given the nature of the works, the proposed development poses little threat to any threatened species or ecological communities, or their habitats.

5.1.1.2 Section 7.4 Test

Section 7.4 of the BC Act states:

(1) Proposed development exceeds the biodiversity offsets scheme threshold for the purposes of this Part if it is development of an extent or kind that the regulations declare to be development that exceeds the threshold.

(2) In determining whether proposed development exceeds the biodiversity offsets threshold for the purposes of this Part, any part of the proposed development that involves the clearing of native vegetation on category 1-exempt land (within the meaning of Part 5A of the Local Land Services Act 2013) is to be disregarded.

Comment: The proposed development shall not require any significant clearing of native vegetation, as the area to be developed is already cleared and in a degraded state as a result of previous landuse and servicing requirements.

5.1.1.3 Declared Area of Outstanding Biodiversity Value

The proposed development shall not encroach on land with biodiversity value mapped on the Biodiversity Value Map as defined by the BC Act. Please refer to Error! Reference source not found. below.

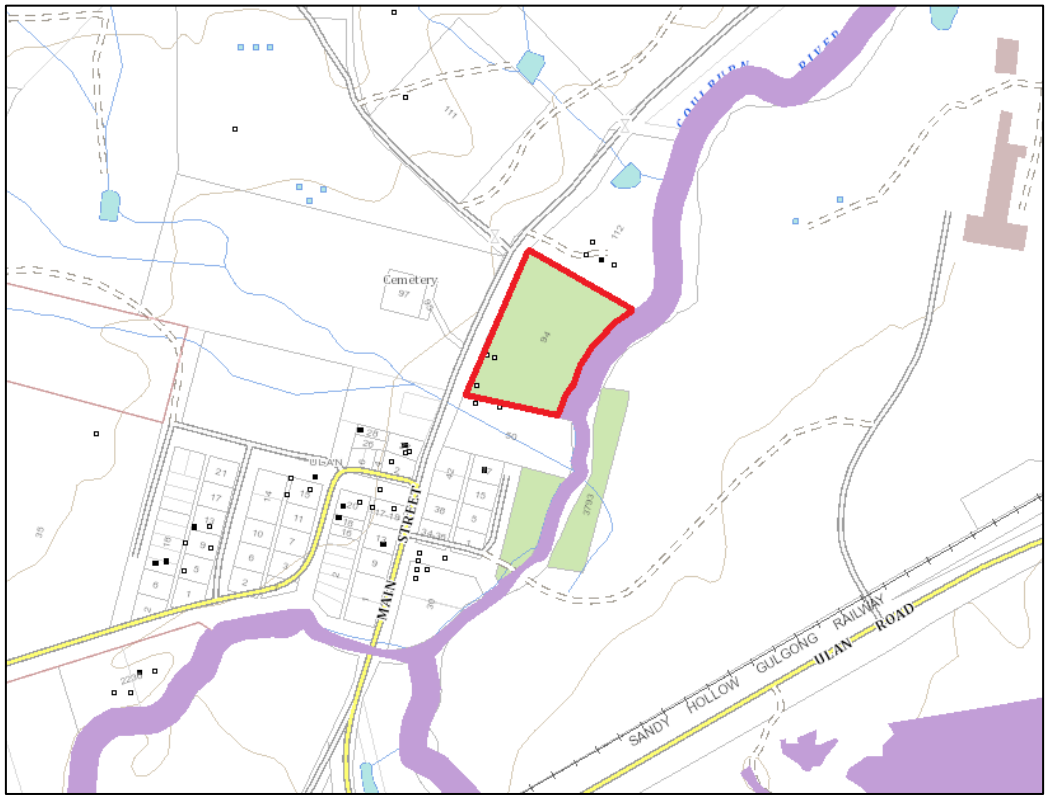


Figure 3 Biodiversity Values Map

5.1.2 Biodiversity Development Assessment Report

As outlined in Section 5.1.1, the proposed development is not likely to significantly affect threatened species as defined by Section 7.2 of the BC Act. Therefore, a Biodiversity Development Assessment Report is not required to accompany the application for development consent.

5.2 Fisheries Management Act 1994

5.2.1 Applicability

The Fisheries Management Act 1994 (FM Act) applies to:

(a) in relation to all waters that are within the limits of the State, and

(b) except for purposes relating to a fishery, or a part of a fishery, that is to be managed in accordance with the law of the Commonwealth pursuant to an arrangement under Division 3 of Part 5 and except for purposes prescribed by paragraph (d)—in relation to any waters of the sea not within the limits of the State that are on the landward side of waters adjacent to the State that are within the Australian fishing zone, and

(c) for purposes relating to a fishery, or a part of a fishery, that is managed in accordance with the law of the State pursuant to an arrangement under Division 3 of Part 5—in relation to any waters to which the legislative powers of the State extend with respect to that fishery, whether pursuant to section 5 of the Coastal Waters (State Powers) Act 1980 of the Commonwealth or otherwise, and

(d) for purposes relating to recreational fishing activities engaged in otherwise than by use of a foreign boat (other than recreational activities prohibited or regulated under a plan of management determined under section 17 of the Commonwealth Act)—in relation to any waters to which the legislative powers of the State extend with respect to such activities.

Comment: The Fisheries Management Act does not apply to the subject proposal.

5.2.2 Is the development likely to significantly affect threatened species, population or ecological community?

Section 221ZV of the FM Act requires the following matters to be taken into consideration to determine whether a proposed development or activity is likely to significantly affect threatened species, populations, or ecological communities (unless it is carried out in critical habitat):

(a) in the case of a threatened species, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

(b) in the case of an endangered population, whether the proposed development or activity is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the proposed development or activity:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

(d) in relation to the habitat of a threatened species, population or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the proposed development or activity, and

(ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed development or activity, and

(iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the threatened species, population or ecological community in the locality,

(e) whether the proposed development or activity is likely to have an adverse effect on any critical habitat (either directly or indirectly),

(f) whether the proposed development or activity is consistent with a Priorities Action Statement,

(g) whether the proposed development constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The assessment guidelines under section 220ZZA apply to the determination of whether any such proposed development or activity is likely to significantly affect threatened species.

Comment: The proposed development is to occur over previously disturbed area that shall not impact on threatened species or ecological communities.

5.3 Environmental Planning & Assessment Act 1979

5.3.1 Evaluation

Section 4.15 of the EP&A Act (as amended) requires the Council to consider various matters in regard to the determination of the Development Application.

In determining a development application, a consent authority is to take into consideration such of the following matters as are of relevance to the development the subject of the development application:

a) The provisions of:
   i. any environmental planning instrument, and
   ii. any proposed instrument that is or has been the subject of public consultation under this Act and that has been notified to the consent authority (unless the Secretary has notified the consent authority that the making of the proposed instrument has been deferred indefinitely or has not been approved), and
   iii. any development control plan, and
   iv. any planning agreement that has been entered into under section 7.4, or any draft planning agreement that a developer has offered to enter into under section 7.4, and
   v. the regulations (to the extent that they prescribe matters for the purposes of this paragraph), and
   vi. any coastal zone management plan (within the meaning of the Coastal Protection Act 1979), that apply to the land to which the development application relates,
b) The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality;
c) The suitability of the site for the development,
d) Any submissions made in accordance with this act or the regulations,
e) The public interest.

The proposed development has been designed with consideration to the following matters, as outlined below.

5.3.2 Integrated development

It is noted the original DA was considered integrated development by virtue of Section 4.46 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and required both development consent and authorisation under Section 100B (Bushfire Safety Authority) of the *Rural Fires Act 1997* in order for it to be carried out. Therefore, the proposed modification is required to be referred back to the Rural Fire Service (RFS) under Clause 109 of the Environmental Planning and Assessment Regulation 2021 seeking authorisation. Refer also to BFAR in Appendix B.

5.4 Environmental Planning Instruments

5.4.1 State Environmental Planning Policies (SEPP)

While a number of SEPPs apply to the subject land and development thereon, there is unlikely to be any significant implications in terms of the requirements of the SEPPs on the proposed development. There are no SEPPs that are required to be considered as part of this proposal.

5.4.1.1 SEPP (Resilience and Hazards) 2021

Clause 4.6(1) of State Environmental Planning Policy (Resilience and Hazards) 2021 requires Council to consider the following before granting consent to a DA:

a. It has considered whether the land is contaminated, and
b. If the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and

c. If the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.

Comment: The subject site operated as a community and recreational purpose prior to now providing temporary workers accommodation. An inspection on 10 April 2023 indicated no evidence of contaminating related activities having taken place onsite. The site does not appear to have been subject to any of the materials listed in Appendix A of the Managing Land Contamination: Planning Guidelines SEPP 55 – Remediation of Land (NSW Department of Urban Affairs and Planning and Environment Protection Authority, 1998). In accordance with the SEPP the site is not considered to be contaminated.

5.2 Mid-Western Regional Local Environmental Plan 2012

5.2.1 Land Use Table

The subject site is zoned RU1 Primary Production pursuant to the *Mid-Western Regional Local Environmental Plan 2012* (the LEP). The objectives of the RU1 Zone are as follows:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*

- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*

- *To maintain the visual amenity and landscape quality of Mid-Western Regional by preserving the area's open rural landscapes and environmental and cultural heritage values.*
- *To promote the unique rural character of Mid-Western Regional and facilitate a variety of tourist land uses.*

Comment: The site of the proposal has a relatively small area of approximately 4.05ha in context of larger rural land holdings in the region. It is located on the edge of Ulan Village.

The subject proposal is considered to remain consistent with the objectives of the RU1 zone, in that it will: (a) not significantly impact on natural resources, (b) not fragment or alienate resource lands, (c) shall not conflict surrounding landuses, (d) shall not significantly impact on visual amenity and landscape quality of the locality, and (e) the development continues to support the nearby mining industry.

5.2.2 Earthworks

Clause 6.3 'Earthworks' applies to the subject application as earthworks are included as part of the development works. The site is relatively flat throughout. There shall be no significant disruption on existing drainage patterns or soil stability in the area. Appropriate erosion and sediment controls will be undertaken on the site during development works to prevent and reduce any soil erosion that would occur on the site.

5.2.3 Groundwater Vulnerability

Clause 6.4 'Groundwater Vulnerability' does not apply to the subject land according to Groundwater Vulnerability Map on ePlanning Spatial Viewer.

Notwithstanding we note the proposal does not involve any groundwater contaminating activities and appropriate consideration has been given to treating onsite effluent generated by the development. Refer to Site and Soil Assessment for On-site Effluent Management and Groundwater Quality Management Plan in Appendix F.

5.2.4 Essential Services

Clause 6.9 of the LEP states:

Development consent must not be granted to development unless the consent authority is satisfied that any of the following services that are essential for the proposed development are available or that adequate arrangements have been made to make them available when required

(a) The supply of water,
(b) The supply of electricity,
(c) The disposal and management of sewerage,
(d) Stormwater drainage or on-site conservation, and
(e) Suitable road access.

Comment: The current operation incorporates all of the above essential services. In relation to the expansion services are to be managed as follows:

- Water – is carted from Ulan Water which is located on an adjoining property. It is a conditional requirement that no more than two (2) deliveries be permitted per day. The operation is currently fully contracted, and management advises that on average 5-6 deliveries are received per week normally on a Monday (2); Wednesday (1 or 2); and Friday (2). An increase of 56 units or approximately 39% shall add 2-3 deliveries per week.

Assuming a maximum of nine (9) deliveries per week in total to support 200-man facility this can be spread over weekdays to ensure there is no reason to modify the two (2) maximum water cart requirement.

- Electricity – mains power is supplied to the site and is capable of supporting demand expected by the expansion. A generator provides backup power in the event of any outage.
- Sewerage – is managed by an onsite effluent system providing secondary treatment utilising an Ozzi Kleen Sewage Treatment Plant and irrigation area. Whilst the Plant is likely to be satisfactory further investigation is currently underway to consider if improvement is required. Further details are provided in Site and Soil Assessment for On-site Effluent Management in Appendix F.
- Stormwater – is directed via a series of pipes and pits to a detention basin. Roof water is harvested and directed to tanks. It should be noted that the existing basin is already approved with additional capacity for a slight increase in impervious area as a result of completing the car park area.
- Roads – current network and arrangement is considered satisfactory to manage expected traffic generation from the proposed development.

Refer also to Servicing Plans in Appendix E.

5.2.5 Temporary workers' accommodation

Clause 6.11 of the LEP is applicable and states:

(1) The objectives of this clause are as follows—

(a) to enable development for temporary workers' accommodation if there is a demonstrated need to accommodate employees due to the nature of the work or the location of the land on which that work is carried out,

(b) to ensure that temporary workers' accommodation is appropriately located,

(c) to ensure that the erection of temporary workers' accommodation is not likely to have a detrimental impact on the future use of the land or to conflict with an existing land use,

(d) to minimise the impact of temporary workers' accommodation on local roads and infrastructure.

Comment: The proposal involves an expansion of an existing temporary workers accommodation facility which is supporting local mines in an appropriate location with minimal impact.

(2) Development consent must not be granted to development for the purposes of temporary workers' accommodation unless the consent authority is satisfied of the following—

(a) the development is to be located—

(i) if the development relates to a mine—within 5 kilometres of the relevant mining lease under the Mining Act 1992, or

(ii) in any other case—within 5 kilometres of the large-scale infrastructure in which persons are to be employed,

Comment: The proposal involves an expansion to an existing approved temporary workers accommodation facility that serves mines within 5kms of the site.

(b) there is a need to provide temporary workers' accommodation due either to the large-scale infrastructure or because of the remote or isolated location of the land on which the large-scale infrastructure is being carried out,

Comment: The local mining industry are supporting the facility.

(c) the development will not prejudice the subsequent carrying out of development on the land in accordance with this Plan and any other applicable environmental planning instrument,

Comment: The proposed expansion is within current building curtilage and shall not prejudice other development on the land.

(d) water reticulation systems and sewerage systems will be provided to adequately meet the requirements of the development,

Comment: There are current systems in place at the facility to adequately meet water and sewerage requirements.

(e) when the development is no longer in use, the land will, as far as practicable, be restored to the condition in which it was before the commencement of the development.

Comment: There is an approved decommissioning plan in place. The plan has been updated to match the proposal and amended Crown lease. Refer to Appendix F.

(3) In this clause—

temporary workers' accommodation means any habitable buildings and associated amenities erected on a temporary basis for the purpose of providing a place of temporary accommodation for persons employed to carry out large-scale infrastructure, including development for the purposes of an extractive industry, mining, renewable energy or an electricity transmission or distribution network.

Comment: Noted

5.4 Draft Environmental Planning Instruments

No draft Environmental Planning Instruments are applicable to the subject site or development.

5.5 Development Control Plans

The *Mid-Western Regional Council Development Control Plan 2013* (DCP) applies to the subject application. Relevant provisions of the DCP have been addressed in Table 1 below.

Provision	Requirements	Comment
Section 6.2 – Temporary Workers Accommodation Definition: *means any habitable buildings and associated amenities erected on a temporary basis for the purpose of providing a place of temporary accommodation for persons employed to carry out large- scale infrastructure, including development for the purposes of an extractive industry, mining, renewable energy or an electricity transmission or distribution network.*		
Location	(i) if the development relates to a mine—within 5 kilometres of the relevant mining lease under the Mining Act 1992, or (ii) in any other case—within 5 kilometres of the large-scale infrastructure in which persons are to be employed • Provision of suitable arrangements for the disposal of waste water and the provision of a water supply. It should be noted that proposals relying on the provision of water transported by tankers will not be supported. • Design of the facility to ensure that there is no adverse visual impact discernible from outside the project site. • Submission of a plan of management to address the social concerns having regard to the particular location of the accommodation. • The application should address health and residential amenity issues that arise due to the location near the major infrastructure project site.	The proposed development supports an existing temporary workers accommodation facility located within 5 kms of mining operations. The existing facility includes a secondary onsite treatment system to deal with effluent. The facility is conditionally permitted to transport water by tanker up to 2 times per day. Currently it averages less than 1 per day and the addition of 56 bed units should not bring about a non-compliance or require modifying. The current facility does not cause any significant visual impact. The proposed building will be situated behind existing buildings and advanced landscaping therefore street appearance shall not change. The facility has operated for several years without major incident or community complaints. It is a dry mess not offering alcohol. Refer to Site Management Plan and Rules in Appendix F. The facility is situated well enough away from mining operations so as to not raise any ongoing health and residential amenity issues.

		A signed noise impact agreement between the lessee/owner and Ulan Mine (which adjoins the subject site) remains in place. Refer to Mine Noise agreement in Appendix G.
	• Provision of additional access and parking infrastructure commensurate with the additional demand.	The facilities access and parking arrangements are considered satisfactory. The car parking pavement recently underwent an upgrade due to impacts from wet weather. A higher standard of pavement was provided to ensure appropriate access and longevity.
	• Provision of a Social Impact Assessment.	A new SIA is not considered necessary given the facility has operated successfully and without community complaint. The proposed development is a result of local mining industry encouragement to make additional rooms available. Refer to updated Site Management Plan in Appendix F.
Need	The proponent shall demonstrate the need for the facility by providing an analysis of the number of major infrastructure project (including mining) jobs currently approved and the total number of temporary workers accommodation beds approved. The expected life of the Temporary Workers Accommodation facility shall be included in the Statement of Environmental Effects indicating the expected timing of decommissioning to relate to the life of the major infrastructure project.	The need of the facility is proven by current contracts with local mines. The expected life of the facility has been dealt with in a recent modification application and should be reflected again in any further conditional consent by matching the Crown lease arrangement which with options concludes in 2057.
Social Impact Assessment	There are many definitions of social impact. A contemporary definition (Armour, 1992) defines social impacts as changes that occur in: • People's way of life (how they live, work, play and interact with one another on a day-today basis); • Their culture (shared beliefs, customs and values); and	The current facility has operated in a positive social manner for several years. The proposed expansion is not considered significant being an increase of 56 units and unlikely to introduce any concerning social impacts. Refer also to Appendix F for site practices.

	• Their Community (its cohesion, stability, character, services and facilities). Key Principles of Assessing Social Impacts To achieve a useful and appropriate framework for assessing social impacts, a number of key principles are important. • The purpose of assessing social impacts is to provide focused relevant details on the significant or problematic impacts. • It is essential to consider the positive and negative social aspects of the development • Persons and groups that may be affected by the proposal should be consulted. Community consultation should identify the possible impacts and mitigating measures that may be introduced. Community consultation should occur early in the process and should lead to the formulation of the terms of reference of the Social Impact Statement. It is a requirement that the proponent consult the NSW Police Local Area Command and local health providers (including General Practitioners and Dentists operating in the local area) during the preparation of the Social Impact Statement. It is recommended that the proponent consult Council after the terms of reference are formulated. • The proponent should incorporate practical measures that will enhance the positive aspects, may improve the development and limit any possible negative social impacts. The Social Impact Statement should include but is not limited to the following: • Identification and an in-depth analysis of social impacts of the proposal. • Outline the process of community consultation and address issues raised by the community. • Consideration of cumulative impacts, intergenerational equity, impacts on the provision of all services and identify ways to address these impacts.	

	• The results of consultation with relevant service providers including police and health providers • Identification of a strategy to mitigate impacts, encourage integration with the community, and permanent relocation to the area, timeframe for implementation of the strategy and a monitoring program. • Identify and implement provisions that will address the needs identified by the SIS and the demands generated by the development in a way that will not adversely impact upon the existing community.	
Transportable Dwellings	The application must illustrate that all transportable buildings can be permanently affixed to the site by footings in accordance with the requirements of the National Construction Code and associated Engineer's Certification. Detail that all buildings and structures will have adequate form and appearance, including material and colours in soft earth browns, creams and greens, which do not detract from the visual amenity of the area. The use of reflective cladding material on walls will not be permitted. Where the use of second hand buildings is proposed the application must accompanied by the following information: • Photographs clearly showing the condition from all four elevations of the building. An inspection report from a certified structural engineer or accredited building surveyor that the buildings are suitable for the proposed use and relocation.	The transportable buildings shall match the type and appearance of existing buildings and meet NCC requirements. 
Accessibility	Accessibility requirements established by Access to Premises Standard, the National Construction Code and the associated Australian Standards are to be addressed in the application.	The current development has four (4) accessible units and associated parking as supported by an access consultant in a performance solution report. Refer to Access report in Appendix H.

		To date no disabled person has needed to attend the facility or occupy an accessible unit, therefore the existing number of accessible units are considered satisfactory.
Density	Development shall be limited to a maximum of 100 beds per hectare.	The subject site is 4.05ha. The proposed number of units is 200 which equates to 50 units per hectare and complies with the density standard.
Facilities	The accommodation facility is to provide the following facilities as a minimum: • Ablution facilities to be provided in each accommodation room including shower, toilet and wash basin connected to an approved effluent disposal system; • Communal laundry and associated facilities connected to an approved effluent disposal system; • A covered/ sheltered entry for each building; • An outdoor activity area of which part shall be shaded; • Adequate and secure storage space for workers, equipment and other material associated with the management and maintenance of the accommodation facility; • Adequate Lighting for pedestrian and vehicular safety and security throughout the complex. • Paved internal pedestrian access to and between all buildings and facilities is to be provided.	Ensuite facilities form part of each accommodation unit they currently are and shall be connected to an approved effluent disposal system. Communal laundries exist and are connected to onsite effluent system. Awnings shall provide cover to entrances of each building to match existing. An outdoor area is located near the community hall. Adequate storage space exists at office area. Lighting exists and shall be extended to proposed units. Pathways exist and shall be extended to proposed unit.
Traffic and Parking	• Internal road and vehicular access provided in accordance with Australian Standard No. AS2890 Council standard. • Provision of one car parking space per room and one space per staff member in accordance with the car parking section of this DCP.	No significant changes to road and vehicular access arrangements are proposed with this development. The proposal is for an increase to 200 units and there shall be a maximum of eight (8) staff onsite at any one time. Therefore, based on the development standard 208 parking spaces are required.

		The proposed site plan indicates a total of 163 formal off-street parking spaces shall be made available. A departure is sought to the development standard for parking and is considered justified based on the following: • A parking study was prepared for March 2023. The survey period was carried out over March 2023 and includes peak times and is considered an appropriate reflection of parking demand. The Parking study included both accommodation and staff take up rates. The study revealed that a maximum 63.8% of parking spaces were occupied during the survey period. Refer to Image below typical example showing there are an abundant of available spaces.  The reasons given for the reduced take up rate include workers arriving by means other than their own vehicles eg. flights and shuttle buses; workers coming to site in shared vehicles; workers parking at mine sites and standard occupancy rates. Refer to Appendix I for Traffic and Parking Study.

		Therefore, based on a rounded-up demand of 75% in parking a total of (0.75 x 208) or 156 spaces is required and the proposed number of spaces at 163 comfortably meets the expected demand.
	• Designated bus parking and collection/drop off area located within the development area with sufficient manoeuvring area to allow the bus to enter and leave the site in a forward direction.	The facility supports a small shuttle bus which operates twice a day morning and evening. One of the mines and a contractor also have shuttle buses. All buses are known to be 12 seaters and able to manoeuvre onsite to enter and leave in a forward direction.
	• Designated delivery areas.	An existing delivery area is designated behind the kitchen/dining building.
Services	• Provision of a potable water supply capable of providing a minimum of 140 litres per person per day. A lower daily minimum may be acceptable where the proposed development includes water saving measures such as recycling systems or non-potable water supply sources. • A water balance is to be submitted demonstrating that the proposed provisions for water and sewer services can be met by the development. • Demonstration of adequate water supply to maintain the accommodation facility including landscaping. • Where the facility is to connect to a reticulated system proved by the local authority, the applicant must demonstrate that the reticulated system can support the additional demand generated by the Temporary Workers Accommodation whilst allowing adequate capacity to service existing demand, demand to meet land already zoned within the Mid-Western Regional Development Control Plan Page 69 catchment, uses already approved to connect to the reticulated service and land identified in the Comprehensive Land Use Strategy.	The existing operation is provided with an approved and reliable water supply capable of meeting minimum standard, as currently taking place. Adequate services provision exists. The existing operation is supplemented by rainwater to assist with irrigating landscaping areas. N/A

	• Provision of waste collection and where necessary entering into a waste disposal agreement with Council or an approved waste collection operator. • First aid facilities.	There is a private waste arrangement. The existing development consists of an appropriately stocked first aid room.
Landscaping	A landscape plan should be provided with the application. Where possible, remnant vegetation should be retained. Landscaping should focus on: • Providing a buffer to surrounding land, in this case vegetation should consist a combination of mature trees and shrubs to achieve a visual buffer; • Providing privacy within the development; • Improving the residential amenity through the provisions of shade. • Consist mainly of native species or species that thrive in this locality. • At least 25% of the site should be open space. It will be a requirement of any development consent that the landscaping is to be maintained for the life of the development in accordance with the approved landscaping plan.	The proposed additional units and laundry shall not be clearly visible from the street and is currently satisfactorily screened with existing landscaping. Landscaping is currently located between accommodation buildings. It is proposed to expand landscaping around proposed buildings for aesthetic as well as privacy impact. Shade is available, as required for workers. Existing landscaping focuses on native species that are water efficient. Open space area is at approximately 73% and therefore compliant. Landscaping is maintained by a groundsman and suitably qualified landscaper.
Plan of Management	The applicant shall provide a Plan of Management that shall form part of any approval granted by Council. The Plan shall address, but is not limited to, the following issues: • Identification of measures introduced to mitigate social impacts • Management of security and safety of tenants, community and surrounding residents. • Noise, dust, odour, light spill and litter • Potential conflict with adjoining owners/occupiers that may be affected by the operation of the accommodation facility. • The method of transport of the workers to the project site.	A plan of management was submitted as part of the original development application. An operating manual is maintained by facility management. It is noted that the facility has been operating without any significant conflicts. Refer to management details in Appendix F.

	• The consumption of alcohol at the accommodation facility (if applicable).
	• Where adjacent to a town or village, access to facilities.
	• Access to medical services
	• Method for the collection of waste within the site.
	• Emergency response procedures.
	• Soil, groundwater and surface water protection methods.
	• Details of signage at the entrance to the accommodation which is to include the following:
	  o Site Manager / Operator
	  o Specific Rules of the Accommodation site
	  o Emergency Contact Details
	• Complaints Handling Procedure that will be publicly available and include a compliant contact phone number.	

Decommissioning	The application shall be accompanied by a Decommissioning Plan that shall form part of any approval granted by Council. The Plan shall address the following issues: • When the facility shall be decommissioned; • Works or facilities that shall remain in place following decommissioning • Details of the clean –up and rehabilitation of the site; • The proposed use of the site after decommissioning; and • The transfer to public ownership of any legacy infrastructure.	A decommissioning plan was prepared as part of the original application. The Plan has been updated to reflect the proposed development and also the current lease arrangement with the Crown which is set to end in 2057. Refer to Appendix F.
Developer Contributions	Council will seek to negotiate planning agreements for major developments in accordance with s93F of the Environmental Planning and Assessment Act 1979. Proposal involving less than 50 beds will be assessed in accordance with Council Section 94 Contributions Plan as commercial development.	It is expected that contributions will be levied as originally conditioned, being 1% of the proposed contract value of the expansion.

5.6 Any Planning Agreement entered into

No Planning Agreements entered into are known to exist in relation to the development or site.

5.7 Any Matters Prescribed by the Regulations

For the purposes of Section 4.15(1)(a)(iv) of the EP&A Act, Clause 61 of the *Environmental Planning and Assessment Regulations 2021* (EP&A Regulations) specifies the additional matters a consent authority must take into consideration when determining a DA. No prescribed matters are considered relevant at this stage.

5.8 Any Likely Impacts of the Development

5.8.1 Context & Setting

The subject site is in an established environment which is characterised by an existing temporary workers accommodation.

The proposed development shall occur within the properties boundaries and maintain appropriate setbacks to ensure minimal impacts on neighbouring properties.

The existing facility appears to operate well within the Ulan community.

Therefore, the proposed development is considered to be consistent with existing developments and uses in the area shall not impact on the context or setting in the locality.

5.8.2 Access, Transport & Traffic

The proposed development is able to utilize existing access arrangements.

In terms of transport, the longest vehicles accessing the site shall continue to be the water tanker (a large rigid truck) from next door followed by the 12 seater shuttle buses both of which are able to enter and leave the site in a forward direction.

The proposed development is likely to result in a slight increase in traffic, however within the capacity of the existing road network and with sufficient off-street parking as described in Section 5.5 of this report. Refer also to Traffic Study in Appendix I.

5.8.3 Utilities

All required services including water supply, onsite effluent management, electricity, stormwater management, and telecommunication infrastructure are available to the site and are capable of being extended to support the proposed additional units and laundry. Refer to Servicing Plans in Appendix E.

5.8.4 Noise

The proposed construction works shall generate some noise impact. The likelihood of noise becoming offensive can be minimised by adopting good work practices and adhering to normal construction hours.

The operation is unlikely to introduce any significant noise impacts, keeping in mind the nature of shifts requires careful management of noise to ensure occupants receive adequate sleep at all hours.

5.8.5 Social & Economic Impacts in the Locality

Social impacts of the proposal are considered to be positive, with up to 200 mining workers able to be accommodated nearby to the mines (within 5 - 10 minute's drive) in a self-sufficient facility with all meals provided and recreational facilities on-site. Individual accommodation cabins allow staff to have privacy for rest when required whilst the recreational facilities shall enable them to enjoy sport and barbecues with fellow staff.

Improved accessibility to the mines and road safety for occupants of the proposal is another positive outcome. Given the potential for 12-hour duration of work shifts at the mine, a fully serviced accommodation facility operation in this regard is considered highly favourable to workers compared with the alternative of existing accommodation in Mudgee approximately 40km – 50km / up to 45 minutes' drive away, or Gulgong at 30km – 40km away / up to 30 minutes drive. In particular, the mine camp will enhance road safety for mine workers and locals, eliminating the elevated risks of driver fatigue.

Residents of Mudgee and Gulgong also benefit from potentially less pre-dawn traffic noise associated with mine workers leaving their accommodation in the early hours to drive to the mines for early shift start. Likewise, night shift mine workers staying in the proposed workers accommodation may be less likely to be disturbed by daytime noise whilst asleep, than compared with accommodation in Mudgee and Gulgong.

The facility has operated without any significant incident and in harmony with the local community.

Economic impacts – The proposal shall generate employment for the construction and trade sectors with the additional development of the accommodation camp and its associated infrastructure. The development maintains job opportunities for its management and maintenance as a 24-hour operation, and provides occupant services including catering / cooking, health, fitness and transport.

5.8.6 Bushfire

The subject site is considered Category 2 bushfire prone land pursuant to the *Mid-Western Regional Local Environmental Plan 2012* (the LEP) and the ePlanning Spatial Viewer.

A BFAR has been prepared considering the proposed expansion against the latest *Planning for Bushfire Protection 2019* (PBP) guidelines. The report recommends support of the proposal subject to recommendations much in line with the original General Terms of Approval issued by the Rural Fire Service.

Refer to BFAR in Appendix B.

5.8.7 Other

There are no other issues such as flooding, flora/fauna, or heritage that would significantly impact upon the development.

5.9 Suitability of the Site for the Proposed Development

The suitability of the site for the proposed development has been addressed in the above sections of this report. There are no prohibitive constraints posed by adjacent developments. There does not appear to be any zoning, planning, or environmental matters that should hinder the proposed development of the site. In this regard, it can be concluded that the proposal fits into the locality and the site attributes are conducive for the development.

There are no prohibitive constraints posed by the site which is cleared land with existing sealed road access and no land use conflict with adjacent development; utilities and services are available and adequate for the site; the adjacent mine operation and associated development does not pose any known environmental or health hazards to the proposed site and noise levels will not affect the development or adjoining lands.

5.10 The Public Interest

The proposal is unlikely to create any negative impacts on the amenity of the area and is therefore deemed to be positive in terms of the public interest.

The temporary mine workers accommodation camp and its location near existing mines in the Ulan area is considered beneficial to the local community by reducing high demand on the local housing market for short term accommodation.

The proposal importantly shall reduce traffic along Ulan Road associated with mine workers travelling to and from the mines and reduce associated risk of driver fatigue related accidents.

Accordingly, the proposal is considered within the public interest.

6 CONCLUSION

Since opening Ulan Village Green as the temporary workers accommodation is known has operated successfully without any significant incident. Reviews from clients are complimentary and long-term accommodation leases with nearby mining operations have been secured.

It is recommended that the proposed modification to DA0135/2012 to expand the existing Ulan Village Green temporary workers accommodation, on Lot 32 DP 750773, commonly known as 94 Main Street, be supported as the development as modified would remain substantially the same development as the development for which consent was originally granted on the following grounds:

- The proposal is considered acceptable in terms of the provisions of Section 4.55(1A) of the *Environmental Planning and Assessment Act 1979;*
- The proposal is permissible with consent and consistent with the relevant development standards and provisions of the *Mid-Western Regional Local Environmental Plan 2012*;
- The proposal complies with the relevant provisions of the *Mid-Western Regional Development Control Plan 2013*;
- The proposed development is expected to create job opportunities and a positive economic impact for Ulan, and Mid-Western areas; and
- The proposed development is considered suitable for the surrounds.

7 REFERENCES

The following key references were utilised as part of this assessment:

- *AHIMS*
- *Mid-Western Regional Council Development Control Plan 2013*
- *Mid-Western Regional Local Environmental Plan 2012*
- *NSW Government Spatial Services 2021*
- *State Environmental Planning Policy ((Industry and Employment) 2021*

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APPENDIX A

DP & Survey Plan

Req:E283532 /Doc:CP 3373-1570 /Rev:5-Nov-2008 /Sts:OK.OK /Prt:08-Sep-2011 15:47 /Pgs:ALL /Seq:1 of 1
Ref:17239 /Src:T

~~CASSILIS.~~ MUDGEE

97 351

PLAN OF PORTION 32

County of Bligh — Parish of Ulan

Land District of ~~Cassilis~~ MUDGEE — Land Board District of ~~Maitland~~ ORANGE Eastern Division

~~Resumed Area No~~ — ~~Pastoral Holding~~

~~Applied for under the Section of the Crown Lands Act of 188 by~~

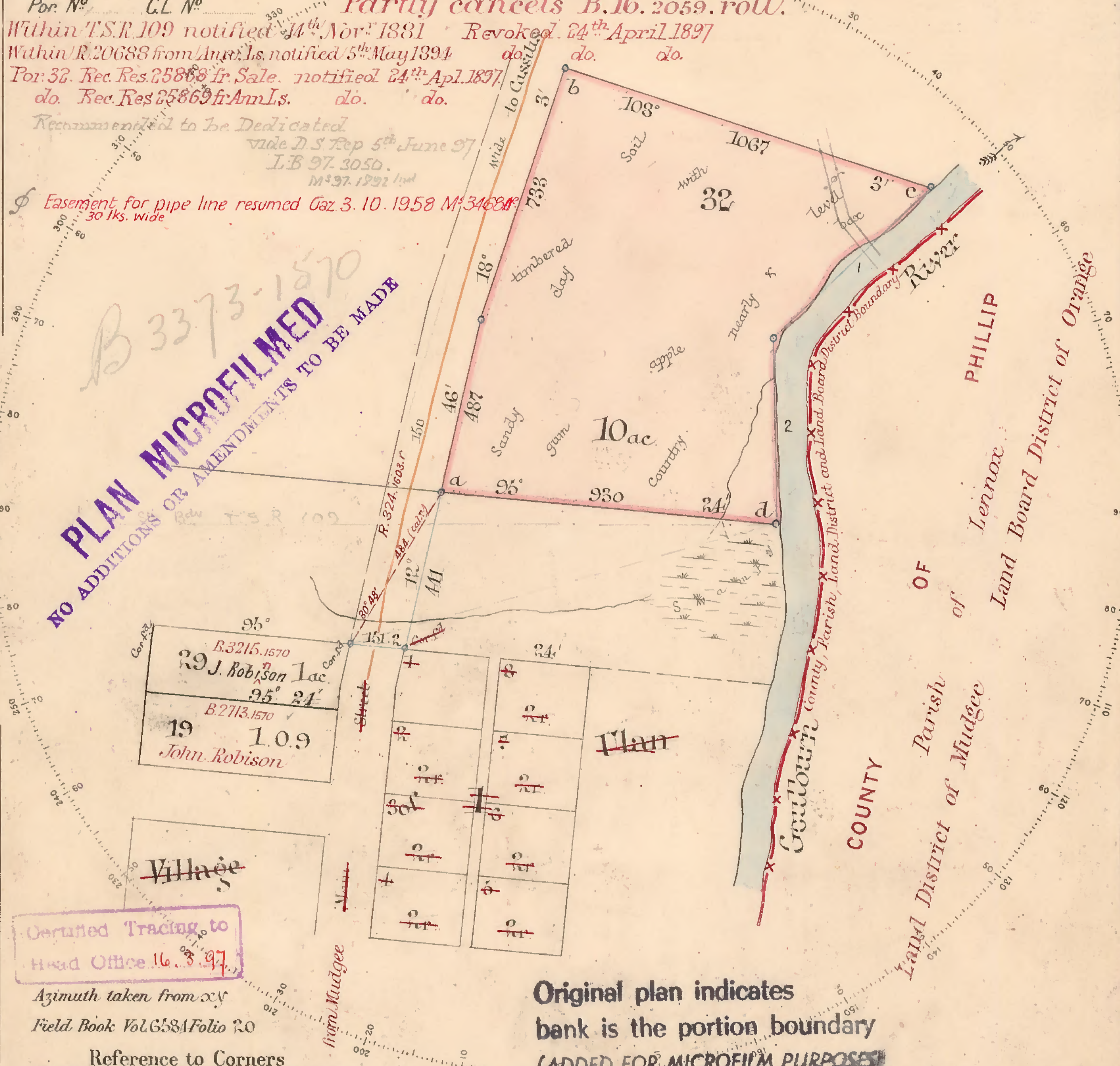
Being part of T.S.R. 109 shewn on plan catalogued B.16.2059.roll.

Proposed to be reserved for Public Recreation Purposes at Ulan

Por. No — C.P. No

Por. No — C.L. No

Partly cancels B.16.2059.roll.



Certified Tracing to Head Office 16.3.97.

Azimuth taken from ✕✕

Field Book Vol. 6584 Folio 20

Reference to Corners

Corner	Bearing	From	Links.	No on Tree
a	76° 30'	gum	68.3	
b	316° 30'	apple	11.5	32
c	220° 35'	do.	9.2	V.R. Town 4.A T.S.R. 32
d		gum at Corner		32

Value of Improvements nil

Reference to Traverse

Line	Bearing	Distance
1	236° 12'	605
2	178° 34'	510

I hereby certify that I in person made and on the 6th Jany 1897 completed the survey represented on this plan on which are written the bearings and lengths of the lines measured by me and I declare that the survey has been executed in accordance with the regulations published for the guidance of Licensed Surveyors and the practice of the Department of Lands.

[redacted] Licensed Surveyor

Transmitted to the District Surveyor with my letter of 20th Jany No 97/2

Voucher No 97.2 Passed 13th Feby '97 £3-5-1.

Calculation Book No 1847 Folio 13

Checked and Charted ... 23rd January 1897

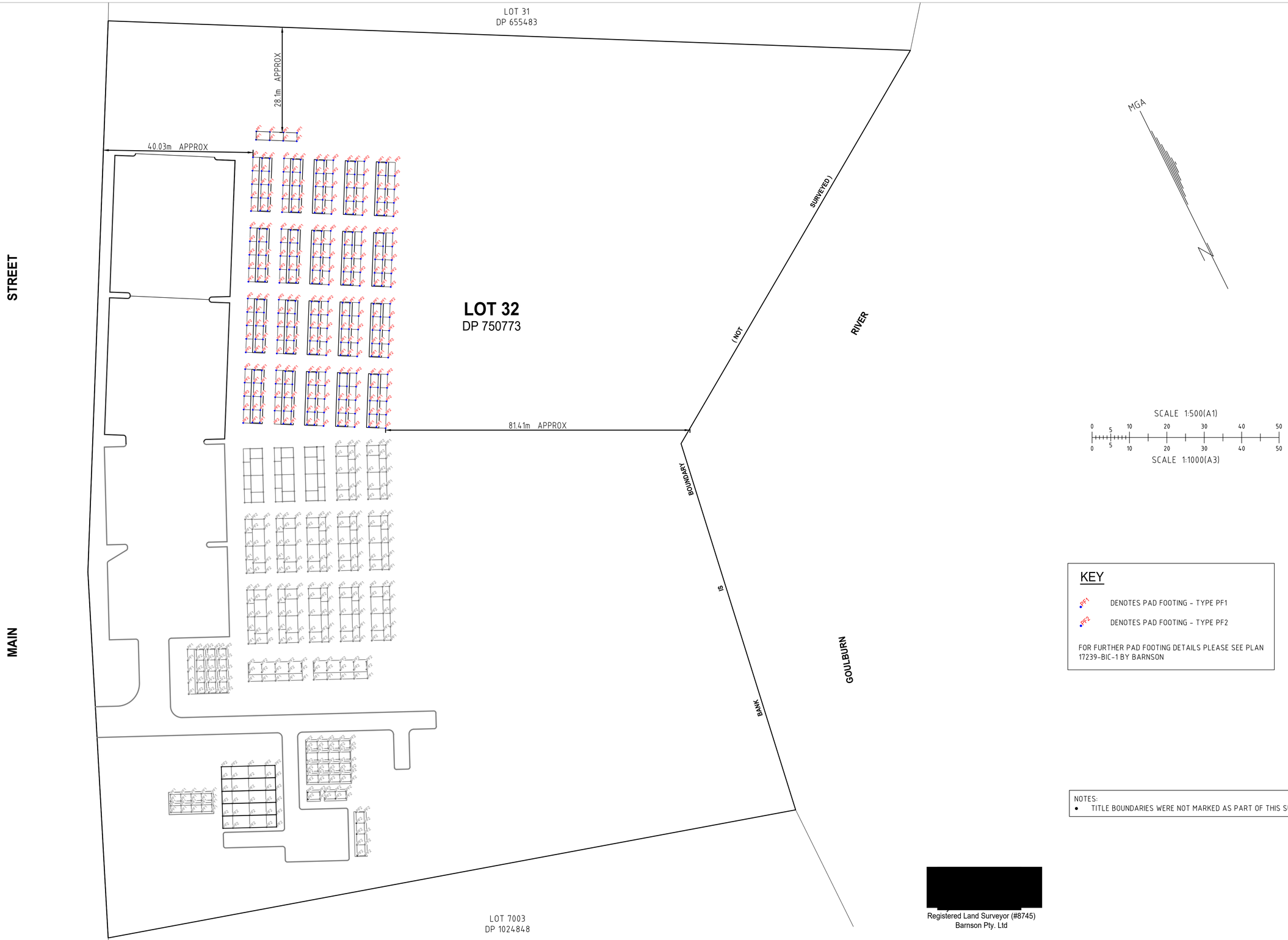
Examined 13th February '97

Plan approved 13th February 1897 [redacted]

Scale 4 Chains to an Inch.

B.3373.1570

(Draftsman-in-Charge)



MGA

SCALE 1:500(A1)

0 5 10 20 30 40 50

0 5 10 20 30 40 50

SCALE 1:1000(A3)

KEY

PF1 DENOTES PAD FOOTING - TYPE PF1

PF2 DENOTES PAD FOOTING - TYPE PF2

FOR FURTHER PAD FOOTING DETAILS PLEASE SEE PLAN 17239-BIC-1 BY BARNSON

NOTES:

- TITLE BOUNDARIES WERE NOT MARKED AS PART OF THIS SURVEY.

[redacted]
Registered Land Surveyor (#8745)
Barnson Pty. Ltd

ISSUED TO CLIENT

barnson
DESIGN . PLAN . MANAGE

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Client: ON EDGE PTY LTD

Project: PROPOSED CAMP VILLAGE
94 MAIN STREET
ULAN, NSW, 2850

Drawing Title: IDENTIFICATION SURVEY SKETCH
SHOWING LOCATIONS OF PAD FOOTINGS

Rev	Date	Amendment
A	18/07/2019	ISSUED TO CLIENT
B	23/07/2019	UPDATED WITH OFFSETS
C	20/04/2023	STAGES 3&4 ADDED

Survey RB
Drawn JC
Check RB
Original Sheet Size = A1

Certification

Drawing Number 17239_L02

Revision C

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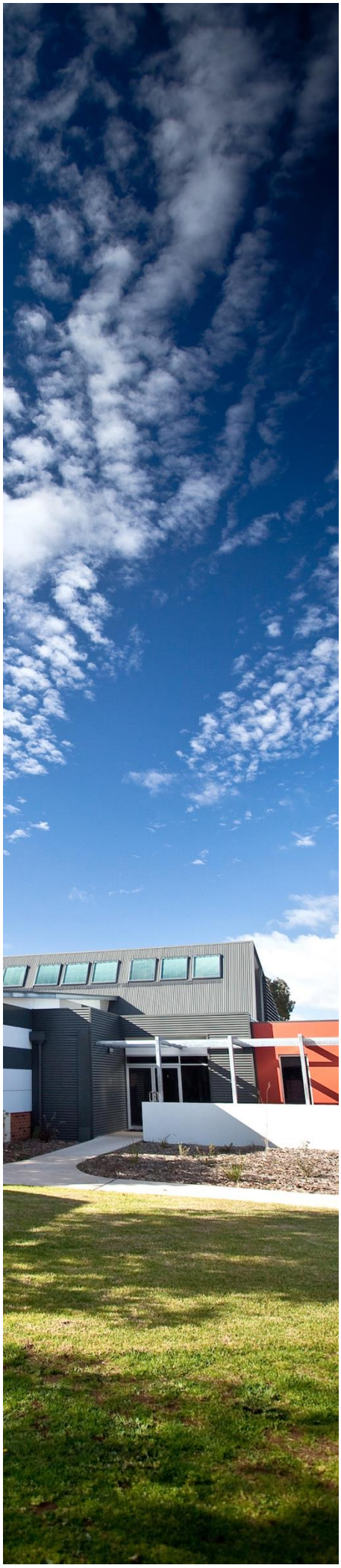
APPENDIX B

Bush Fire Assessment Report (BFAR)



Bush Fire Assessment Report

Temporary Workers Accommodation
94 Main Street
Ulan

(Our Reference: 17239-BR02_A)

Disclaimer

This report has been prepared solely for Long Neck Developments (the client) in accordance with the scope provided by the client and for the purpose(s) as outlined throughout this report. Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

Report Title:	Bush Fire Assessment Report – DA modification
Project Name:	Temporary Mine Workers Accommodation
Client:	Long Neck Developments
Project No.	17239
Report Reference	17239-BR02_A
Date:	15/5/2023
Revision:	Final

Prepared by:	**Reviewed by:**
[redacted]	[redacted]
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1 INTRODUCTION

1.1 Background

This Bush Fire Assessment Report (BFAR) has been prepared to accompany a Development Application (DA) modification for the expansion of an existing temporary workers accommodation camp on Lot 32 DP750773, known as 94 Main Street, Ulan. Refer to latest Survey Plan in Appendix A. The purpose of this report is to provide a bushfire assessment for the proposed development in accordance *Planning for Bushfire Protection 2019* (PBP).

1.2 Proposed Development

The Subject Site is afforded with existing approval relating to Temporary Workers Accommodation (DA0135/2012) which supported 144 single bedroom residential units provided in blocks of 4 units per accommodation block building and other communal infrastructure. Please refer to the original consent in Appendix B. The proposed development involves the construction of 56 additional accommodation rooms and associated infrastructure on the subject site. The site plan of the proposed development has been provided in Appendix C of this report.

1.3 Legislative Requirements

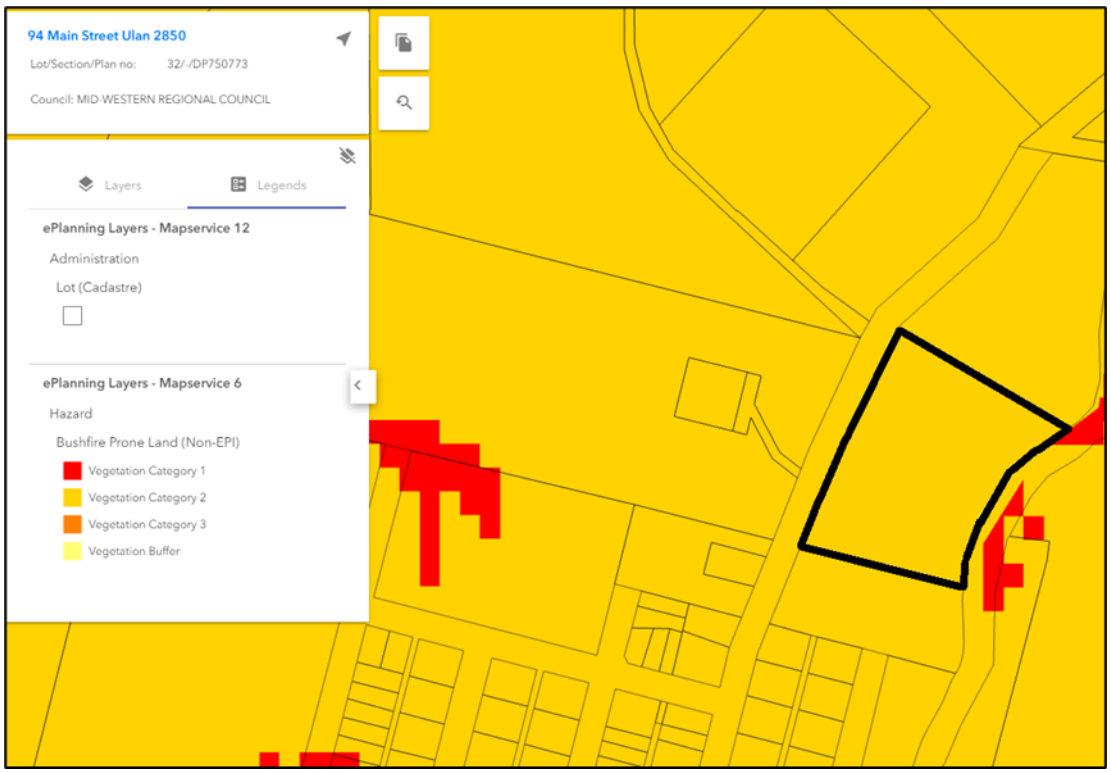
1.3.1 Environmental Planning and Assessment Act 1979

1.3.1.1 Integrated Development

It is noted the original DA was considered integrated development by virtue of Section 4.46 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) and required both development consent and authorisation under Section 100B (Bushfire Safety Authority) of the *Rural Fires Act 1997* in order for it to be carried out. Therefore, the proposed modification is required to be referred back to the Rural Fire Service (RFS) under Clause 109 of the Environmental Planning and Assessment Regulation 2021 for authorisation.

1.3.1.2 Bush Fire Prone Land

The subject site is designated as bush fire prone land, pursuant to Section 10.3 of the EP&A Act. The site is identified as containing Vegetation Category 2 on the Bush Fire Prone Land Map as shown in Figure 1 below.



Source: (NSW Planning & Environment, 202)

Figure 1 – Bush Fire Prone Land Map

1.3.1.1 Rural Fires Act 1997

Section 100B of the *Rural Fires Act 1997* (RF Act) requires a Bush Fire Safety Authority to be obtained before developing bushfire prone land for certain purposes. These purposes include development of bush fire prone land for a Special Fire Protection Purpose, which encompasses the proposed development.

Clause 45 of the *Rural Fires Regulation 2022* outlines the requirements for inclusion in any application for a Bush Fire Safety Authority. This report has been prepared to provide the information required by Clause 45. A checklist for the Clause 45 matters is provided in Appendix C.

1.3.1.2 Planning for Bush Fire Protection

The New South Wales's Rural Fire Service's (RFS) *Planning for Bush Fire Protection 2019* (PBP) applies to DAs in bush fire prone land.

This report has been prepared to address the requirements of PBP, specifically as a Special Fire Protection Purpose (SFPP). Considering the nature of the development proposal, a merits-based assessment of PBP has also been undertaken.

2 THE SITE & ITS SURROUNDS

2.1 Site Location

The site is located in the Ulan locality north-east of Gulgong, as shown in **Figure 2** below in the Mid-Western Regional Local Government Area.

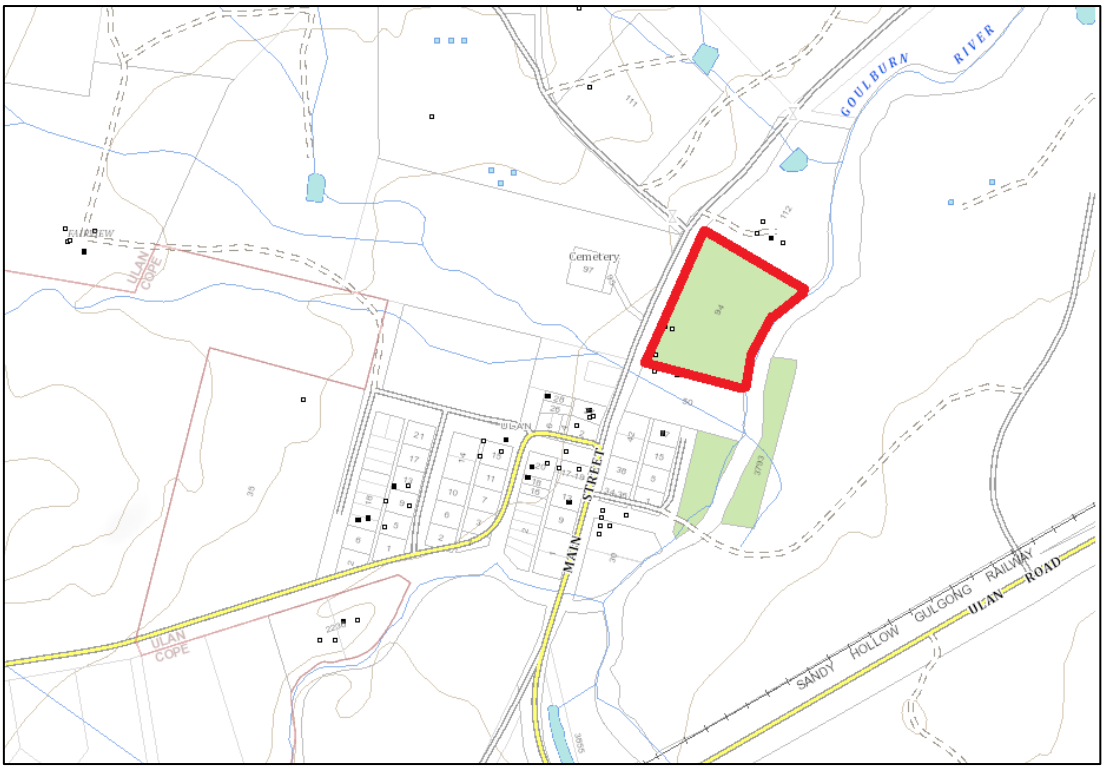


Figure 2 – Site Location

2.2 Site Details

The site is comprised of Lot 32 DP 750773 and has an approximate area of 4ha. Refer to the Detail Survey provided in **Appendix A** of this report.

The site has direct frontage to Main Street. The site is populated with buildings and structures associated with the existing temporary workers accommodation.

The site is zoned RU1 – Primary Production pursuant to the provisions under the *Mid-Western Regional Local Environmental Plan 2012* (the LEP) as shown in **Figure 3**. The surrounding area is general primary production, village land uses, and the Goulburn River.

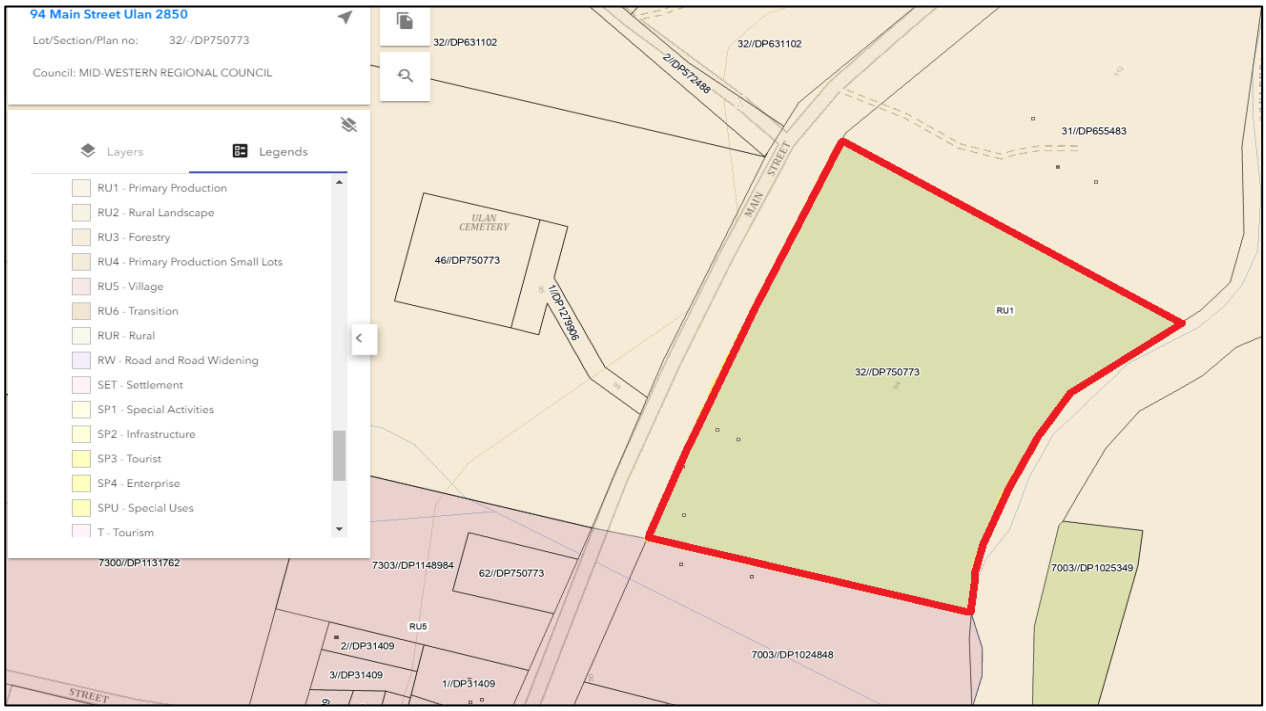


Figure 3 – Zoning Map

2.3 Environmental Considerations

2.3.1 Environmentally Significant Features

No matters of environmental significance have been identified for the site and there are no known areas of high biodiversity on the site or within proximity.

2.3.2 Threatened Species, Populations and Ecological Communities

No ecological assessments are known to have been undertaken for the site. The site is however heavily disturbed as a result of the current land uses.

2.3.3 Indigenous Heritage

An *Aboriginal Heritage Information Management System* (AHIMS) search was undertaken for the site which revealed that no items of Indigenous heritage have been recorded as being identified on the site, however eight (8) Aboriginal Sites were located within 200m of the Subject Site. All identified sites have been located in a northerly direction of the subject site. Given the current use of the subject site and the nature of the development being wholly located within the site's boundaries. It can be considered that the proposed development will not impact on the existing Aboriginal Sites located outside the property's boundaries.

3 BUSH FIRE ASSESSMENT

3.1 Methodology

The methodology utilised for the bush fire assessment is outlined in A1.1 of the PBP. The following provides the required information in accordance with the methodology.

3.2 Bush Fire Fuels

Pursuant to Appendix 1 of PBP, all vegetation within 140m of the site (assessment area) has been classified in accordance with *Ocean Shores to Desert Dunes* (Keith, 2004) and Figure 2.3 of AS3959. Photographs of the vegetation from the site inspection carried out on 26 April 2023 as identified in Figure 4 are provided in the following plates for each assessment plot.

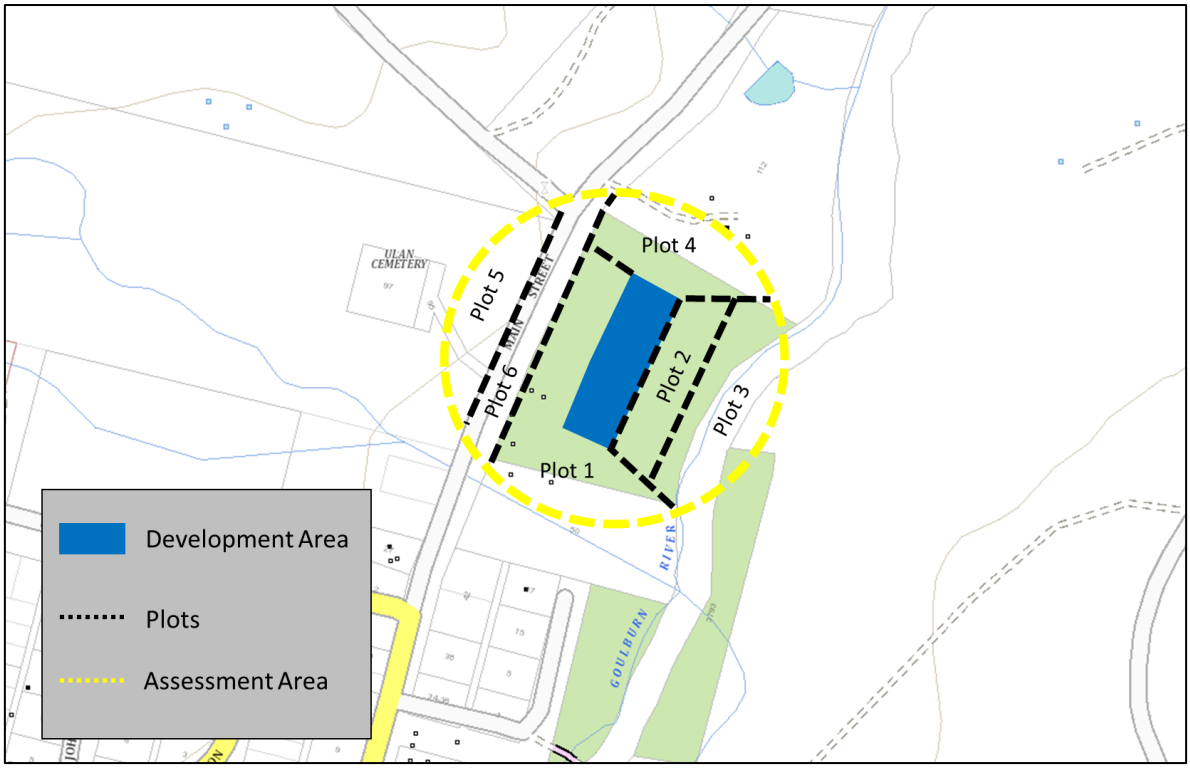


Figure 4 – Vegetation Classification

Plot 1	
Existing Classification:	Managed Vegetation
Post Development Classification:	Managed Vegetation
Description:	Car Park, entrance to site, and part of the Ulan Water depot.
	
Plate 1 – Plot 1	**Plate 2 – Plot 1**
Plot 2	
Existing Classification:	Managed vegetation
Post Development Classification:	Managed vegetation
Description:	50m of managed vegetation between start of buildings and vegetation associated with Goulburn River. Land partially includes septic irrigation area.
	
Plate 3 – Plot 2	**Plate 4 – Plot 2**

Plot 3	
Existing Classification:	Woodland
Post Development Classification:	Woodland
Description:	Existing vegetation along the boundary bordering the Goulburn River. Land also partially includes managed septic irrigation area.
	
Plate 5 – Plot 3	
Plot 4	
Existing Classification:	Managed Vegetation
Post Development Classification:	Managed Vegetation
Description:	Existing dwelling to the north and cleared area between development and northern fence line.
	
Plate 6 – Plot 4	**Plate 7 – Plot 4**

Plot 5	
Existing Classification:	Woodland
Post Development Classification:	Woodland
Description:	Vegetation west of the Main Street Road reserve.
	
Plate 8 – Plot 5	
Plot 6	
Existing Classification:	Managed Vegetation
Post Development Classification:	Managed Vegetation
Description:	Managed vegetation within Road Reserve.
	
Plate 9 – Plot 6	

3.3 Topography

Pursuant to Appendix 1.4 of PBP, contour data has been sourced from the NSW Spatial Information Exchange Mapping system. The contour data was verified by ground truthing during the site inspection. The land has a slight slope from west to east, towards the Goulburn River. Refer also to **Figure 5**.

Source: (NSW Government Spatial Services, 2023)

Figure 5 – Topography

3.4 Fire Weather Area

The subject site is located within the Mid-Western Regional LGA. Pursuant to Table A1.6 of the PBP, the relevant Forest Fire Danger Index (FFDI) for the site is 80.

3.5 Asset Protection Zone Determination

The relevant Asset Protection Zones (APZ) are to be determined based on Table A1.12.1 of PBP (minimum distances for APZs – SFPP developments). Accordingly, an assessment is provided in Table 1 below.

Table 1 – Asset Protection Zone Determination			
Plot	**Vegetation Class**	**Effective Slope**	**APZ**
1	Managed vegetation	Downslope 0-5^0	N/A*
2	Managed vegetation	Downslope 0-5^0	N/A*
3	Woodland	Downslope 0-5^0	50m
4	Managed vegetation	Upslope/flat	N/A*
5	Woodland	Upslope/flat	42m
6	Managed vegetation	Upslope/flat	N/A*
*Refer to Page 112 of PBP 2019 for requirement for *Managed Land*.			

Plots 1, 2, 4, and 6, are considered urban environments (Road Reserve, temporary miners accommodation/car parking, dwelling, and managed vegetation associated with the accommodation) and are managed, therefore an APZ is generally not required for these plots. As per the existing development, an existing APZ is approved which is 40m (in perpetuity). The existing 40m is achieved by the following; to the north and east, land within 40m is currently cleared managed space. To the south, land within 40m is managed land, being the Ulan Water business premises; and to the west land within 40m of the development comprises parking hardstand to service the development.

3.6 Bushfire Attack Level Assessment

Table 6.8a of PBP 2019 (Page 56) states that a construction level of BAL-12.5 under AS3959 is applied for SFPP developments. However, considering that nature of the development, an assessment against Table A1.12.6 of PBP is considered necessary.

The inputs used in the calculation of the BAL are outlined in **Table 2** below. The relevant BAL is applicable to the proposed buildings on the site.

Table 2 – BAL Inputs	
Requirement	**Input Used**
Relevant FDI (table 2.1 of AS3959)	80
Classified vegetation	As per **Section 3.2** of this report, Keith (2004) and Figure 2.3 of AS3959.
Separation Distance	As provided below.
Effective Slope	As per Table 1.

Using the inputs outlined above, the BAL has been calculated for each of the Plots identified in **Section 3.2**.

Table 3 – Bushfire Attack Levels				
Plot	**Vegetation Class**	**Separation Distance (adopted 20m APZ)**	**Effective Slope**	**BAL**
1	Managed Vegetation	N/A	Downslope 0-5^0	N/A
2	Managed vegetation	N/A	Downslope 0-5^0	N/A
3	Woodland	50m	Downslope 0-5^0	BAL-12.5
4	Managed vegetation	N/A	Upslope/flat	N/A
5	Woodland	42m	Upslope/flat	BAL-12.5
6	Managed vegetation	N/A	Upslope/flat	N/A
			Worst Case BAL	**BAL-12.5**

The worst case and therefore the applicable BAL for the proposed development is BAL-12.5. The relevant construction standards for BAL-12.5 are outlined in Sections 3 and 5 of AS3959.

The BAL does not apply to any class 10a storage sheds/structures unless they are positioned within 6m of the Temporary Workers Accommodation.

4 BUSH FIRE PROTECTION MEASURES

4.1 Introduction

The proposed development is similar to being a Special Fire Protection Purpose (SFPP) (hotel, motel or other tourist accommodation), however noting that the workers are generally assigned to the same accommodation room for extended periods and are familiar with the environment and existing fire safety measures, which was not realised during the original application, notwithstanding the development is required to comply with the Bush Fire Protection Measures (BFPM) outlined in Section 6.8 of PBP. This section of the report assesses the relevant BFPMs. There are eight key BFPMs outlined by PBP for SFPP development:

- Asset Protection Zones;
- Landscaping;
- Construction Standards;
- Access;
- Water Supply;
- Electrical Services;
- Gas Services; and
- Emergency management Planning.

The relevant BFPMs are addressed throughout Section 4 of this report.

4.2 Aims and Objectives of PBP

The aim of PBP is:

> *to provide for the protection of human life and minimise impacts on property from the threat of bush fire, while having due regard to development potential, site characteristics and protection of the environment.*

The specific objectives of PBP are to:

- *afford buildings and their occupants protection from exposure to a bush fire;*
- *provide for a defendable space to be located around buildings;*
- *provide appropriate separation between a hazard and buildings which, in combination with other measures, prevent the likely fire spread to buildings;*
- *ensure that appropriate operational access and egress for emergency service personnel and occupants is available;*
- *provide for ongoing management and maintenance of BPMs;*
- *and ensure that utility services are adequate to meet the needs of firefighters.*

The proposal has considered radiant heat levels of less than 29W/m^2 to avoid flame contact, that would provide for appropriate separation to the hazards. The development in conjunction with the bush fire protection measures will provide for safe operational access and egress for emergency services personnel and patrons as well as sufficient water supply. Therefore, the proposed development is considered to be consistent with the objectives of PBP.

4.3 Objectives for SFPP Developments

Section 6.2 of PBP contains the specific objectives for special fire protection purposes:

- *Minimise levels of radiant heat, localised smoke and ember attack through increased APZ, building design and siting;*
- *Provide an appropriate operational environment for emergency service personnel during firefighting and emergency management;*
- *Ensure the capacity of existing infrastructure (such as roads and utilities) can accommodate the increase in demand during emergencies as a result of the development; and*
- *Ensure emergency evacuation procedures and management which provides for the special characteristics and needs of occupants.*

In being consistent with the BFPMs, the proposed development complies with objectives for SFPP developments, as outlined above.

4.4 Asset Protection Zones

The following table outlines the Performance Criteria and associated Acceptable Solutions for the APZ BFPM in accordance with Table 6.8a of PBP. A merit based assessment has been undertaken below.

Table 4 Asset Protection Zones		
Performance Criteria	**Acceptable Solution/Comment**	**Compliance**
Radiant heat levels of greater than 10kW/m^2 (calculated at 1200k) will not be experienced on any part of the building.	As discussed in **Section 3.5** of this report, the following APZs are applied for: • Plot 3 – 50m • Plot 5 – 42m Plot 3 is situated between the Goulburn River and Plot 2 (which is approximately 50m of managed land which also includes land utilised for an irrigation area, which will continue to be required). Therefore, Plot 2 can be considered to form a suitable asset protection zone on the eastern side of the development. Plot 5 is located on the western side of the Main Street Road reserve (Plot 6) and it measures at a distance of approximately 30m from Plot 1 (Managed Area – Car Park).	✓

	Therefore, the road reserve in addition to Plot 1 are considered to be existing APZs and deemed sufficient protection for the development. The road is frequently maintained by council. Along with the above recommendations, the existing APZ which is provided to the existing development will be retained for future development. All other areas/Plots are appropriately managed in accordance with the *Managed Land* requirements under PBP (Page 112).	
APZ maintenance is practical, soil stability is not compromised and the potential for crown fires is minimised.	There are no lands within the proposed APZ with a slope exceeding 18 degrees.	✓
APZs are maintained to prevent the spread of fire to the building. The APZ is provided in perpetuity.	The applicable APZs are considered as urban development uses, being a car park/road reserve, managed land, and further manoeuvring areas/Ulan Water Depot. Therefore, it is assumed that these areas will continue to be managed in accordance with APZ requirements to ensure appropriate protection for the proposed development.	✓

4.5 Landscaping

The following table outlines the Performance Criteria and associated Acceptable Solutions for Landscaping in accordance with Table 6.8a of PBP. A merits based approach of the PBP 2019 has been undertaken given the circumstances of the development.

Table 5 Landscaping		
Performance Criteria	**Acceptable Solution/Comment**	**Compliance**
Landscaping is designed and managed to minimise flame contact and radiant heat to buildings, and the potential for wind-driven embers to cause ignitions.	Landscaping on site is established and maintained in accordance with Appendix 4 of the PBP. There shall be no branches overhanging roofs, and continuous tree canopies are to be avoided. Any proposed fencing shall be constructed in accordance with Section 7.6 of PBP.	✓

4.6 Construction Standards

The following table outlines the Performance Criteria and associated Acceptable Solutions for Construction Standards in accordance with Table 6.8a of PBP. A merits based approach of the PBP 2019 has been undertaken given the circumstances of the development.

Table 6 Construction Standards		
Performance Criteria	**Acceptable Solution/Comment**	**Compliance**
The proposed building can withstand bush fire attack in the form of embers, radiant heat and flame contact.	As detailed in Section 3.6, the worst case and therefore the applicable BAL for the proposed development is **BAL-12.5**. BAL 12.5 Construction (Section 3 and 5 of AS3959) is required for the development OR in accordance with the NASH Standard and Section 7.5 of PBP.	✓

4.7 Access Standards

The following table outlines the Performance Criteria and associated Acceptable Solutions for Access in accordance with Table 6.8b of PBP. It has been considered on a Merits Based approach.

Table 7 Access		
Performance Criteria	**Acceptable Solution/Comment**	**Compliance**
Firefighting vehicles are provided with safe, all-weather access to structures and hazard vegetation.	Access throughout the site shall be designed and constructed as follows: • Two-wheel drive, all weather access roads and internal driveways; • Any traffic management devices shall not prohibit access for emergency service vehicles; • Turning areas shall be established in accordance with Appendix 3 of PBP; • Existing access is sufficient for firefighting vehicles.	✓
The capacity of access roads is adequate for firefighting vehicles.	The capacity of the proposed driveways and parking/manoeuvrability areas will be sufficient to carry fully loaded firefighting vehicles up to 23 tonnes. No bridges or causeways are required.	✓
There is appropriate access to water supply.	Water is available to the development.	✓
Perimeter Road	Given the urban locality of the proposed development, it is considered that a perimeter road is not required in this instance. The proposed access point and onsite manoeuvrability shall provide for safe access for fire fighting vehicles and evacuation for residents and staff.	N/A

Non-Perimeter Road	An internal road is proposed within the carparking and manoeuvrability area. This road shall provide suitable access and egress for firefighting vehicles while occupants are evacuating. A dedicated evacuation point is recommended to ensure this internal road is kept clear at all times.	✓

4.8 Water Supplies

The following table outlines the Performance Criteria and associated Acceptable Solutions for Water supply in accordance with Table 6.8c of PBP.

Table 8 Water Supply		
Performance Criteria	**Acceptable Solution/Comment**	**Compliance**
An adequate water supply is provided for firefighting purposes.	The proposed development site has been afforded with existing water supply through tanks which are utilised to harvest stormwater. It is utilised to irrigate garden areas surrounding buildings; and grey water recycling for laundry and toilet flushing. An onsite effluent irrigation area is situated to the east which provides further potential fire protection. Further, there is an existing agreement with Ulan Water (neighbouring lot) to which potable water is supplied to the site. The existing system in place will be retained and is considered suitable for the expansion proposed.	✓
Water supplies are located at regular intervals; and the water supply is accessible and reliable for firefighting operations.	The water supply shall be easily accessible for fire fighting vehicles.	✓
Flows and pressure are appropriate.	The existing systems in place are considered suitable for the proposed expansion. The buildings are all below 500m²and separated allowing access for fire fighting purposes.	✓
The integrity of the water supply is maintained.	All above-ground water service pipes including taps etc shall be constructed of metal material.	✓
Water supplies are adequate in areas where reticulated water is not available.	Adequate supply of water has been made available via existing water tanks, and potable water supply from Ulan Water. In the event of a fire, there is adequate connection available to the water tanks with some water reserved for firefighting.	✓

4.9 Electricity and Gas Services

The following table outlines the Performance Criteria and associated Acceptable Solutions for the Electricity and Gas Services in accordance with Table 6.8c of PBP.

Table 9 Electricity and Gas Services		
Performance Criteria	**Acceptable Solution/Comment**	**Compliance**
Location of electricity services limits the possibility of ignition of surrounding bush land or the fabric of buildings.	No new powerlines are required. Power connection to units shall be underground. Vegetation around existing/new transmission lines are to be maintained in accordance with the specifications in *ISSC3 Guideline for Managing Vegetation Near Powerlines*.	✓
Location and design of gas services will not lead to ignition of surrounding bushland or the fabric of buildings.	The structures are to be connected to bottled gas (if required). The following recommendations are provided: • Installed and maintained in accordance with AS/NZS 1596:2004 with metal piping used; • All fixed cylinders are to be kept clear of flammable materials to a distance of 10m; • All connections to be metal construction; • Safety valves are to be directed away from the building and at least 2m away from any combustible material; • Polymer-sheathed flexible gas supply lines are to be used; • Aboveground gas service pipes external to the building are to be metal.	✓

4.10 Emergency Management Planning

The following table outlines the Performance Criteria and associated Acceptable Solutions for Construction Standards in accordance with Table 6.8d of PBP.

Table 10 Construction Standards		
Performance Criteria	**Acceptable Solution/Comment**	**Compliance**
A Bush Fire Emergency Management and Evacuation is prepared.	A Bush Fire Emergency Management and Evacuation Plan is to be prepared in accordance with RFS requirements, AS3745:2010 and AS4083:2010. The plan should include planning for early relocation of occupants. Refer to existing Fire Plan in **Appendix E.**	✓
Appropriate and adequate management arrangements are	An Emergency Planning Committee is required to be established for the facility who will consult with residents	✓

established for consultation and implementation of the Bush Fire Emergency Management and Evacuation Plan.	and staff in developing and implementing an Emergency Procedures Manual. Details of all emergency assembly areas including on site and off-site arrangement shall be established, and an annually emergency evacuation is to be conducted. Refer to existing Fire Plan in **Appendix E.**	

5 RECOMMENDATIONS

The assessment of the proposed development carried out in this report has assumed the development will be carried out in accordance with a number of bush fire protection measures (BFPMs). The following provides a summary of the BFPMs that must be incorporated into the development to ensure it best protects the development from the effects of bushfire in accordance with the requirements of PBP and other best practice guidelines.

- Asset Projection Zone/Defendable Space:
  - It is recommended that at least 42m of managed land be maintained as an Asset Protection Zone in a westerly direction of the development;
  - It is recommended that 50m of managed land in an easterly direction (towards plot 3) continue to be managed as an Asset Protection Zone;
  - The site is to be managed in accordance with Appendix 4 of PBP;
- Landscaping:
  - Landscaping shall be established and maintained in accordance with Appendix 4 of PBP and the applicable *Asset Protection Zone Standards*;
  - There shall be no branches overhanging the roof of any proposed structures and new plantings shall be established to ensure that there is no continuous tree canopies;
  - Any proposed fencing shall be constructed in accordance with Section 7.6 of PBP.
  - Any future proposed landscaping should aim to; prevent flame impingement on the buildings; provide a defendable space for property protection; reduce fire spread; deflect and filter embers; provide shelter from radiant heat; and reduce wind speed.
- Construction Standards:
  - The proposed development is to be constructed to a BAL-12.5 standard and in accordance with PBP/AS 3959:2009. The BAL does not apply to class 10a storage structures unless positioned within 6m of any proposed accommodation buildings.
  - Any class 10a structure positioned within 6m of the temporary accommodation buildings shall be constructed in accordance with BAL-12.5 standards.
- Access
  - Access to water connections shall be kept clear at all times;
  - Any traffic management devices shall not prohibit access for emergency vehicles;
  - Turning areas as shall be established in accordance with Appendix 3 of PBP;

- The access roads shall be constructed to be capable of carrying a fully loaded firefighting vehicle up to 23 tonnes;
- All internal roads are to be at least 3.5m in width and no bridges or causeways are to be constructed, however if required, shall be constructed and maintained in accordance with PBP provisions.
- A dedicated evacuation point is recommended to ensure this internal road is kept clear at all times;
- No tree plantings or obstructions shall occur on either side of the access roads that would prohibit access to and from the site in the event of fire.

- Services
  - Water:
    - Adequate supply of water onsite from tanks is be provided for firefighting purposes at all times.
    - Water supply will continue to be utilised from existing water tanks and is considered suitable to service the additional development.
    - All aboveground water service pipes including taps etc shall be constructed of metal material.
  - Electricity and Gas:
    - It is recommended that any new powerlines are to be constructed underground;
    - Vegetation around existing/new transmission lines are to be maintained in accordance with the specifications in *ISSC3 Guideline for Managing Vegetation Near Powerlines*;
    - Any proposed gas bottles shall be installed and maintained in accordance with AS/NZS 1596:2004 with metal piping used;
    - All fixed cylinders are to be kept clear of flammable materials to a distance of 10m (or appropriately shielded);
    - All connections are to be of metal construction.
- Bushfire Danger Period:
  - Before the commencement of the Bushfire Danger Period, a review of the vegetation on the site and applied BFPMs is recommended to be undertaken. Fuel reduction measures are recommended throughout the site.
- Emergency Evacuation Plans:
  - The Fire Management Plan (FMP) is to be reviewed and updated annually.

6 CONCLUSION

The proposed development, on completion, will ensure that the proposed development is located in an area that has a low to moderate bushfire hazard level. With the implementation of the recommendations, as outlined in Section 5, it is considered that the proposed development is appropriately protected from bushfire and complies with the requirements of PBP. The proposed development is not expected to increase the bushfire risk.

7 REFERENCES

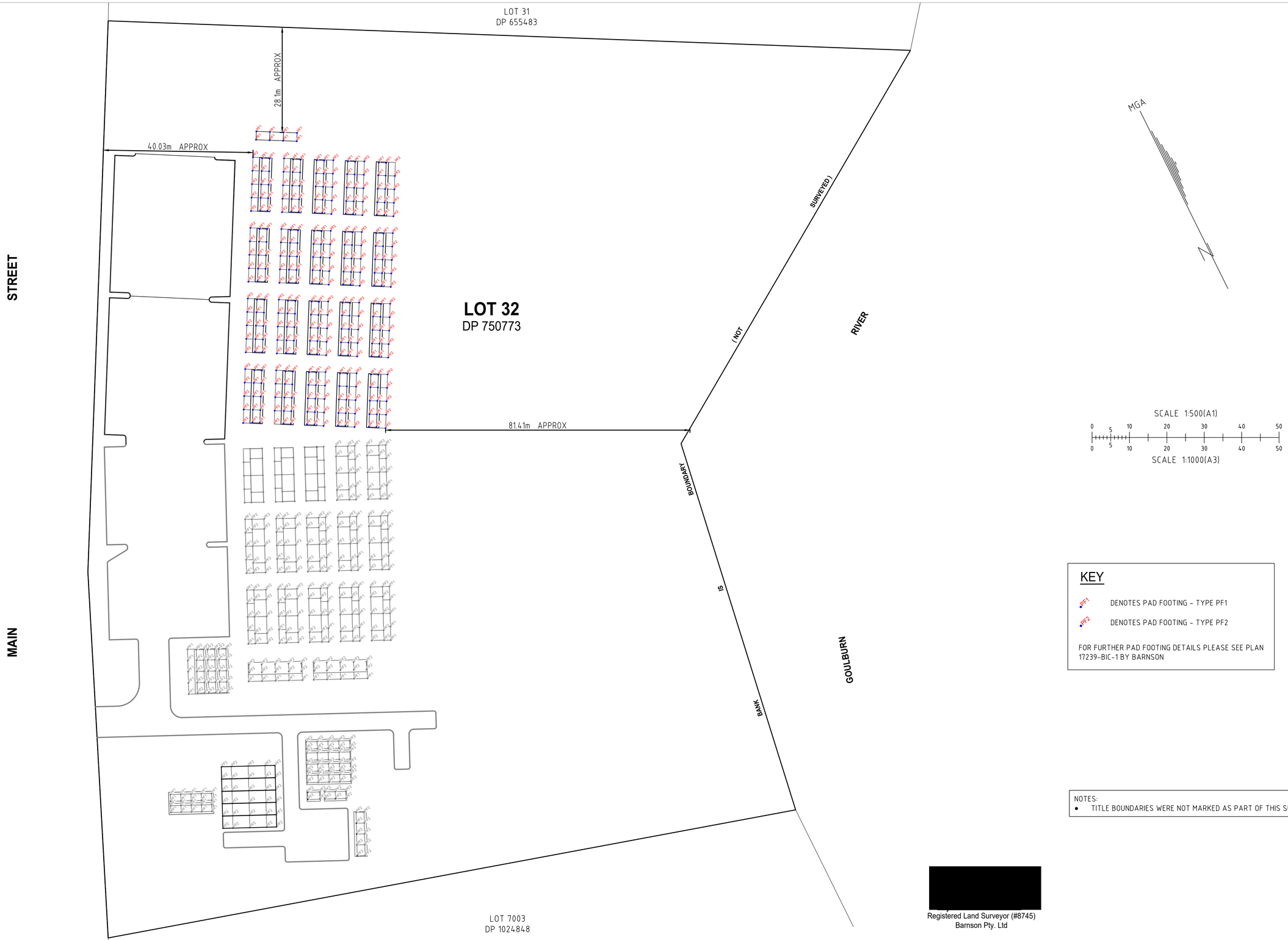
NearMaps. (2021, July 6). *NearMaps*. Retrieved from http://maps.au.nearmap.com/

NSW Government Spatial Services. (2023, May 17). *Six Maps*. Retrieved from http://maps.six.nsw.gov.au/

NSW Planning & Environment. (2023, May 17). *Planning Viewer*. Retrieved from https://www.planningportal.nsw.gov.au/spatialviewer/#/find-a-property/lot

NSW Rural Fire Service. (2019). *Planning for Bush Fire Protection: A Guide for Council's, Planners, Fire Authorities and Developers.* Sydney: NSW RFS.

Appendix A – Survey Plan



KEY

PF1 DENOTES PAD FOOTING - TYPE PF1

PF2 DENOTES PAD FOOTING - TYPE PF2

FOR FURTHER PAD FOOTING DETAILS PLEASE SEE PLAN 17239-BIC-1 BY BARNSON

NOTES:

- TITLE BOUNDARIES WERE NOT MARKED AS PART OF THIS SURVEY.

[redacted]
Registered Land Surveyor (#8745)
Barnson Pty. Ltd

ISSUED TO CLIENT

barnson
DESIGN . PLAN . MANAGE

BARNSON PTY LTD
t 1300 BARNSON (1300 227 676)
e generalenquiry@barnson.com.au
w www.barnson.com.au
Bathurst | Dubbo | Mudgee | Sydney | Tamworth

Client: ON EDGE PTY LTD

Project: PROPOSED CAMP VILLAGE
94 MAIN STREET
ULAN, NSW, 2850

Drawing Title: IDENTIFICATION SURVEY SKETCH
SHOWING LOCATIONS OF PAD FOOTINGS

Rev	Date	Amendment
A	18/07/2019	ISSUED TO CLIENT
B	23/07/2019	UPDATED WITH OFFSETS
C	20/04/2023	STAGES 3&4 ADDED

Survey RB
Drawn JC
Check RB
Original Sheet Size = A1

Certification

Drawing Number 17239_L02

Revision C

Appendix B – Original DA consent

PO BOX 156
MUDGEE NSW 2850

86 Market Street MUDGEE
109 Herbert Street GULGONG
77 Louee Street RYLSTONE

Ph: 1300 765 002 or (02) 6378 2850
Fax: (02) 6378 2815
email: council@midwestern.nsw.gov.au

Gary Bruce:ah P1411461 22 February 2012
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Barnson Pty Ltd
Unit 3/108-110 Market Street
MUDGEE NSW 2850

Dear Sir/Madam

DEVELOPMENT APPLICATION DA0135/2012 TEMPORARY WORKERS ACCOMMODATION LOT 32 DP 750773 - 94 MAIN STREET ULAN NSW 2850

I am pleased to advise that your application has been approved by Council.

Attached is Council's formal Development Consent No. DA0135/2012.

It is important that you read the consent and understand the requirements of any conditions imposed. Certain requirements may need to be satisfied prior to proceeding with the development.

The consent is a legal document and should be kept for your future reference as the development proceeds. It should be noted that commencement of the development implies your acceptance of the conditions of consent.

Please Note: No work can commence until a Construction Certificate has been issued, a Principal Certifying Authority (PCA) appointed and Council notified of commencement of work at least 2 days in advance.

Should you have any query regarding the consent or associated conditions, do not hesitate to contact myself or the appropriate Council officer.

Yours faithfully

[redacted]

pp.
CATHERINE VAN LAEREN
GROUP MANAGER
DEVELOPMENT & COMMUNITY SERVICES

PO BOX 156
MUDGEE NSW 2850

86 Market Street MUDGEE
109 Herbert Street GULGONG
77 Louee Street RYLSTONE

Ph: 1300 765 002 or (02) 6378 2850
Fax: (02) 6378 2815
email: council@midwestern.nsw.gov.au

Notice of Determination of a Development Application

Issued under the *Environmental Planning and Assessment Act 1979* Section 81(1)(a)

Our Ref:	Gary Bruce:ah P1411461	**DA No:**	DA0135/2012

Applicant:	Barnson Pty Ltd Unit 3/108-110 Market Street MUDGEE NSW 2850	**Land to be Developed:**	Lot 32 DP 750773 94 Main Street ULAN NSW 2850

Proposed Development: Temporary Workers Accommodation	**Building Code of Australia Classification:** -

Date of Determination:	15 February 2012
Determination:	**CONSENT GRANTED** subject to conditions set out below

Consent to operate from: 22 February 2012	**Consent to lapse on:** 22 February 2017

CONDITIONS

APPROVED PLANS

1. Development is to be carried out generally in accordance with stamped plans (Drawing No. 17239_L01, 17239_A01, Revision C, 17239_A02, Revision C, 17239_A03, Revision C and 17239_A04 Revision C, dated 18 October 2011, drawn by Barnson) and statement of Environmental Effects prepared by Barnson, received by Council on 21 October 2011 except as varied by the conditions listed herein. Any minor modification to the approved plans will require the lodgement and consideration by Council of amended plans. Major modifications will require the lodgement of a new development application.

AMENDMENTS

2. Seven (7) accessible units are to be provided within the development site in accordance with AS 1428.1 2009, the Building Code of Australia and the Access to Premises Code.

3. All communal facilities are to be provided with accessible features in accordance with the AS 1428.1 2009, the Building Code of Australia and the Access to Premises Code

PRIOR TO ISSUE OF THE CONSTRUCTION CERTIFICATE

The following conditions must be complied with prior to the Principal Certifying Authority (PCA) issuing a Construction Certificate. The conditions are required to satisfy the PCA that the proposal is consistent with the applicable development consent, the Building Code of Australia and any Australian Standards that are relevant.

4. The applicant is to demonstrate that there is the ability to provide a water supply to the development from roof storm water. This assessment is to be undertaken by a professional

engineer report and is to indicate the harvest potential available, the likely water supply demand for the development and alternate supplies should the demand exceed the harvest potential.

5. Separate written application must be made under Section 68 of the Local Government Act 1993, as amended, to Council for all water supply, sewerage and drainage work associated with the development. Full details of the method of disposal of the sewerage/grey water must be submitted to the Council for approval prior to the issue of the Construction Certificate.

6. The proposed sewerage treatment system and irrigation areas are to comply with the Environmental Guidelines – Use of Effluent for Irrigation by the Department of Environment and Conservation. A report shall be prepared and submitted to Council for approval with the application under Section 68 of the Local Government Act for an onsite sewage management system. Note: The floor level of the Sewerage Treatment Plan shall be 418.5 AHD.

7. A registered Surveyors Certificate showing the boundaries of the site and the proposed building plotted thereon being submitted to the Principal Certifying Authority before construction is commenced.

8. Details of the engineered designed reinforced concrete slab/s and the wall and roof framing structural components of the building must be submitted with the required Construction Certificate.

9. In accordance with the provisions of section 94A of the Environmental Planning and Assessment Act 1979 and the Mid-Western Regional Council Section 94A Development Contributions Plan, a levy of 1% of the cost of carrying out the development shall be paid to Council in accordance with this condition for the purpose of:

   The levy is: $28,000.00 based on the estimated cost of development of $ 2,800,000.00.

10. Prior to the issue of the Construction Certificate, the Principal Certifying Authority (PCA) is to be supplied with certificates from telecommunications and energy service providers stating that suitable arrangements have been made for provision of underground telephone and electricity supplies for the proposed development.

11. The Principal Certifying Authority (PCA) is to be provided with details regarding the provision of essential fire safety services in accordance with the BCA and relevant Australian Standards.

12. If the *Construction Certificate* is not issued, for any reason whatsoever, within twelve (12) months of the date of determination, then the charges and contributions contained in this consent, may be increased to the current rate at the time of payment.

    A site supervisor is to be nominated by the applicant prior to issue of the *Construction Certificate*.

13. A Traffic Control Plan (TCP) completed by a "Certified Person" for implementation during works is to be submitted to Mid Western Regional Council prior to any work commencing. Contractor's insurance cover for a minimum of $10,000,000 (Ten million dollars) is to be sighted and to be shown to Mid Western Regional Council as an interested party.

14. Complete landscaping plans are to be submitted to Council for approval prior to issue of a Construction Certificate. All landscaping is to be established prior to occupation of the development and consist of advanced trees and shrubs. Tree and shrub species should be endemic to the Mid-Western Regional Local government Area, require minimal watering and be salt resistant.

15. The applicant is to submit a Drainage Report prepared in accordance with the Institution of Engineers publication Australian Rainfall and Run-off to the Principal Certifying Authority for approval prior to the release of the Construction Certificate. The report must demonstrate that stormwater runoff from the site is not increased beyond the existing undeveloped state up to and including a 100-year ARI. All storm water detention details including analysis shall be included with the drainage report.

PRIOR TO THE COMMENCEMENT OF WORKS

These conditions are required to ensure that the site is ready for construction works to commence and satisfy the provisions of the Environmental Planning and Assessment Act 1979 and the Building Code of Australia.

16. A sign must be erected in a prominent position on any work site on which the erection of a building is being carried out;
    a) stating that unauthorised entry to the work site is prohibited, and
    b) showing the name of the person in charge of the work site and a telephone number at which that person may be contacted outside working hours.

17. Prior to the commencement of any construction works, the following provisions of the Environmental Planning and Assessment Act 1979 (the Act) are to be complied with:
    a) A Construction Certificate is to be obtained in accordance with Section 81A(2)(a) of the Act.
    b) A Principal Certifying Authority is to be appointed and Council is to be notified of the appointment in accordance with Section 81A(2)(b) of the Act.
    c) Council is to given at least 2 days notice of the date intended for commencement of building works, in accordance with Section 81A(2)(c) of the Act.

18. Run-off and erosion controls must be installed prior to clearing the site and incorporate:
    a) diversion of uncontaminated upsite run-off around cleared and/or disturbed areas and areas to be cleared or disturbed.
    b) sediment fences at the downslope perimeter of the cleared or disturbed areas to prevent sediment and other debris escaping from the land to pollute water ways and collection areas.
    c) maintenance of all erosion control measures at maximum operational capacity until the land is effectively rehabilitated and stabilised.

19. During construction temporary toilet facilities are to be provided at or in the vicinity of the nominated work site and for this purpose provide either a standard flushing toilet or an approved sewage management facility.

20. If the work involved in the erection/demolition of the building is likely to cause pedestrian or vehicular traffic in a public place to be obstructed or rendered inconvenient, or building involves the enclosure of a public place, a hoarding or fence must be erected between the work site and the public place. If necessary, an awning is to be erected, sufficient to prevent any substance from, or in connection with, the work falling into the public place. Any such hoarding, fence or awning is to be removed when the work has been completed.

21. The proposed method(s) of compliance with the Building Code of Australia are to be clarified by documentation to be submitted with the Construction Certificate Application. In

this regard, it appears that the Development Application plans do not comply with the following deemed-to-satisfy provisions of the BCA;

a) Section F2.4 -Facilities for people with disabilities.
b) Part D3 - Access for people with disabilities.
c) Section E - in particular, E1 Fire fighting equipment, specifically the provision of fire hydrants and fire hose reels compatible to on-site water storage for fire fighting.
d) E4 Emergency lighting and exit signs.
e) Section J - Energy efficiency (offices)
f) Section C - Fire resistance, in particular Type C Fire Resisting Construction of walls within 3 metres of the boundary (including front & rear return walls)

22. The developer is to make arrangements with an archaeologist or indigenous group representing the locality to have people available onsite during any works that require disturbance to the surface or sub surface of the site. This is required to ensure that no indigenous objects are disturbed or destroyed during construction activities.

23. A construction management plan is to be prepared for the development that has considered the impact of the construction phase of the project on adjoining properties.

BUILDING CONSTRUCTION

These conditions are provided to ensure that adequate standards are being observed during the construction phase of the development.

24. Construction work noise that is audible at other premises is to be restricted to the following times:

Monday to Friday	-	7.00am to 6.00pm
Saturday	-	8.00am to 1.00pm

No construction work noise is permitted on Sundays or Public Holidays.

25. All building work must comply with the requirements of the Building Code of Australia 2011, Volume One, together with the relevant Australian Standards and also the Environmental Planning and Assessment Act, 1979, as amended, and Regulations.

26. All mandatory inspections required by the Environmental Planning and Assessment Act and any other inspections deemed necessary by the Principal Certifying Authority must be carried out during the relevant stages of construction.

27. All plumbing and drainage work must be carried out by a licensed plumber and drainer and must comply with the requirements of AS 3500 (National Plumbing & Drainage Code) and the NSW Code of Practice - Plumbing & Drainage. The selected plumber/drainer must provide Council with a drainage diagram detailing the location of the drainage system and the relevant connections. All plumbing and drainage inspections must be carried out by Council prior to the covering of any trenches or wall/ceiling linings.

28. The development must be provided with car parking spaces and with adequate means of access for persons with disabilities in order to comply with Australian Standard 2809.6 – 2009 (Parking facilities – Off street parking for people with disabilities) the Building Code of Australia and the Access to Premises Code. Full details must be provided with the Construction Certificate.

29. The development must be provided with sanitary facilities for people with disabilities in order to comply with Australian Standard 1428 2009 (Design for access and mobility), the Building

Code of Australia and the Access to Premises Code. Full details must be provided with the required Construction Certificate

30. All areas not provided with natural ventilation in accordance with the provisions of the Building Code of Australia being provided with an approved mechanical ventilation and/or air conditioning system complying with Australian Standard 1668, Parts 1 and 2.

31. The rainwater tanks used as a potable water supply for human consumption, in particular, the supply to the amenities within the building, must be protected from contamination from industrial and urban traffic emissions, dead animals, mosquitoes, dust, pesticides, bushfires and any other form of contamination.

32. Details of the method of protection of the water supply from contamination and the method of the subsequent implementation of a testing regime of the water supply must be designed by an approved hydraulic engineer and submitted to Council's Health & Building section prior to the issue of an Occupation Certificate.

33. A copy of the Final Fire Safety Certificate is to be provided to the Commissioner of NSW Fire Brigades and a further copy of the Certificate is to be prominently displayed in the building.

34. For every 12 month period after the issue of the Final Fire Safety Certificate the owner/agent of the building must provide the Council with a copy of an Annual Fire Safety Statement certifying that specified fire safety measure is capable of performing to its specification.

35. Smoke detector units are to be installed in accordance with the requirements of the Building Code of Australia. The smoke detectors are to be interconnected and connected to a permanent 240 volt power supply and provided with battery backup to activate the alarm units in the event of power failure. A detail of the system is to be submitted to Council for approval prior to installation.

36. All building work must be carried out in accordance with the requirements of the Building Code of Australia. This includes but is not limited to the following:

- Part C1 Fire Resistance and Stability
- Part D3 Access for People with Disabilities –
- Part F2 Sanitary and Other Facilities
- Part F2.4 Facilities for people with disabilities
- Part F5 Sound Transmission and Insulation
- Section J Energy efficiency

ENGINEERING CONSTRUCTION

37. All earthworks, filling, building, driveways or other works, are to be designed and constructed (including stormwater drainage if necessary) so that at no time will any ponding of storm water occur on adjoining land as a result of this development.

38. Vehicular entrances comprising concrete driveways and footway crossings are to be provided to the development. These should be constructed in accordance with Aus-Spec #1 and Council standard drawing M525-Rural Access, as outlined in Council's "Access to Properties Policy".

Concrete must not be poured until the excavation, formwork and reinforcing has been inspected by Council. The contractor/owner must arrange an inspection by contacting

Council's Development Engineer between 8.00am and 4.30pm Monday to Friday, giving at least twenty four (24) hours notice. Failure to have the work inspected may result in the access being removed and reconstructed at the contractors/owners expense.

39. A total of 150 car parking spaces are to be provided within the site of the development and comply with the following requirements:
    a) Each parking space is to have minimum dimensions of 5.5m x 2.6m;
    b) Each disabled car parking space is to be in accordance with the provisions of Councils Development Control Plan – Design for Accessibility.
    c) All car parking spaces are to be line-marked and provided with a two coat bitumen seal and must be maintained in a satisfactory condition at all times;
    d) Off street parking is to be encouraged by the placement of prominent signs indicating the available of parking.

40. The aisle widths, internal circulation, ramp widths and grades of the car park are to generally conform to the Roads and Traffic Authority (RTA) guidelines and Australian Standard AS 2890.1 – 1993. Details of compliance are to be shown on the relevant plans and specifications.

41. The developer is to upgrade the school zone signage of the Ulan Public school such that it is provided with flashing lights during designated school zone times. All installation and approval requirements through the Local Traffic Committee shall be carried out by the developer sat full cost to the developer.

42. The developer is to upgrade Main Street for the full frontage of the proposed development, such that it has the following characteristics:

Item	Requirement
Half Road Pavement Width	**6.5 metres**
Concrete Footpaths	**N/A**
Seal	**Two-coat flush seal -14/7 mm (Double/ Double) as required**
Table Drains	**Austroads**
Subsoil Drainage	**N/A**
Underground Drainage	**N/A**

43. The Developer shall provide a 1.2 metre wide concrete footpath from the development site to the centre of the Ulan village. Full details are to be provided with the application for Construction Certificate.

44. Internal Roads shall be sealed with a minimum of 6 metres for two way traffic and 3.5 for one way. Turning heads shall be a minimum radius of 8.5 m. Provision of Kerb and Gutter is optional for internal access roads, but if provided shall comply with Council's Residential Standards.

45. Internal roads shall be designed to a 40km/h minimum speed. Actual speed limits within the development should be limited to 10km/hr for shared zones and signposted accordingly. Traffic regulatory, warning and guide signs throughout the development should be in accordance with AS1742.

PRIOR TO ISSUE OF THE OCCUPATION CERTIFICATE

The following conditions are to be completed prior to occupation of the building and are provided to ensure that the development is consistent with the provisions of the Building Code of Australia and the relevant development consent.

46. Prior to the occupation of a new building, or occupation or use of an altered portion of, or an extension to an existing building, an Occupation Certificate is to be obtained from the Principal Certifying Authority appointed for the erection of the building. An application for an Occupation Certificate must be set out in the form of the relevant part of Form 12 of the Environmental Planning and Assessment Regulations and must be accompanied by the relevant information required by Form 12.

47. On completion of the building work, the owner/agent of the building must cause the Council to be provided with a Final Fire Safety Certificate from a competent person with respect to each essential service nominated in the Fire Safety Schedule issued with the Construction Certificate.

48. All building or site works or other written undertaking or obligation indicated in the submitted plans and supporting documentation or otherwise required under the terms of this consent being carried out or implemented prior to the occupation of the premises.

49. The developer and landowner (Crown) shall enter into a Mine Impact Agreement with Ulan Coal Mine Limited prior to the occupation of the development due to the location of the site potentially exceeding noise criterion.

GENERAL

The following conditions have been applied to ensure that the use of the land and/or building is carried out in a manner that is consistent with the aims and objectives of the environmental planning instrument affecting the land.

50. This approval is limited to twenty (20) years from the issue of the Occupation Certificate and the facility shall be decommissioned in accordance with the approved Decommissioning Plan within six (6) months of the closure of the facility.

51. The proposed development is not to rely on any other water supply other than treated water from the onsite sewerage treatment facility and capturing roof water. Should the development run out of water, then it will close down until water supplies have been supplemented by further rain fall. The proposed development has provided that the water supply will be gained by capturing roof water for a potable water supply and can also be supplemented by treated water for toilets and laundry water supplies.

52. A Decommissioning Plan in accordance with Council's Temporary Workers Accommodation DCP is to be prepared and approved by Council prior to the issue of the Occupation Certificate for the development.

53. A Management Plan, including the identification of social impacts, in accordance with Council's Temporary Workers Accommodation DCP is to be prepared and approved by Council prior to the issue of the Occupation Certificate for the development.

54. All vehicles are required to enter and leave the site in a forward direction at all times. Signage to this effect is to be appropriately located within the site.

55. All loading and unloading in connection with the premises shall be carried out wholly within the site.

56. All exterior lighting associated with the development shall be designed and installed so that no obtrusive light will be cast onto any adjoining property or roadways, in accordance with Australian Standard 4282 "Control of the Obtrusive Effects of Outdoor Lighting".

57. All waste generated by the proposed development shall be disposed of to an approved location in accordance with the Waste Minimization & Management Act 1995.

58. Security fencing is to be provided to the site and is to be a maximum of 2.1 metres in height and of pre coloured steel fencing. Full details of proposed fencing are to be included on the landscaping plan.

59. Adequate facilities being provided in a screened location within the premises for the storage of garbage, discarded or returnable packaging or other forms of trade wastes and arrangements being made for the regular removal and disposal of same.

60. There being no interference with the amenity of the neighbourhood by reason of the emission of any " offensive noise", vibration, smell, fumes, smoke, vapour, steam, soot, ash or dust, or otherwise as a result of the proposed development.

61. A public address system or sound amplifying equipment shall not, without the consent of Council, be installed in or upon the premises so as to cause or permit the emission of sound onto any public place or nearby residential area.

62. The proposed sewerage treatment plant is to be located at least 100 metres from the Goulburn River to ensure compliance with the Environmental Planning and Assessment Regulations 2000.

63. If any aboriginal artefacts are uncovered or identified during construction earthworks, such work is to cease immediately and the local aboriginal community and National Parks and Wildlife Service are to be notified. (Note: A suitably qualified person would be required to be present during earthworks to identify whether any artefacts were uncovered).

64. The existing community facilities (tennis court, grandstand and community building) are to be made available to the local community for community events at no cost for the life of the development.

OTHER APPROVALS

N/A

ADVISORY NOTES

1 The removal of trees within any road reserve requires the separate approval of Council in accordance with the policy "Tree Removal and Pruning – Public Places".

2 The land upon which the subject building is to be constructed may be affected by restrictive covenants. This approval is issued without enquiry by Council as to whether any restrictive covenant affecting the land would be breached by the construction of the building, the subject of this approval. Persons to whom this approval is issued must rely on their own enquiries as to whether or not the building breaches any such covenant.

3 Section 82A of the Environmental Planning and Assessment Act (EP&A Act) gives you the ability to seek a review of the determination. This request is made to Council and must be made within 12 months after the date on which you receive this notice. The request must be made in writing and lodged with the required fee; please contact Council's Planning and Development Department for more information or advice.

4 If you are dissatisfied with this decision section 97 of the EP&A Act 1979 gives you the right to appeal to the Land and Environment Court within 12 months after the date on which you receive this notice.

5 To ascertain the date upon which the consent becomes effective, refer to Section 83 of the EP&A Act.

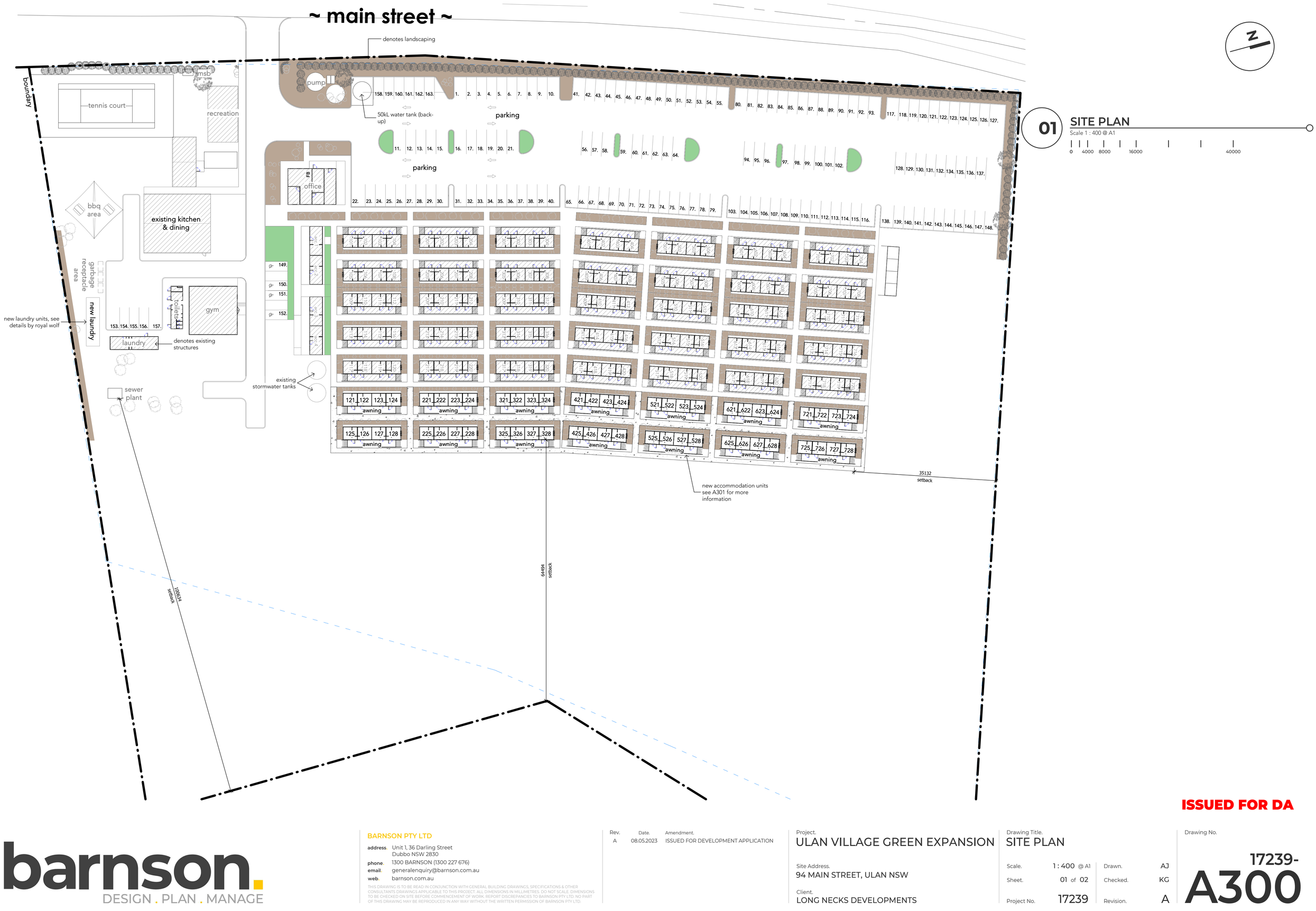
6 To ascertain the extent to which the consent is liable to lapse, refer to Section 95 of the EP&A Act.

Signed on behalf of Mid-Western Regional Council by:

[redacted]

CATHERINE VAN LAEREN
GROUP MANAGER
DEVELOPMENT & COMMUNITY SERVICES
22 FEBRUARY 2012

Appendix C – Development Plans



01 SITE PLAN

Scale 1 : 400 @ A1

0 4000 8000 16000 40000

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DESIGN . PLAN . MANAGE

BARNSON PTY LTD

address. Unit 1, 36 Darling Street
Dubbo NSW 2830

phone. 1300 BARNSON (1300 227 676)

email. generalenquiry@barnson.com.au

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Rev.	Date.	Amendment.
A	08.05.2023	ISSUED FOR DEVELOPMENT APPLICATION

Project.
ULAN VILLAGE GREEN EXPANSION

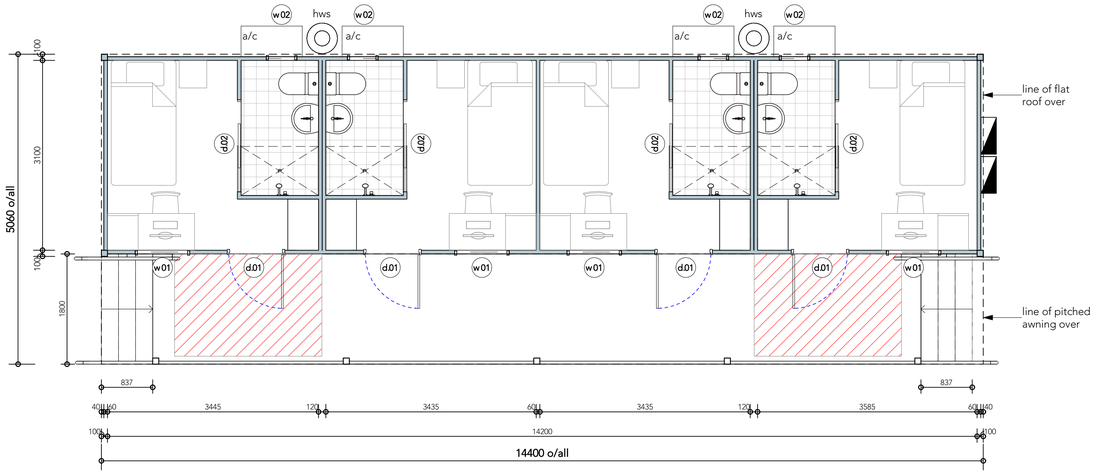
Site Address.
94 MAIN STREET, ULAN NSW

Client.
LONG NECKS DEVELOPMENTS

Drawing Title.
SITE PLAN

Scale.	1 : 400 @ A1	Drawn.	AJ
Sheet.	01 of 02	Checked.	KG
Project No.	17239	Revision.	A

Drawing No.
17239-A300



06 accommodation floor plan
1 : 50 (A1)

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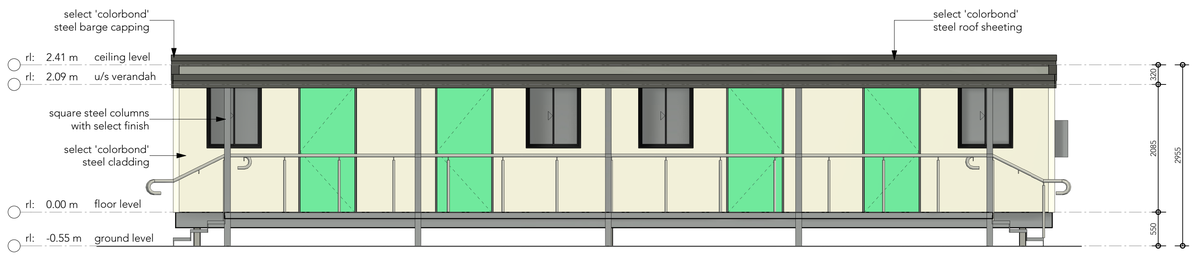

07 elevation: front facade
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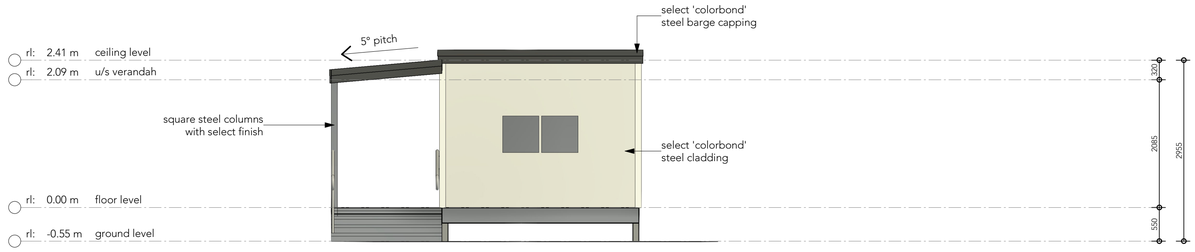


08 elevation: right facade
1 : 50 (A1)

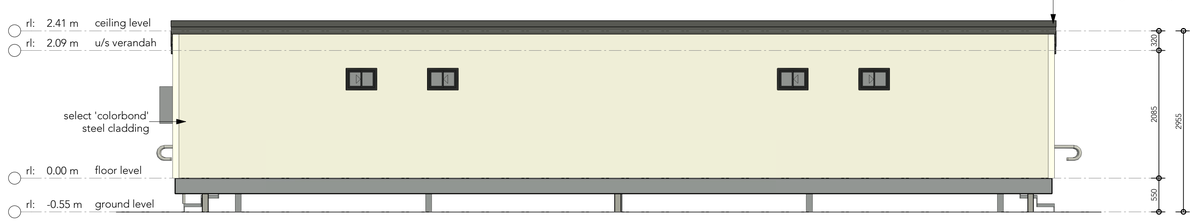
construction & finishes schedule

base member	I-300x75x5.2mm bottom frame;
floor joist	Joist C-100x50x15x2.5mm THK @407mm center;
middle member	I 300x75x5mm
steel surface treatment	Painting system 1: 250 micron of epoxy painting
base floor	22mm cellulose fibre cement board
corner post	SHS hollow section 100x100x4mm
steel surface treatment	Painting system 2:+ Primer layer with 40 micron of Epoxy-zinc + Undercoat layer with 80 micron of Epoxy + Finished layer with 60 micron of polyurethane
external wall	Corrugated Iron > Colourbond or equiv. Profile and colour range available
top frame beam	Rectangular hollow section 100x100x3mm
roof system	Skillion: Trimdeck with colour matched flashing and end capping. Excludes gutter. 50mm over-hang for gutter install. 6mm Aircell -closed cell foil backed insulation below corry, above battens. Air gap av.120mm. Welded steel 2.5mm inner roof. Air gap24mm, 6 mm air cell, 50mm glass wool batt, 6mm aircell: hunter Douglas interlocking
internal framing	60mm cold rolled steel framing
wall panel system	Aluminium Composite panel (range of colours available), .3mm steel faced, 3mm composite backed panel. EJ – black sicaflex at joins onto
glazing	Double glazing to all window assemblies
flooring in living area	High performance 3mm printed vinyl tile
flooring wet area	5mm thickness of ceramic tile, slip resistance, colour: optional Cementutious adhesive: MAPEI product with: * Kerabond T in compliance with EN 12004 as C2 mixed with Isolastic
wall finishing in wet area	Continuous Seal preparation to FC sheeting. Paint finish off white.
smoke detector	Manufacturer: SFL-188 Type: AC-220V/DC-9V Battery Back up
lighting	General Light Fittings: Panasonic, Philips, or equivalent Country of Origin: Australia,
bathroom exhausted fans	Type: Wall exhaust fan Air Flow Rate: 80 CMH Speed (RPM): 1450 RPM Maximum Power (Voltage/Phases/Hz): 240 V / 1P / 50 Hz
cold water supply pipes	Type of pipe: PP-R Pipe Manufacturer : DEKKO - German - commercial grade fusion welded.
Hot water supply pipes	Type of pipe: PP-R Pipe Manufacturer : DEKKO - German - commercial grade fusion welded.
Waste water drainage pipes	uPVC and PVC Pipe Manufacturer : Snow
hand basin	Ceramic hand basin with PVC or MDF cabinet below
Hand basin taps	3 piece basin sets
Bth cabinet	PVC or MDF cabinet with mirror front facing
Soap dish	PVC or stainless steel soap dish
Toilet	Ceramic toilet with "S" trap, 300mm roughing-in, dual flush 3/6 litre
Coat hook	Stainless steel coat hook
Towel rail	Stainless steel towel rail
Floor drain	Stainless steel puddle flange floor drain
Shower	Glass-look Acrylic, lined with ABS tray and tempered glass wall
Shower head	Mixer and water saving shower head.
External door	820mmWx2040mmH metal door c/w door closer, rubber seals, handle and multi point Hafele master keyed locks820mmWx2040mmH metal door c/w door closer, rubber seals, handle and multi point Hafele master keyed locks
Internal door	720mmWx2040mmH HDF hung sliding door c/w seals and handle
Main window	890mmWx1050mmH double glazed sliding window with powder coated aluminium frame c/w stainless flyscreen
Toilet window	500mmWx350mmH fixed tempered fixed glass window with aluminium frame.

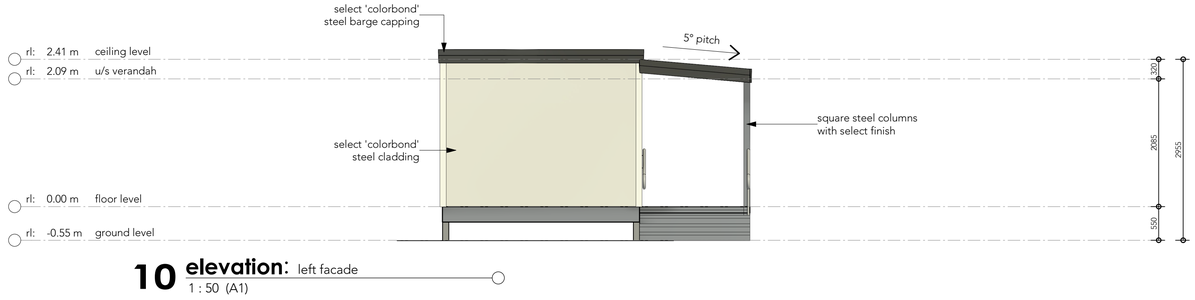
Emergency lighting
Emergency lighting to be installed along the path of travel to the exits of the building in accordance with *Part E4D2 of the BCA Vol. 1.*

Illuminated exit signs must comply with *AS2293.1-2005* or for a photoluminescent exit sign, *Specification E4D8 of the BCA, Vol. 1* & be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.

Headline AS and BCA compliance documentation and certificates
- Region D wind rating to permanent bulding components. Temporary awnings, footings and siting requirements not inclusive.
- BCA energy efficiency requirements - 6 star rated and certified.
- Plumbing Certified to AS 3500- Form 16 supplied for plumbing works.
- Watermark compliance and certificates supplied for all plumbing fixtures and fit-off items.
- Electrical certified to AS 3000 - Form 16 supplied for electrical works to DB per building.
- Energy Efficient Lighting complying with MP 4.1 of the QDC.
- Smoke Alarms to AS3786 - Audible and visual alert system.
- BCA compliance: Certifier compliance documentation provided for buildings supplied notwithstanding siting and local statutory requirements.
- Class 1b - camp accommodation
- Structural Certification supplied - Form 16 supplied where applicable from RPEQ Engineer
- Building form 16 certification for:
  - Wet area water proofing in accordance with AS3740
  - Single piece moulded shower unit
  - Isolastic sealing and treatment to floor and wall FC Sheeting in addition to surface treatments.
- Glazing installed in accordance with AS1288 and AS2047
- Glazing safety glass certificate - double glazed units supplied within heavy duty powder-coated level spring-lock assembly. Form 16 supplied on
- Fire Hazard compliance to AS1530.3.1999 : flammability, heat release and smoke release of commercial building products.
- Roof and Wall Sheeting to AS 1562.3 -2006



09 elevation: rear facade
1 : 50 (A1)



10 elevation: left facade
1 : 50 (A1)

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DESIGN . PLAN . MANAGE

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Client: ON EDGE PTY LTD

Project: ULAN RESERVE KITCHEN & ACCOMMODATION UNITS

Drawing Title: ACCOMMODATION PLAN

Rev	Date	Amendment
A	03.05.23	ISSUED FOR DEVELOPMENT APPLICATION

Design | Drawn | Check
HS

Sheet 02 of 02

Drawing Number: 17239- A301

Revision: A

HYDRAULIC DESIGN FOR STAGE 5 OF MINING CAMP AT 94 MAIN STREET, ULAN, NSW 2850

DRAWING REGISTER

17329 - HD30	TITLE PAGE, GENERAL NOTATIONS & SPECIFICATIONS
17329 - HD31	EXISTING APPROVED PLAN, STAGES 1 -4
17329 - HD32	SURFACE STORMWATER MANAGEMENT PLAN
17329 - HD33	ROOF STORMWATER MANAGEMENT PLAN
17329 - HD34	STORMWATER SPECIFICATION SHEET
17329 - HD35	SEWER COLLECTION MANAGEMENT PLAN
17329 - HD36	SEWER DISPOSAL PLAN
17329 - HD37	SEWER SPECIFICATION SHEET
17329 - HD38	POTABLE WATER RETICULATION PLAN
17329 - HD39	POTABLE WATER SPECIFICATION SHEET

SITEWORKS NOTES
1. ORIGIN OF LEVELS :- LOCAL BENCH MARK.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
4. EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
5. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
6. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A QUALIFIED SURVEYOR.
7. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
8. ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
9. MAKE SMOOTH TRANSITION TO EXISTING AREAS.
10. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
11. THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

BEDDING NOTES
1. THE MINIMUM DEPTH TO TOP OF PIPE SHALL BE 600mm, EXCEPT UNDER ROAD PAVEMENT WHERE MINIMUM COVER TO TOP OF PIPE SHALL BE 800mm MINIMUM UNLESS SHOWN OTHERWISE. PIPES WITH LESS COVER THAN THESE LIMITS TO BE CONCRETE ENCASED, AND DICL UNDER ROADS.
2. GRADES OF GRAVITY MAINS NOT TO BE FLATTER THAN 1 IN 200 (0.5%) FOR 150mm DIAMETER PIPES AS PER DESIGN, UNLESS APPROVED BY COUNCIL
3. MANHOLES SHALL BE PLACED AT EACH CHANGE IN DIRECTION OR GRADE OF THE PIPE LINE AT INTERVALS ALONG THE LINE NOT EXCEEDING 80m.

GENERAL NOTES
1. ALL SEWER MAINS SHALL BE 150ø CLASS SN8 RRJ UPVC PIPE (U.N.O). ALL GRAVITY LINES TO USE SEWER GRADE FITTINGS WHERE REQUIRED.
2. CONSTRUCTION OF SEWER MAINS AND MANHOLES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WSA SEWERAGE CODE, WSA-02, 2002.
3. ANY OTHER SERVICES INCLUDING TELSTRA, GAS, POWER, WATER AND STORMWATER MUST BE LOCATED BEFORE WORK COMMENCES.
4. ALL SEWER MAINS TO BE PRESSURE TESTED A2002.
5. ALL SEWER LINES PASSING THROUGH CONCRETE FOOTINGS TO BE INSTALLED WITH 'ABLEFLEX' OR SIMILAR TO ACCOMODATE EXPANSION.
6. WHERE REQUIRED, PENETRATIONS THROUGH CONCRETE FOOTINGS ARE TO BE INSTALLED WITHIN CENTRAL 1/3 OF FOOTING AND TO BE APPROVED BY STRUCTURAL ENGINEER PRIOR TO POURING OF CONCRTE.

SEWER NOTES
1. ALL PLUMBING WORKS SHALL BE IN ACCORDANCE WITH AS 3500, LOCAL WATER AUTHORITY, THE BUILDING CODE OF AUSTRALIA, AND WATER GUIDELINES.
2. LIASE WITH THE LOCAL WATER AUTHORITY AND PLUMBING INDUSTRY COMMISSION AND ALLOW TO PAY ALL REQUIRED FEES/LEVIES ETC. ASSOCIATED WITH THE WORKS.
3. FIXTURES, TAP WARE AND FITTINGS SHALL BE SUPPLIED AND INSTALLED AS PER ARCHITECTS SELECTION. REFER BUILDING WORKS SPECIFICATION. CONCEAL ALL PIPES WITHIN WALLS. NO SURFACE MOUNTED PIPING IS ACCEPTABLE. INCLUDE RETICULATION OF DOMESTIC HOT AND COLD WATER TO ALL FIXTURES - REFER ARCHITECT'S PLANS.
4. COORDINATE ALL WORKS WITH ALL OTHER SERVICES. CHECK LEVELS OF ALL PIPES PRIOR TO WORKS.
5. THE PLUMBING CONTRACTOR SHALL CARRY OUT ALL EXCAVATION, SHORING AND BACKFILLING. BACK FILL WITH CONSOLIDATED CLASS 2 CRUSHED ROCK WHERE SERVICES ARE BELOW PATHS, ROADS ETC. 98% COMPACTION DRY DENSITY.
6. PIPING LOCATED UNDERGROUND SHALL WHERE REQUIRED BE WRAPPED WITH AN APPROVED MATERIAL.
7. THE PLUMBING CONTRACTOR SHALL SUPPLY AND INSTALL, TEST AND COMMISSION ALL PLUMBING SYSTEMS AS NOTED ON DRAWINGS. ALL WORKS TO BE IN ACCORDANCE WITH AS 3500 RELEVANT PARTS, LOCAL WATER AUTHORITY, FIRE AUTHORITY AND BUILDING CODE OF AUSTRALIA.
8. PROVIDE Ø100 CONNECTION TO SEWER FROM EACH WC.
9. MATERIALS: - SEWER TO BE IN UPVC IN ACCORDANCE WITH AS/NZS 3500.2.2 - 1996.
10. TUNDISH TO BE PROVIDED TO ALL MECHANICAL SERVICES.
11. MANHOLES SHALL BE PRECAST CONCRETE FROM A SUPPLIER APPROVED BY COUNCIL AND HAVE STEP IRONS AT 300mm SPACINGS, A ROUND REMOVABLE LIGHT DUTY GATIC COVER (UNO) AND A MINIMUM INTERNAL DIAMTER OF 1020mm.

STORMWATER NOTES
1. ALL DOWNPIPE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS (U.N.O)
2. EQUIVALENT STRENGTH VCP OR FCP PIPES MAY BE USED.
3. MINIMUM GRADE TO STORMWATER LINES TO BE 0.5% MINIMUM (U.N.O)
4. CONTRACTORS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
5. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
6. APPROVED PRECAST PITS MAY BE USED.
7. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75mm THICK SAND BED. IN ALL CASES, BACKFILL THE TRENCH WITH THE SAND TO 200mm ABOVE THE PIPE .WHERE THE PIPE IS UNDER PAVEMENTS, BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150mm LAYERS TO 98% MAX. DRY DENSITY.
8. WHERE STORMWATER LINES PASS UNDER FLOOR SLABS, SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
9. ALL PIPES IN THE ROADWAY AND FOOTPATH AREAS, WHERE THE DEPTH OF PIPE IS LESS THAN 500mm FROM THE FINISHED SURFACE LEVEL ARE TO BE CONCRETE ENCASED.

SURVEY NOTES
1. CONTOURS SHOWN DEPICT THE TOPOGRAPHY. EXCEPT AT SPOT LEVELS SHOWN THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT.
2. SERVICES SHOWN HEREON HAVE BEEN DETERMINED FROM VISUAL EVIDENCE AND ARE INDICATIVE ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE THE RELEVANT AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.

PIPE TRENCH - FILL NOTES:
1. BEDDING SAND
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 95% AS DETERMINED IN ACCORDANCE WITH AS1289.

2. APPROVED IMPORTED GRANULAR FILL
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK TO A DRY DENSITY OF 100% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

3. ORDINARY EXCAVATED FILL MATERIAL
ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

BASE PREPARATION FILL NOTES:
1. FILLING USED IN THE CONSTRUCTION OF A SLAB, EXCEPT WHERE THE SLAB IS SUSPENDED, SHALL CONSIST OF CONTROLLED FILL AS FOLLOWS:
CONTROLLED FILL:
A) MAXIMUM 500mm DEEP. FILL SHALL BE WELL COMPACTED IN 150mm LAYERS BY AMECHANICAL ROLLER TO A MINIMUM 95% STANDARD COMPACTION FOR A SINGLE STORY DWELLING, AND 98% STANDARD COMPACTION FOR A DOUBLE STORY DWELLING. FILL SHALL BE OF LESS REACTIVITY THAN NATURAL SOIL.
2. FILL WITH A GREATER DEPTH THAN THAT SPECIFIED ABOVE SHALL BE INSTALLED AND CERTIFIED BY A NATA REGISTERED LABORATORY IN ACCORDANCE WITH AS3798-2007, LEVEL 2.
3. FILL SHALL BE EXTENDED PAST THE EDGE OF THE RESIDENCE AND SHALL BE RETAINED OR BATTERED BY A SLOPE.

Drawing Status:
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Project:
PROPOSED CAMP VILLAGE, STAGE 5 SA
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
HYDRAULIC DESIGN
DRAWING REGISTER
GENERAL NOTATIONS & SPECIFICATIONS

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
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Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD30
Revision: 0

MAIN ST.

MAIN ST.

BOUNDARY

BOUNDARY

BOUNDARY

BOUNDARY

50 KL POTABLE SUPPLY
STORAGE TANK.
SUPPLY BY ULAN WATER

CONCRETE ENTRANCE

GRANDSTAND (EXISTING)

RECREATION (EXISTING)

BUS DROP OFF / LOADING BAY

PARKING BITUMEN

PARKING BITUMEN

PARKING BITUMEN

OFFICE

P2

P3

KITCHEN / DINING

TOILETS

GYM

ACCESSIBLE AWNING

ACCESSIBLE AWNING

LAUNDRY

OZZI-KLEEN STP

OZZI-KLEEN STP

OZZI-KLEEN STP

AWNING

LAUNDRY

PROPOSED 58cu.m OSD BASIN.
12m x12m x0.5 m DEEP, BATTER AT 1:3
TOP RL= 416.100
BOTTOM RL = 415.500
REFER DRAINAGE REPORT 17239- CR02b
BY BARNSON FOR VOLUME DETAILS

PROPOSED 2m LONG x 100 mm DEEP
RIP RAP LINED SPILLWAY
SPILLWAY CREST =416.000

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE
- EXISTING SEWER LINE
- EXISTING STORMWATER LINE

EXISTING APPROVED PLAN
STAGES 1 - 4
SCALE = 1:400

DESIGN NOTE:
ARI = 1 in 100 YEAR STORM
RAINFALL INTENSITY = 154mm/hr

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ULAN NSW 2850

Drawing Title:
EXISTING APPROVED PLAN, STAGES 1 - 4

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

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Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

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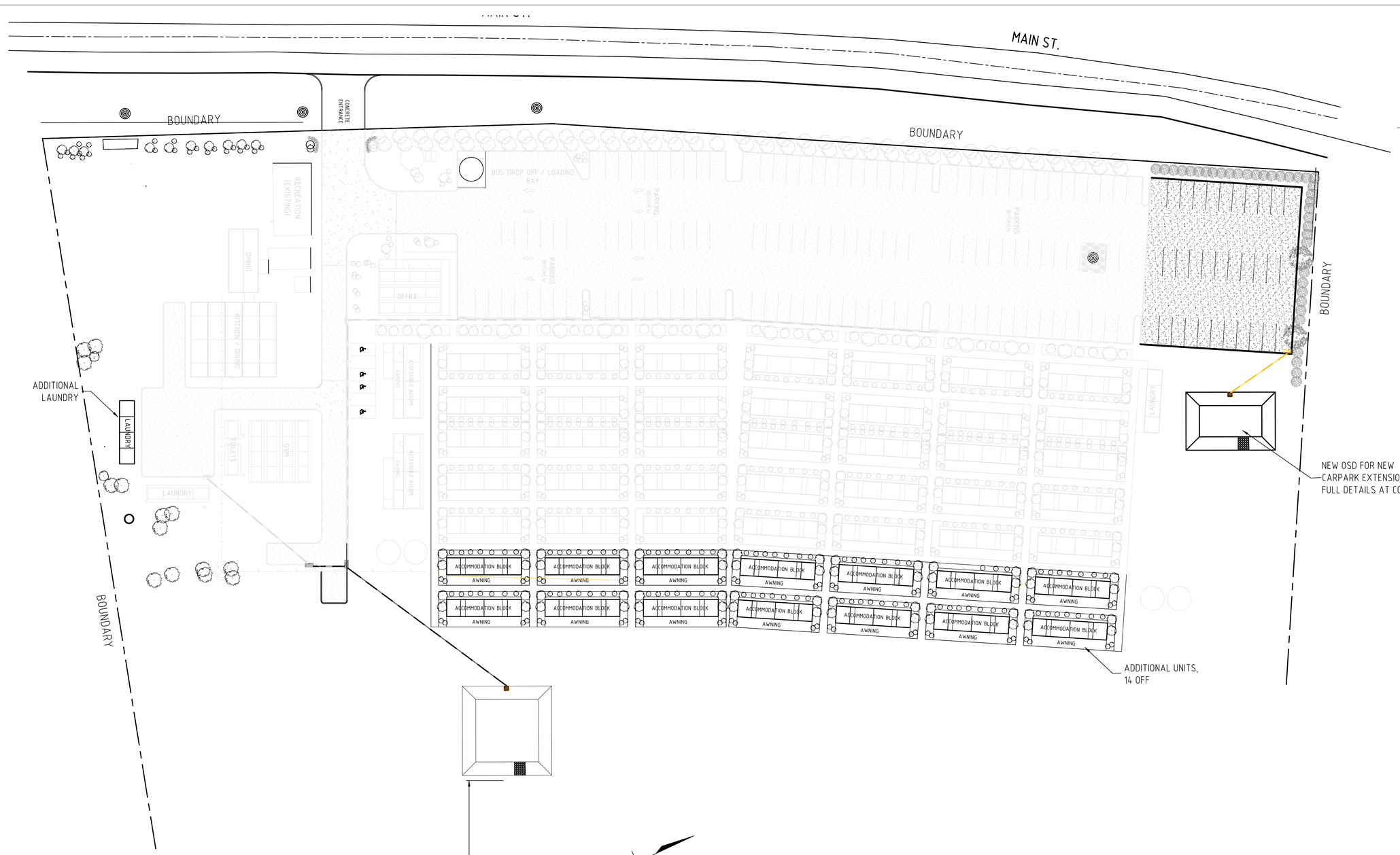
Drawing Number: 17239 HD31

Revision: 0



GENERAL ARRANGEMENT
SURFACE STORMWATER MANAGEMENT PLAN
SCALE = 1:400

DESIGN NOTE:
ARI = 1 in 100 YEAR STORM
RAINFALL INTENSITY = 154mm/hr

SURFACE STORMWATER LEGEND

P1 GRATED STORMWATER PITS (600 SQ. UNO). LID AS SPECIFIED.

PROPOSED STORMWATER DRAINAGE PIPE.

PROPOSED SEWER LINE

GENERAL LEGEND

EDGE OF PAVEMENT (PROPOSED)

BOUNDARY LINE

EXISTING FENCE

EXISTING TELSTRA U/G

EXISTING POWER POLE

STORMWATER ANALYSIS
1. DESIGN CALCULATIONS AS PER AS3500.3-2003
2. RAINFALL INTENSITY FOR 10 MINUTES DURATION AND AN ARI OF 100 YEARS Q_{100} = 154 mm/hr.

Drawing Status:
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Drawing Title:
SURFACE STORMWATER MANAGEMENT PLAN

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

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0	12-05-2023	FOR COUNCIL INFORMATION

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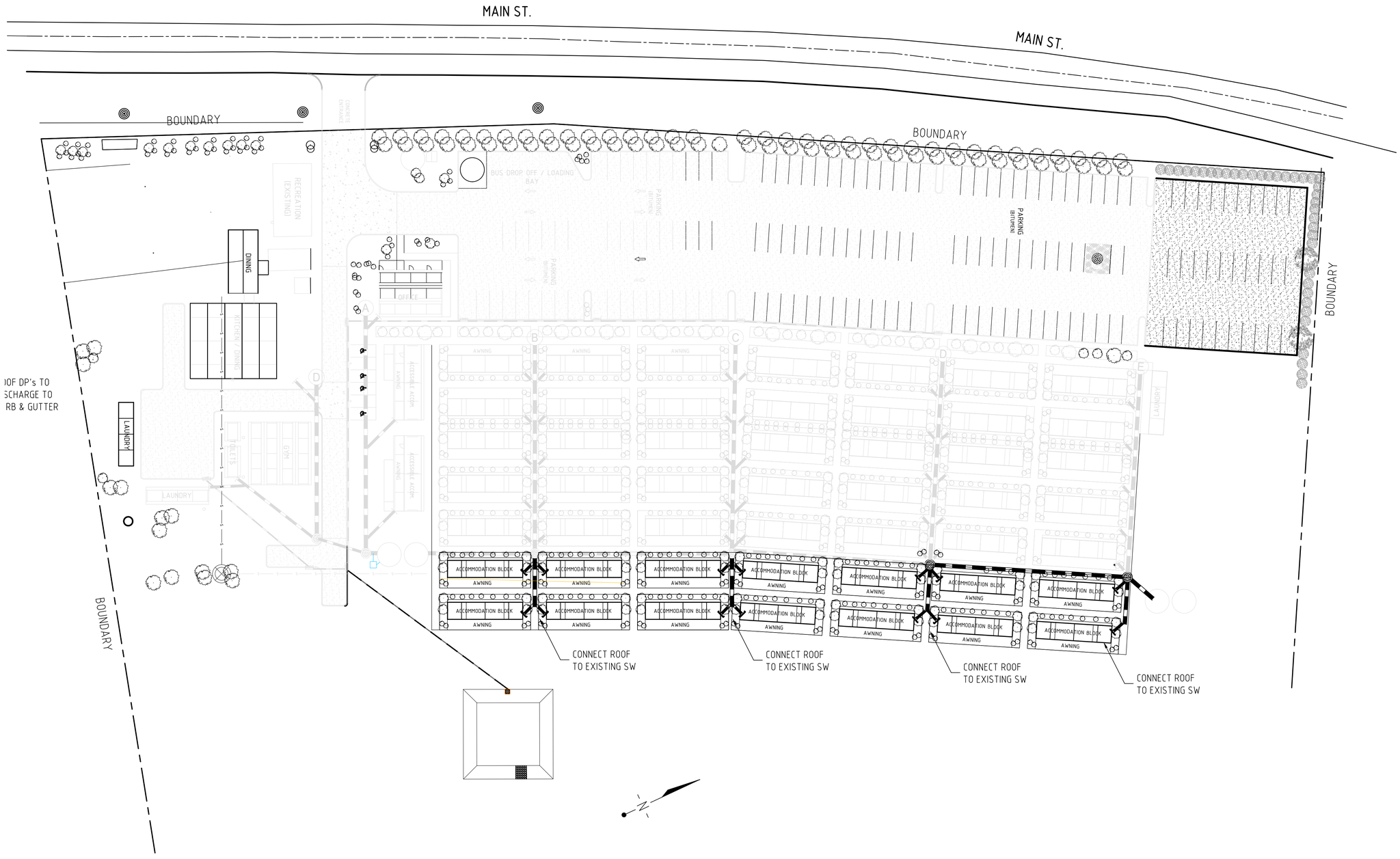
Drawing Number: 17239 HD32
Revision: 0



ROOF STORMWATER LEGEND

MS1-SW — SEALED STORMWATER JUNCTION PITS WITH CONCRETE LID SUPPORT.

PROPOSED STORMWATER DRAINAGE PIPE.

MAJOR FLOW OVERLAND FLOW PATH 1:100 ARI MIN FALL 1:200 U.N.O.

PROPOSED SEWER LINE

GENERAL LEGEND

EDGE OF PAVEMENT (PROPOSED)

BOUNDARY LINE

EXISTING FENCE

EXISTING TELSTRA U/G

EXISTING POWER POLE

STORMWATER ANALYSIS

1. DESIGN CALCULATIONS AS PER AS3500.3-2003
2. RAINFALL INTENSITY FOR 10 MINUTES DURATION AND AN ARI OF 100 YEARS Q_{100} = 154 mm/hr.

GENERAL ARRANGEMENT
ROOF STORMWATER MANAGEMENT PLAN

SCALE = 1:400

DESIGN NOTE:
ARI = 1 in 100 YEAR STORM
RAINFALL INTENSITY = 154mm/hr

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Drawing Title:
ROOF STORMWATER MANAGEMENT PLAN

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

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Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD33
Revision: 0

STORMWATER NOTES

1. CONTRACTOR IS TO ADEQUATELY INFORM HIMSELF AS TO THE DEPTH AND LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2. PIPE IS TO BE LAID AT UNIFORM GRADE BETWEEN INVERT LEVELS SHOWN WITH MINIMUM COVER MAINTAINED UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.

3. MINIMUM COVER OVER ALL PIPES IN NON-TRAFFICABLE AREAS TO BE 450mm UNO. MINIMUM COVER OVER ALL PIPES IN TRAFFICABLE AREAS TO BE 600mm UNO. WHEN THIS CRITERIA CANNOT BE ACHIEVED, PIPES TO BE ENCASED IN 150 CONCRETE.

5. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.

6. PRECAST PITS MAY BE USED AS APPROVED BY THE SUPERINTENDENT.

7. ALL PIPES SHALL BE RUBBER RING JOINTED CLASS '2' UNLESS NOTED OTHERWISE.

COMPACTION OF BACKFILL

1. BEDDING SAND

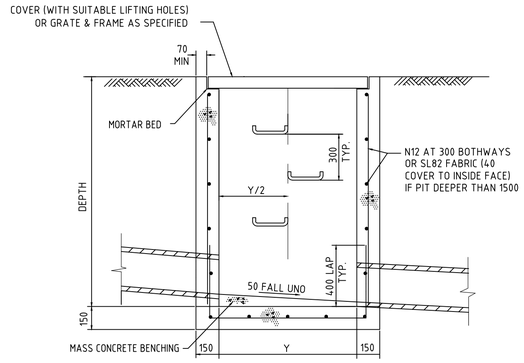
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 70% AS DETERMINED IN ACCORDANCE WITH AS1289.

2. APPROVED IMPORTED GRANULAR FILL

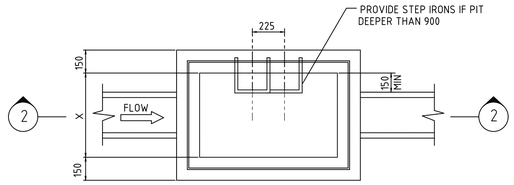
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK TO A DRY DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

3. ORDINARY EXCAVATED FILL MATERIAL

ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 90% OF THE STANDRAD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.



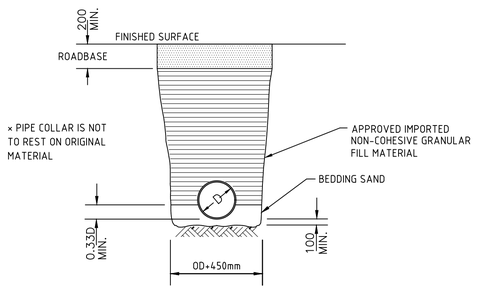
SECTION 2



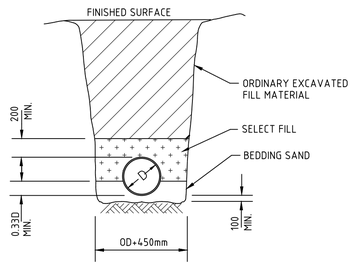
PLAN

GRATED INLET PIT
N.T.S.

PIT DIMENSIONS		
DEPTH	X	Y
D<600	450	450
D<1000	600	600
D<1500	600	900
1500<D<2400	900	900
D>2400	750	1200



TYPICAL SECTION - TRENCH IN ROADWAY
N.T.S.



TYPICAL SECTION - EARTH FOUNDATION TRENCH
N.T.S.

INSPECTION HOLD POINTS

1. INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2. WATER & SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3. ESTABLISHMENT OF LINE & LEVEL FOR KERB & GUTTER PLACEMENT.
4. ROAD PAVEMENT CONSTRUCTION.
5. ROAD PAVEMENT SURFACING.
6. PRACTICAL COMPLETION.

SERVICES INSTALLATION

1. INSTALLATION OF ALL UUNDERGROUND PIPES BE INSTALLED PRIOR TO INSTALLATION OF ROAD PAVEMENT.

Drawing Status:
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Client: LONGNECKS Pty Ltd

Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
STORMWATER SPECIFICATION
SHEET

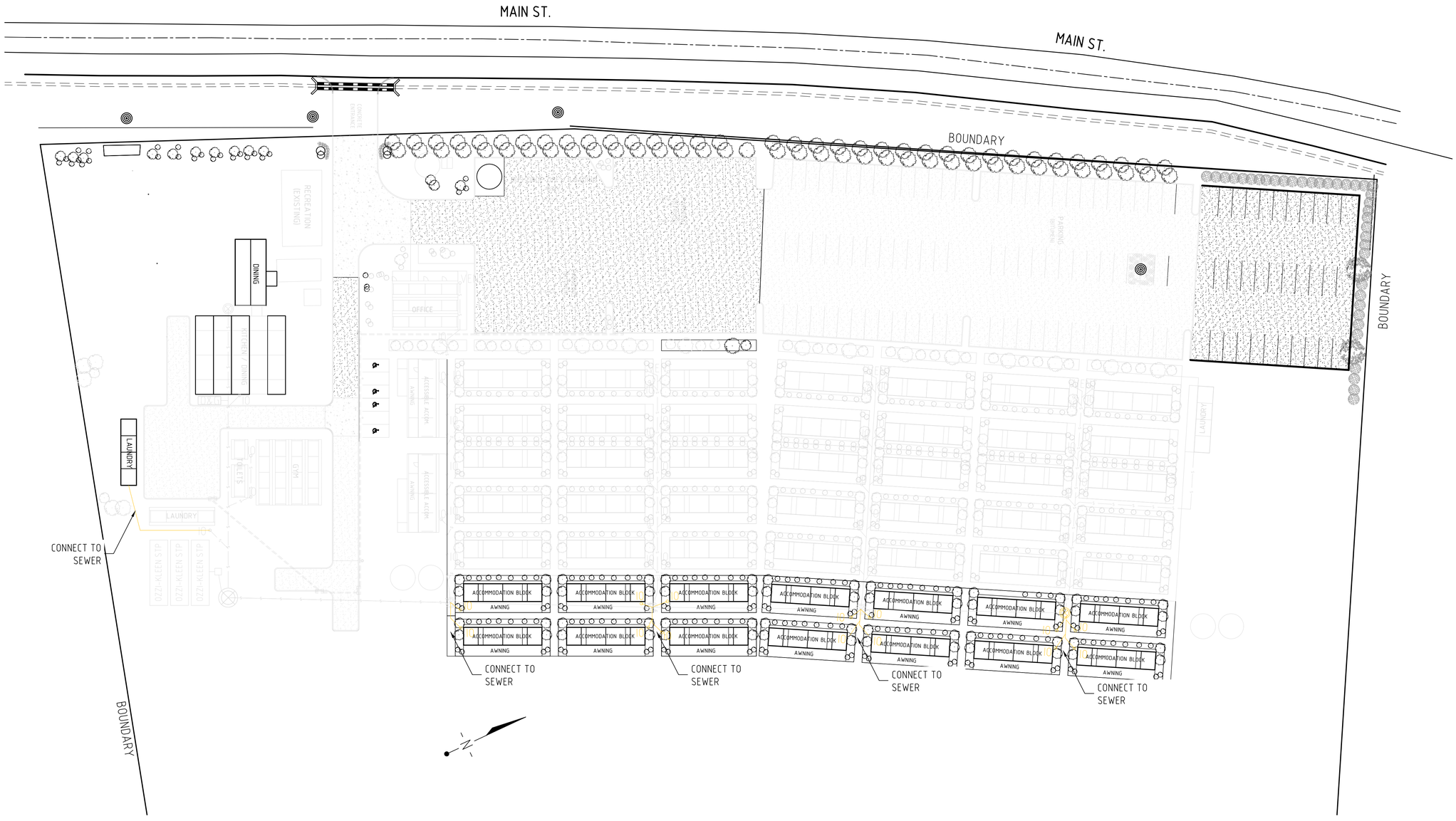
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD34
Revision: 0



SEWER LEGEND

- MS1 — SEALED SEWER MAINTENANCE SHAFT WITH CONCRETE LID SUPPORT, REFER DETAILS.
- PROPOSED SEWER LINE. ALL SEWER PIPES LEADING FROM UNITS ARE Ø150 @ 2%. SEWER LINES BETWEEN MANHOLES AS PER SCHEDULE.
- O&G — 2000l OIL & GREASE REMOVAL UNIT.
- IO — INSPECTION OPENING.

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE

SEWER COLLECTION MANAGEMENT PLAN

SCALE = 1:400

Drawing Status:
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ULAN NSW 2850

Drawing Title:
SEWER COLLECTION MANAGEMENT PLAN

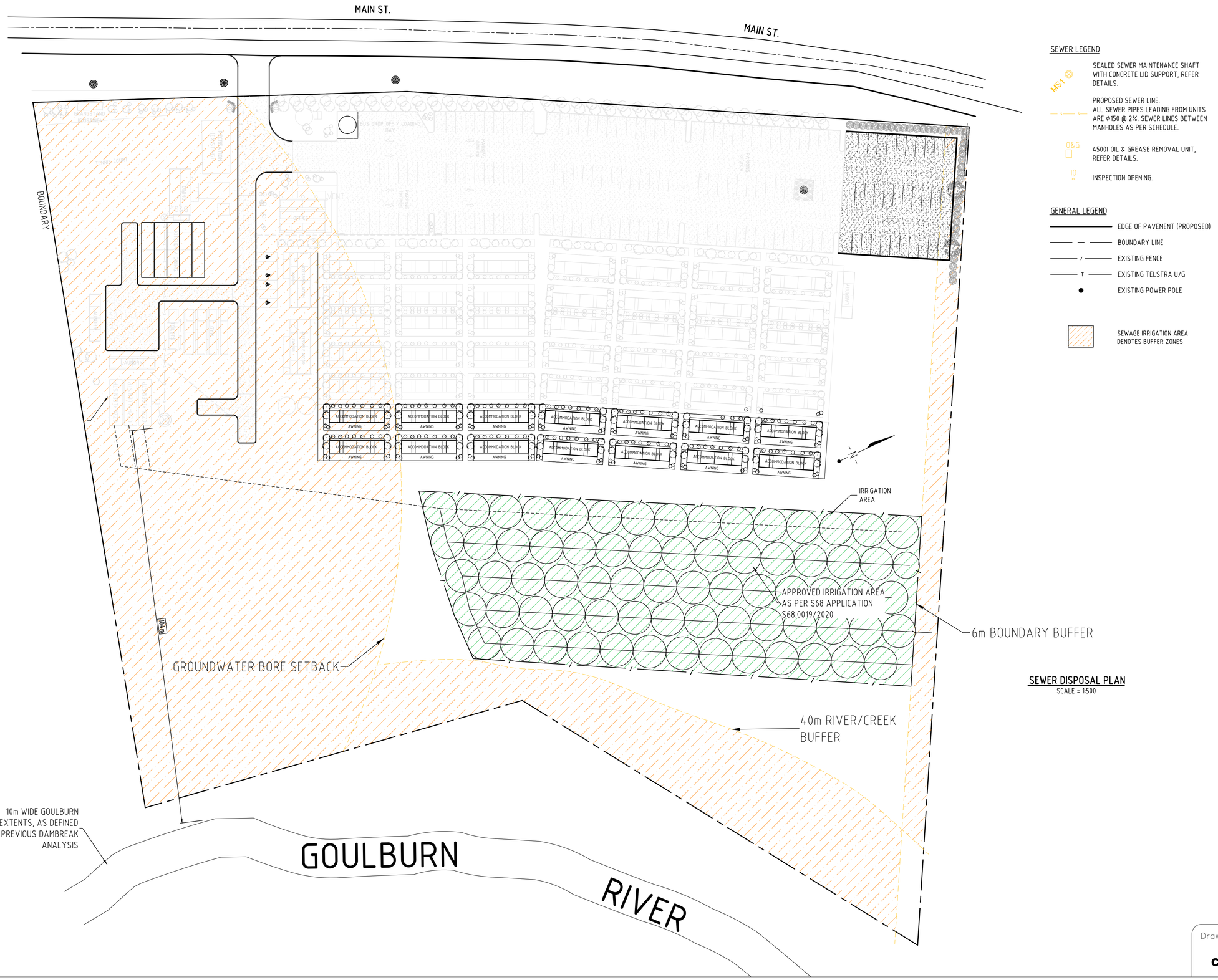
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD35
Revision: 0



SEWER DISPOSAL PLAN
SCALE = 1:500

SEWER LEGEND

MS1 — SEALED SEWER MAINTENANCE SHAFT WITH CONCRETE LID SUPPORT, REFER DETAILS.

PROPOSED SEWER LINE. ALL SEWER PIPES LEADING FROM UNITS ARE Ø150 @ 2%. SEWER LINES BETWEEN MANHOLES AS PER SCHEDULE.

O&G — 4500l OIL & GREASE REMOVAL UNIT, REFER DETAILS.

IO — INSPECTION OPENING.

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE
- SEWAGE IRRIGATION AREA DENOTES BUFFER ZONES

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Project:
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94 MAIN STREET
ULAN NSW 2850

Drawing Title:
SEWER DISPOSAL PLAN

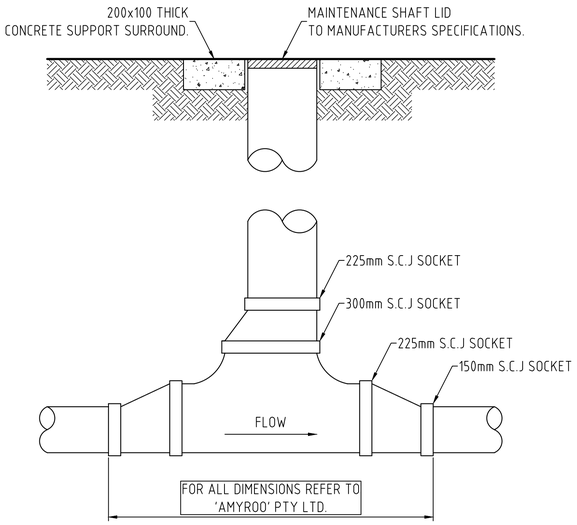
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
A	12-05-2023	FOR COUNCIL INFORMATION

Certification

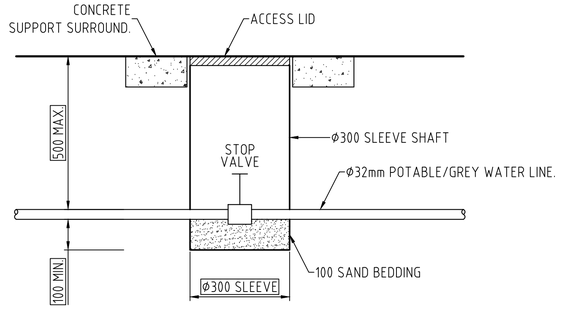
Drawing Number: 17239 HDH6
Revision: 0



TYPICAL MAINTENANCE SHAFT FOR ROOFWATER &SEWER LINES SHOWING ø150 PIPE

SCALE 1:10

NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL



TYPICAL IN-GROUND STOP VALVE ACCESS SHAFT

SCALE 1:10

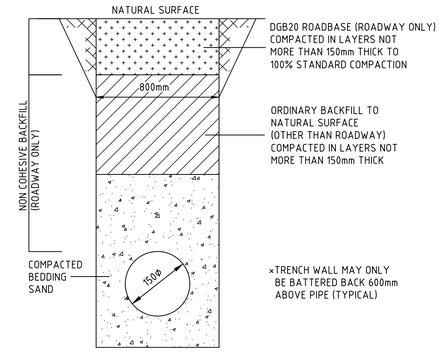
NOTE: SIMILAR ALTERNATIVE IN-GROUND VALVE ACCESS SHAFT ARRANGEMENT IS ACCEPTABLE.

NOTES

1. ALL SEWER MAINS SHALL BE 150ø/225ø CLASS SN8 RRJ UPVC PIPE. ALL GRAVITY LINES TO USE SEWER GRADE FITTINGS WHERE REQUIRED.
2. CONSTRUCTION OF SEWER MAINS AND MANHOLES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WSA SEWERAGE CODE, WSA-02, 2002.
3. ANY OTHER SERVICES INCLUDING TELSTRA, GAS, POWER, WATER AND STORMWATER MUST BE LOCATED BEFORE WORK COMMENCES.
4. MANHOLES SHALL BE PRECAST CONCRETE FROM A SUPPLIER APPROVED BY COUNCIL AND HAVE A ROUND REMOVABLE LIGHT DUTY GATIC COVER (UNO) AND A MINIMUM INTERNAL DIAMTER OF 1020mm.
5. 150mmø BOUNDARY RISERS SHALL BE PROVIDED TO EACH LOT TO BATHURST REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.
6. RISERS AND SIDELINES TO BE CONSTRUCTED TO WSA-02 2002.
7. FLOW LINE CHANNELS AND INTERSECTIONS SHALL BE CONSTRUCTED THROUGH MANHOLES AS PER WSA-02 2002.
8. ALL SEWER MAINS TO BE PRESSURE TESTED AS PER WSA-02 2002 AND BATHURST REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.

BEDDING NOTES

1. THE MINIMUM DEPTH TO TOP OF PIPE SHALL BE 1000mm, EXCEPT UNDER ROAD PAVEMENT WHERE MINIMUM COVER TO TOP OF PIPE SHALL BE 1200mm MINIMUM UNLESS SHOWN OTHERWISE. PIPES WITH LESS COVER THAN THESE LIMITS TO BE CONCRETE ENCASED, AND DICL UNDER ROADS.
2. GRADES OF GRAVITY SEWER NOT TO BE FLATTER THAN 1:179 (0.55%) FOR 150mm DIAMETER PIPES AS PER WSA-2014.
3. MANHOLES SHALL BE PLACED AT EACH CHANGE IN DIRECTION OR GRADE OF THE PIPE LINE AT INTERVALS ALONG THE LINE NOT EXCEEDING 80m.



TYPICAL TRENCH SECTION

N.T.S.

× INSTALLATION OF UPVC PIPES SHALL TO CONFORM TO AS2032-1977 "INSTALLATION OF UPVC PIPE SYSTEMS", AS2566-1998 "BURIED FLEXIBLE PIPELINES", WSA-02 2002 AND MANUFACTURERS INSTRUCTIONS.

Drawing Status:
SUBMISSION FOR COUNCIL INFORMATION

barnson
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Offices Located
Dubbo, Mudgee, Parkes & Bathurst

Contact Us
t 1300 138 657
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w www.barnson.com.au

trust-mark.com
Dubbo - Head Office

NATA
Accredited Laboratories
Dubbo & Bathurst

Client: LONGNECKS Pty Ltd

Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
SEWER SPECIFICATION SHEET

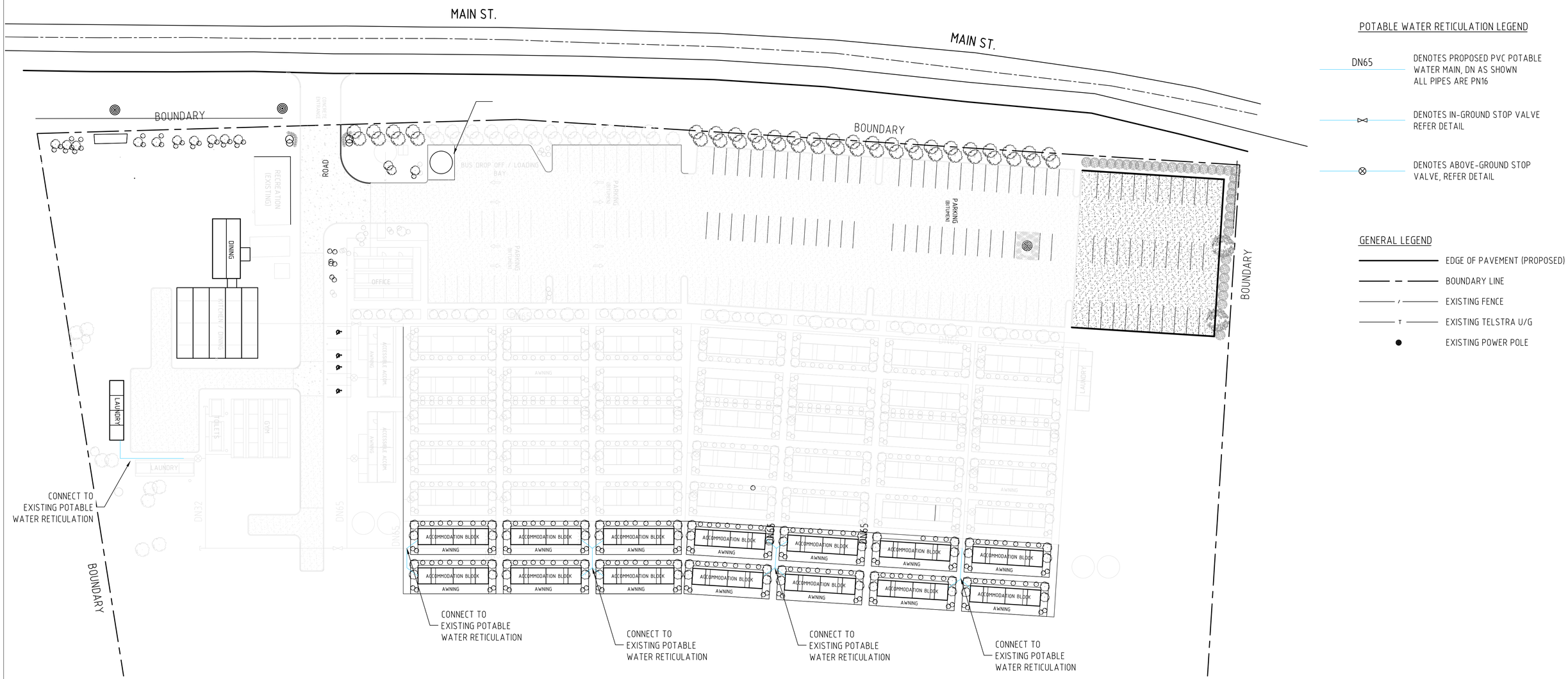
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HDH7
Revision: 0



POTABLE WATER RETICULATION LEGEND

DN65	DENOTES PROPOSED PVC POTABLE WATER MAIN, DN AS SHOWN ALL PIPES ARE PN16
⋈	DENOTES IN-GROUND STOP VALVE REFER DETAIL
⊗	DENOTES ABOVE-GROUND STOP VALVE, REFER DETAIL

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE

POTABLE WATER RETICULATION PLAN -

SCALE = 1:400

Drawing Status:
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Dubbo & Bathurst

Client: LONGNECKS Pty Ltd

Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
POTABLE WATER RETICULATION PLAN - STAGE 1

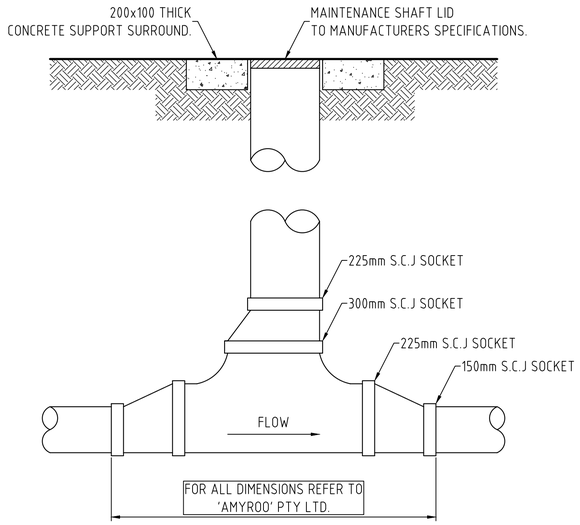
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

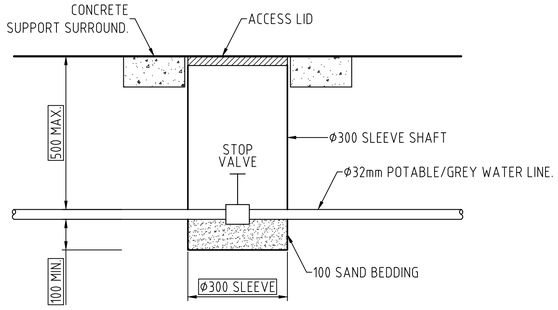
Drawing Number: 17239 HD38
Revision: 0



TYPICAL MAINTENANCE SHAFT FOR ROOFWATER &SEWER LINES SHOWING Ø150 PIPE

SCALE 1:10

NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL



TYPICAL IN-GROUND STOP VALVE ACCESS SHAFT

SCALE 1:10

NOTE: SIMILAR ALTERNATIVE IN-GROUND VALVE ACCESS SHAFT ARRANGEMENT IS ACCEPTABLE.

NOTES:

1. STOP VALVE & SCOUR VALVE CHAMBERS MAY EITHER BE CONSTRUCTED USING PREFABRICATED POLYPROPYLENE UNITS, 375mm DIAM. PVC OR CONCRETE PIPE, INTERLOCKING CONCRETE BLOCKS OR BRICKS WITH SAND/CEMENT MORTAR JOINTS.

2. THE BOTTOM OF THE BRICK, INTERLOCKING CONCRETE BLOCK OR PIPE CHAMBERS SHALL NOT REST DIRECTLY ON THE PIPE BUT ON A COURSE OF BRICKS OR A 100mm THICK CONCRETE FOUNDATION.

3. MINIMUM COVER OVER PIPELINES (ALL TYPES) SHALL BE 750mm IN AREAS SUBJECT TO VEHICULAR LOADING SUCH AS ROADS & FOOTPATHS AND 600mm ELSEWHERE.

4. IN AREAS PAVED WITH BITUMEN SEALING, ASPHALT, CONCRETE OR PAVING BLOCKS THE SURFACE OF VALVE AND HYDRANT COVERS SHALL FINISH FLUSH WITH THE PAVED SURFACE.

5. FOR STOP VALVES INSTALLATION, SOCKETS SHALL BE BUTTED UP TO SPIGOTS AND TRENCH WIDTHS SHALL BE KEPT TO A MINIMUM.

6. FILL SAND SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm AND COMPACTED TO ACHIEVE A MINIMUM 70 % DENSITY INDEX AND TO THE SATISFACTION OF THE SUPERINTENDENT.

7. INDICATOR POSTS SHALL BE WHITE IN COLOUR AND ONE OF THE FOLLOWING TYPES :
- 100mm x 100mm REINFORCED CONCRETE WITH 20mm CHAMFERS.
- POWDER COATED METAL SUCH AS "EZIDRIVE" POST OR EQUIVALENT.
- RECYCLED PLASTIC POST WITH RECESSES FOR MARKER PLATES.
- OTHER POSTS APPROVED BY COUNCIL.

8. DIMENSIONS OF SURFACE BOX COVERS SHOWN ON THIS DRAWING ARE NOMINAL. IF SURFACE BOX COVERS OTHER THAN THOSE SHOWN ARE SUPPLIED, THE DIMENSIONS OF THE CONCRETE SURROUNDS SHALL BE ADJUSTED ACCORDINGLY.

9. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20 MPa AND COMPLY WITH THE AUS-SPEC SPECIFICATION FOR MINOR CONCRETE WORKS.

10. THE DIMENSION BETWEEN THE UNDERSIDE OF THE STOP VALVE SURFACE BOX LID AND THE TOP OF THE VALVE SPINDLE SHALL BE A MINIMUM OF 80mm. THE TOP OF VALVE SPINDLE SHALL BE NO MORE THAN 300mm BELOW TOP SURFACE OF SURFACE BOX LID. IF THIS CANNOT BE ATTAINED, A GALVANIZED OR EPOXY PAINTED VALVE KEY EXTENSION SECURED BY GRUB SCREWS SHALL BE FITTED. IF NECESSARY, TO ENSURE THAT THE KEY EXTENSION IS CENTERED CORRECTLY A SPIDER ASSEMBLY SHALL BE INCORPORATED IN THE EXTENSION.

CONSTRUCTION NOTES

1. WATER MAINS TO HAVE MINIMUM 500mm COVER IN FOOTPATH AND 800mm COVER IN ROADWAYS.
2. PIPES TO BE RACKED & BENDS PLACED AS REQUIRED.
3. STOP VALVES TO BE FBE/RILSAN COATED, ANTI-CLOCKWISE CLOSING AND TABLE C FLANGES.
4. ALL PIPES AND FITTINGS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS & WSA WATER RETICULATION CODE.
5. MAIN SHALL BE PRESSURE-TESTED TO AS PER BATHURST REGIONAL COUNCIL'S ENGINEERING GUIDELINE'S FOR ENGINEERING WORKS, SECTION 8.3.2.
6. ALL MAINS FOR CONNECTION TO THE PUBLIC WATER SUPPLY SYSTEM SHALL BE DISINFECTED TO THE SATISFACTION OF COUNCIL INSPECTOR.
7. ALL CONCRETE SHALL BE 20MPa.
8. WATER MAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH BATHURST REGIONAL COUNCILS SPECIFICATIONS.
9. THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL UTILITIES AND SERVICES INTERSECTING THE WORKS AND CONNECTIONS TO THE EXISTING WATER MAINS PRIOR TO COMMENCEMENT OF TRENCH EXCAVATION. PIPES SHALL BE DEFLECTED AT JOINTS IN ACCORDANCE WITH THE MANUFACTURERES RECOMMENDATIONS SUCH THAT CLEARANCES ARE MAINTAINED TO MEET UTILITY OR SERVICE OWNERS REQUIREMENTS

Drawing Status:
SUBMISSION FOR COUNCIL INFORMATION

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NATA
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Dubbo & Bathurst

Client: LONGNECKS Pty Ltd

Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
POTABLE WATER
SPECIFICATION SHEET

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD39
Revision: 0

Appendix D - Clause 45 Checklist

Integrated Development in Bush Fire Prone Areas

section 100B

Development Referral to NSW Rural Fire Service

Once ALL boxes have been checked YES send the package to the address below.

Council:	Council reference No:
Council reference date:	
Council assessing officer:	Phone Contact:

Send to:
Customer Service Centres
NSW Rural Fire Service
Locked Mail Bag 17
Granville NSW 2142

1. Is the proposed development site located within a bush fire prone area? ☑ YES ☐ NO

If the development is not mapped as bush fire prone and Council has concerns regarding bush fire, the development application should be referred to the RFS under section 79C of the EP & A Act.

2. Proposed Development Type:

☐ Residential Subdivision	☐ Child Care	☐ Retirement Village
☐ School	☐ Group Home	☐ Tourist
☐ SEPP (SL)	☐ Respite Care	☐ Sheltered Workshop
☐ Hospital	☐ Strata Subdivision	☐ Boundary Adjustment/Lot Construction
☐ Student Accommodation	☐ Manufact'd Home Estate	

☑ Other : Temporary Workers Accommodation

If you replied YES to any of the above and to 1, the DA is 'integrated development' for the purposes of Section 100B of the *Rural Fires Act, 1997* and is required to be assessed by the RFS.

Has payment ($320) been included with this referral? ☐ YES ☐ NO

The following information must be sent with this referral. Referrals that are received by the RFS with inadequate Information may be returned to Council for additional information.

3. A copy of the Statement of Environmental Effects ☑ YES ☐ NO

4. Set of plans including site and proposed development ☑ YES ☐ NO

If applicant provides a bush fire assessment report, has the following been provided by the applicant or consultant (original colour report)?

5. A description of the property ☑ YES ☐ NO
   - Provide Lot No., DP of subject land,
   - Proposed lot sizes,
   - Street address with locality map,
   - Zoning of subject land and any adjoining lands,
   - Staging issues, if relevant, and description of the proposal, and
   - Aerial or ground photographs of subject land including contours along with the existing and proposed cadastre

7. The classification of vegetation out to 140 metres from the development consistent with the identification key in PBP 2006 (page 54-55). ☑ YES ☐ NO

8. An assessment of the effective slope to a distance of 100 metres:
- the effective slope is the slope under the vegetation assessed as being a hazard in relation to the development and not the slope within the asset protection zone. ☑ YES ☐ NO

9. Identification of any significant environmental features. ☑ YES ☐ NO

10. Details of threatened species populations, endangered ecological communities and critical habitat known to the applicant:- documentation supplied to council in relation to flora and fauna. ☑ YES ☐ NO

11. Details of aboriginal heritage known to the applicant. ☑ YES ☐ NO

12. A bush fire assessment that addresses: ☑ YES ☐ NO
- asset protection zones (including any management arrangements, any easements including those proposed on adjoining lands),
- siting and adequacy of water (in relation to reticulation rates or where dedicated water storage will be required), and
- adequacy of access and egress

13. An assessment of how the development complies with the acceptable solutions, performance requirements and relevant specific objectives within Chapter 4 of PBP 2006. ☑ YES ☐ NO

APZs should be identified on plans for interface allotments by either a building line or building footprint. In some cases building envelopes are identified which include other building constraints. Unless otherwise specified, a building envelope will be taken as the building footprint.

Where an applicant proposes not to follow the acceptable solutions for particular bush fire protection measures, detailed evidence must be provided demonstrating compliance with performance criteria and intent of the measures proposed.

Consultant/~~Applicant~~ name: Barnson Pty Ltd
Contact telephone: 1300 227 678
Are there any restrictions to a site inspection (e.g. locked gate, dogs, contact owner prior to inspection etc.) N/A

Any other applicable comment from applicant regarding DA or Site Inspections

—

Any other concerns / comments regarding bush fire that council may have for the development application (e.g. environmental impact, revegetation works etc.)

—

Council assessing officer: | *signature:*

Appendix E - Fire Evacuation Plan

PULKITRON

CAMP MANAGEMENT SERVICES

FIRE SAFETY & EVACUATION PLAN

October 2021

pulkiton.com.au

PULKITRON
CAMP MANAGEMENT SERVICES

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1.2. OBJECTIVE 3

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1.9. CHECK 4

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1.11. EVACUATE 5

1.12. RECORDS 5

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FIRE SAFETY EVACUATION PLAN

The Fire Safety Evacuation Plan serves to provide assistance in the rapid removal of a large number of people in a safe and orderly manner in the event of immediate or threatened fire danger.

1.1. PURPOSE

The purpose of the Fire Safety Evacuation Plan is to ensure the safety of guests and staff in the event the property may come under threat of potential fire.

1.2. OBJECTIVE

The objective of the Fire Safety Evacuation Plan is to assist in meeting our obligation to ensure management and staff know what to do in the event of a bush fire emergency.

1.3. FIRE DANGER RATING

Management will advise verbally to all guests and staff when Fire Ratings reach

- Very High

Management will advise by written communication to all guests when Fire Ratings reach

- Severe, Extreme or Catastrophic

1.4. ALERT LEVELS

During a bush fire, Alert Levels are used to provide an indication of the level of threat from a fire.

Advice
A fire has started. There is no immediate danger. Stay up-to-date in case the situation changes

Watch and Act
There is a heightened level of bush fire threat. Conditions are changing and you need to start taking action now to protect guests and staff

Emergency Warning
An Emergency Warning is the highest level of Bush Fire Alert. You may be in danger and need to take action immediately. Any delay now may put lives at risk.

Some fires start and spread so quickly there may not be any time for a warning. If you get a Bush Fire Alert, you must take it seriously.

1.5. EVACUATION

The key to a successful evacuation is to remain calm and not panic.

A member of management will be identified as the Chief Warden. If reception is unattended then staff on duty in the kitchen will act as the Chief Warden.

Senior management may give direction as to who the Chief Warden is at any particular time.

1.6. ALERT

Alert the Chief Warden on visual site of any bush fire activity close to the property.

The Chief Warden is to notify emergency services by calling 000.

1.7. ASSEMBLY

Advise guests and staff of the assembly location.

The Emergency Assembly location is at the front of the car park near the water tank. Guests and staff are to assemble on the road side of the property fence.

1.8. HEAD COUNT

The Chief Warden will complete a head count of all guests, staff and contractors / visitors to the site.

1.9. CHECK

The Chief Warden will check all rooms. It is important that all areas of the property are searched including public toilets, laundry, gym, recreation room and dining / crib rooms.

1.10. REPORT

All staff should report to the Chief Warden any known guests or staff that are unaccounted for or not located. This information should be provided to emergency service personnel immediately.

1.11. EVACUATE

On direction of the Chief Warden of emergency service personal, evacuate from the Emergency Assembly point as directed.

If safe to do so, guests and staff may be relocated to Ulan Public School Library.

1.12. RECORDS

The following is a list of items that should be taken by the Chief Warden or a member of staff as directed. Each item is prioritized and should only be removed if safe to do so.

Item	Location	**Priority**
Guest Registration Forms; including details of all guest on site	- kitchen dry store, adjacent to the coolroom door - administration office	HIGH
First Aid Kit	- First Aid room	HIGH
Master Keys	- key lock box in Crib room	HIGH
Guest room keys	- administration office	MEDIUM
Ancillary keys, including gym, recreation room, first aid room, laundry etc	- administration office	MEDIUM
Office computer	- administration office	LOW

1.13. CONTACTS

The following contact numbers are provided as a reference

- **Ambulance, Fire, Police** **000**
- **Mudgee Fire Station** **02 6372 6772**
- **NSW Rural Fire Service – Cudgegong District** **02 6372 4434**

- Deb O'Brien, General Manager 0438 560 567
- Elissa Hopkins, Site Manager 0468 863 312
- Paul Mallett, Site Supervisor 0410 719 316

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APPENDIX C

AHIMS

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : 17

Client Service ID : 757234

Barnson

Date: 28 February 2023

Unit 1/36 Darling Street
Dubbo New South Wales 2830

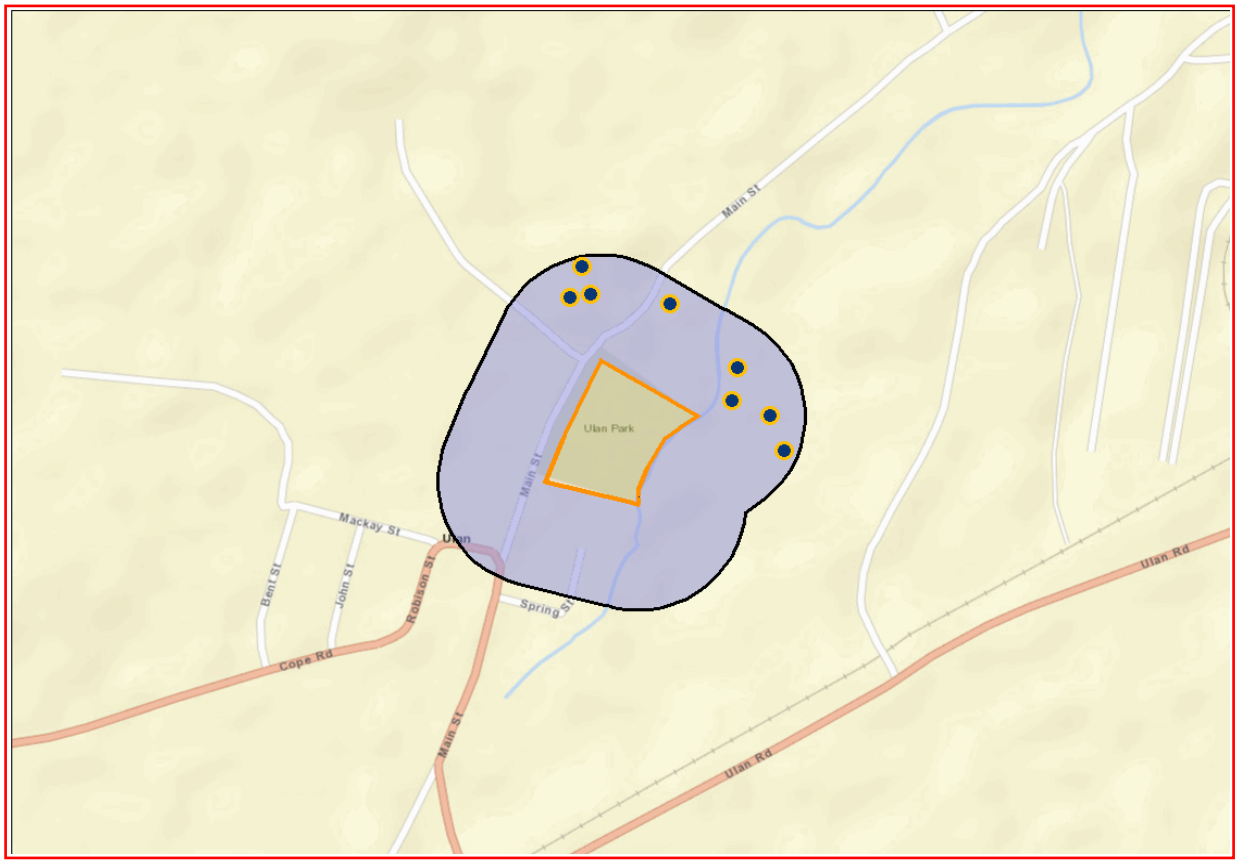
Attention: Sebastian Minehan

Email: sminehan@barnson.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lot : 32, DP:DP750773, Section : - with a Buffer of 200 meters, conducted by Sebastian Minehan on 28 February 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

8	**Aboriginal sites are recorded in or near the above location.**
0	**Aboriginal places have been declared in or near the above location. ***

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (https://www.legislation.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Heritage NSW upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Heritage NSW and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are recorded as grid references and it is important to note that there may be errors or omissions in these recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Level 6, 10 Valentine Ave, Parramatta 2150
Locked Bag 5020 Parramatta NSW 2124
Tel: (02) 9585 6345

ABN 34 945 244 274
Email: ahims@environment.nsw.gov.au
Web: www.heritage.nsw.gov.au

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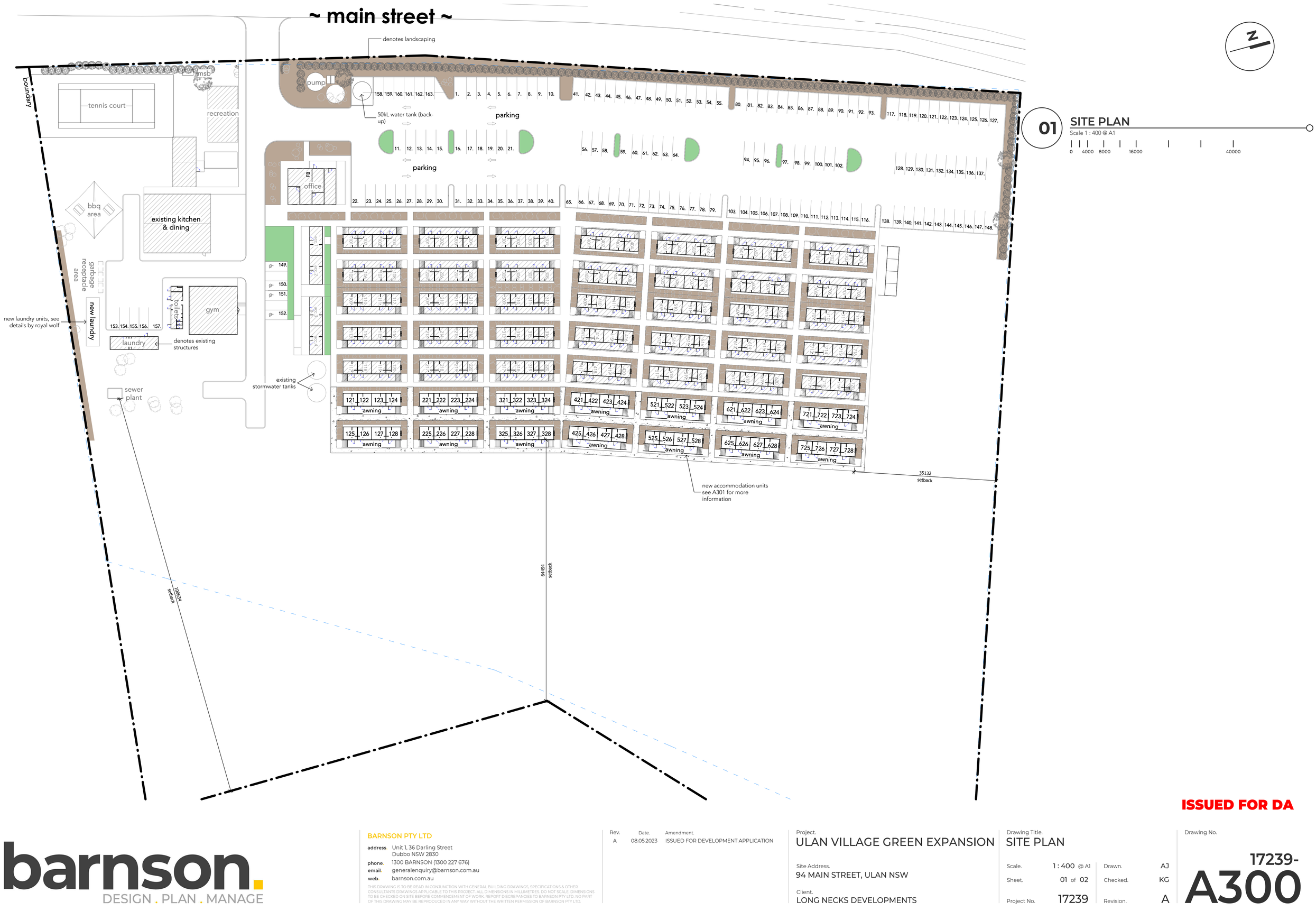
APPENDIX D

Development Plans



01 SITE PLAN

Scale 1 : 400 @ A1

0 4000 8000 16000 40000

ISSUED FOR DA

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DESIGN . PLAN . MANAGE

BARNSON PTY LTD

address. Unit 1, 36 Darling Street
Dubbo NSW 2830

phone. 1300 BARNSON (1300 227 676)

email. generalenquiry@barnson.com.au

web. barnson.com.au

Rev.	Date.	Amendment.
A	08.05.2023	ISSUED FOR DEVELOPMENT APPLICATION

Project.
ULAN VILLAGE GREEN EXPANSION

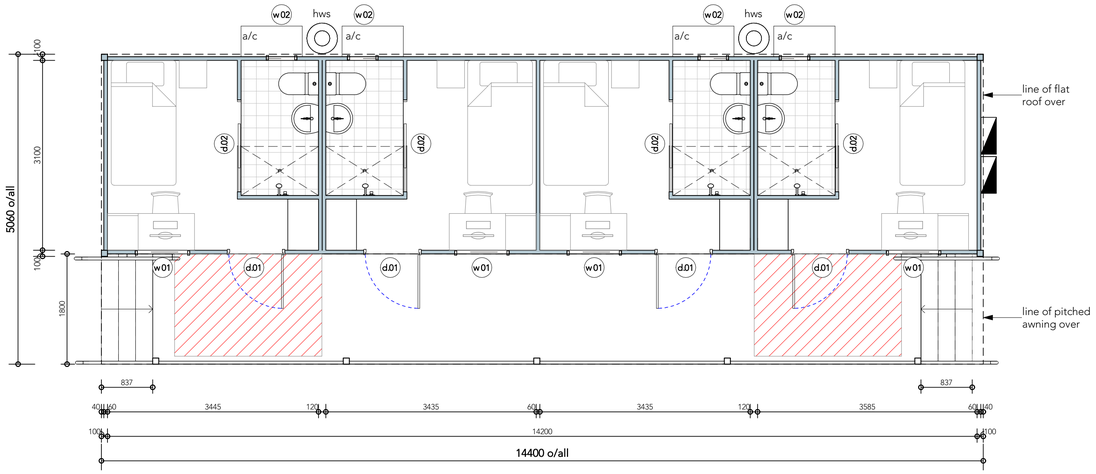
Site Address.
94 MAIN STREET, ULAN NSW

Client.
LONG NECKS DEVELOPMENTS

Drawing Title.
SITE PLAN

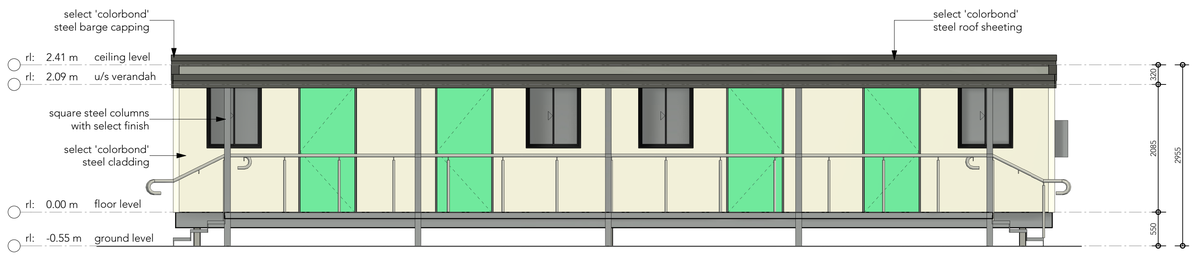
Scale.	1 : 400 @ A1	Drawn.	AJ
Sheet.	01 of 02	Checked.	KG
Project No.	17239	Revision.	A

Drawing No.
17239-A300

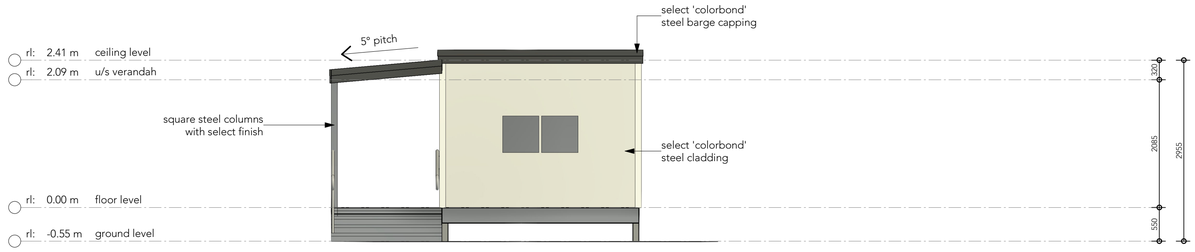


06 accommodation floor plan
1 : 50 (A1)

0 500 1000 2000 4000



07 elevation: front facade
1 : 50 (A1)



08 elevation: right facade
1 : 50 (A1)

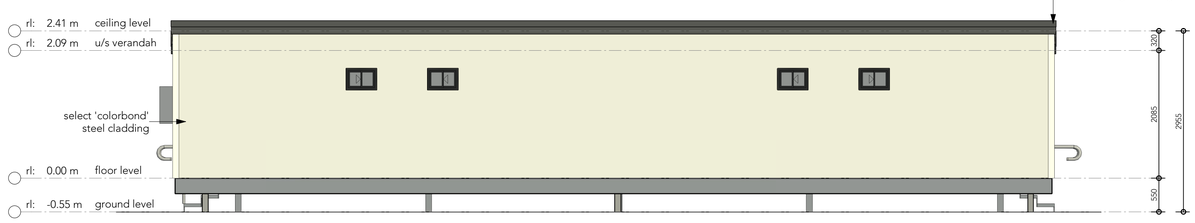
construction & finishes schedule

base member	I-300x75x5.2mm bottom frame;
floor joist	Joist C-100x50x15x2.5mm THK @407mm center;
middle member	I 300x75x5mm
steel surface treatment	Painting system 1: 250 micron of epoxy painting
base floor	22mm cellulose fibre cement board
corner post	SHS hollow section 100x100x4mm
steel surface treatment	Painting system 2:+ Primer layer with 40 micron of Epoxy-zinc + Undercoat layer with 80 micron of Epoxy + Finished layer with 60 micron of polyurethane
external wall	Corrugated Iron > Colourbond or equiv. Profile and colour range available
top frame beam	Rectangular hollow section 100x100x3mm
roof system	Skillion: Trimdeck with colour matched flashing and end capping. Excludes gutter. 50mm over-hang for gutter install. 6mm Aircell -closed cell foil backed insulation below corry, above battens. Air gap av.120mm. Welded steel 2.5mm inner roof. Air gap24mm, 6 mm air cell, 50mm glass wool batt, 6mm aircell: hunter Douglas interlocking
internal framing	60mm cold rolled steel framing
wall panel system	Aluminium Composite panel (range of colours available), .3mm steel faced, 3mm composite backed panel. EJ – black sicaflex at joins onto
glazing	Double glazing to all window assemblies
flooring in living area	High performance 3mm printed vinyl tile
flooring wet area	5mm thickness of ceramic tile, slip resistance, colour: optional Cementutious adhesive: MAPEI product with: * Kerabond T in compliance with EN 12004 as C2 mixed with Isolastic
wall finishing in wet area	Continuous Seal preparation to FC sheeting. Paint finish off white.
smoke detector	Manufacturer: SFL-188 Type: AC-220V/DC-9V Battery Back up
lighting	General Light Fittings: Panasonic, Philips, or equivalent Country of Origin: Australia,
bathroom exhausted fans	Type: Wall exhaust fan Air Flow Rate: 80 CMH Speed (RPM): 1450 RPM Maximum Power (Voltage/Phases/Hz): 240 V / 1P / 50 Hz
cold water supply pipes	Type of pipe: PP-R Pipe Manufacturer : DEKKO - German - commercial grade fusion welded.
Hot water supply pipes	Type of pipe: PP-R Pipe Manufacturer : DEKKO - German - commercial grade fusion welded.
Waste water drainage pipes	uPVC and PVC Pipe Manufacturer : Snow
hand basin	Ceramic hand basin with PVC or MDF cabinet below
Hand basin taps	3 piece basin sets
Bth cabinet	PVC or MDF cabinet with mirror front facing
Soap dish	PVC or stainless steel soap dish
Toilet	Ceramic toilet with "S" trap, 300mm roughing-in, dual flush 3/6 litre
Coat hook	Stainless steel coat hook
Towel rail	Stainless steel towel rail
Floor drain	Stainless steel puddle flange floor drain
Shower	Glass-look Acrylic, lined with ABS tray and tempered glass wall
Shower head	Mixer and water saving shower head.
External door	820mmWx2040mmH metal door c/w door closer, rubber seals, handle and multi point Hafele master keyed locks820mmWx2040mmH metal door c/w door closer, rubber seals, handle and multi point Hafele master keyed locks
Internal door	720mmWx2040mmH HDF hung sliding door c/w seals and handle
Main window	890mmWx1050mmH double glazed sliding window with powder coated aluminium frame c/w stainless flyscreen
Toilet window	500mmWx350mmH fixed tempered fixed glass window with aluminium frame.

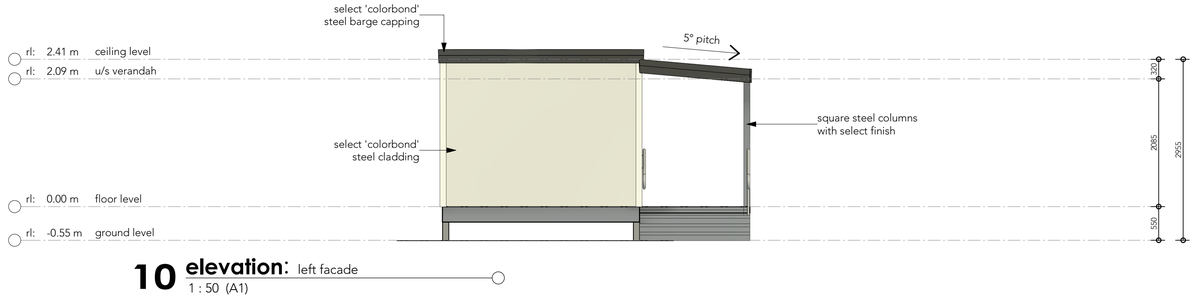
Emergency lighting
Emergency lighting to be installed along the path of travel to the exits of the building in accordance with *Part E4D2 of the BCA Vol. 1.*

Illuminated exit signs must comply with *AS2293.1-2005* or for a photoluminescent exit sign, *Specification E4D8 of the BCA, Vol. 1* & be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.

Headline AS and BCA compliance documentation and certificates
- Region D wind rating to permanent bulding components. Temporary awnings, footings and siting requirements not inclusive.
- BCA energy efficiency requirements - 6 star rated and certified.
- Plumbing Certified to AS 3500- Form 16 supplied for plumbing works.
- Watermark compliance and certificates supplied for all plumbing fixtures and fit-off items.
- Electrical certified to AS 3000 - Form 16 supplied for electrical works to DB per building.
- Energy Efficient Lighting complying with MP 4.1 of the QDC.
- Smoke Alarms to AS3786 - Audible and visual alert system.
- BCA compliance: Certifier compliance documentation provided for buildings supplied notwithstanding siting and local statutory requirements.
- Class 1b - camp accommodation
- Structural Certification supplied - Form 16 supplied where applicable from RPEQ Engineer
- Building form 16 certification for:
  - Wet area water proofing in accordance with AS3740
  - Single piece moulded shower unit
  - Isolastic sealing and treatment to floor and wall FC Sheeting in addition to surface treatments.
- Glazing installed in accordance with AS1288 and AS2047
- Glazing safety glass certificate - double glazed units supplied within heavy duty powder-coated level spring-lock assembly. Form 16 supplied on
- Fire Hazard compliance to AS1530.3.1999 : flammability, heat release and smoke release of commercial building products.
- Roof and Wall Sheeting to AS 1562.3 -2006



09 elevation: rear facade
1 : 50 (A1)



10 elevation: left facade
1 : 50 (A1)

ISSUED FOR DA

barnson
DESIGN . PLAN . MANAGE

BARNSON PTY LTD
Unit 1/36 Darling Street
Dubbo NSW 2830
Contact Us
t 1300 BARNSON (1300 227 676)
e generalenquiry@barnson.com.au
w www.barnson.com.au
Bathurst | Dubbo | Mudgee | Sydney | Tamworth

Client: ON EDGE PTY LTD

Project: ULAN RESERVE KITCHEN & ACCOMMODATION UNITS

Drawing Title: ACCOMMODATION PLAN

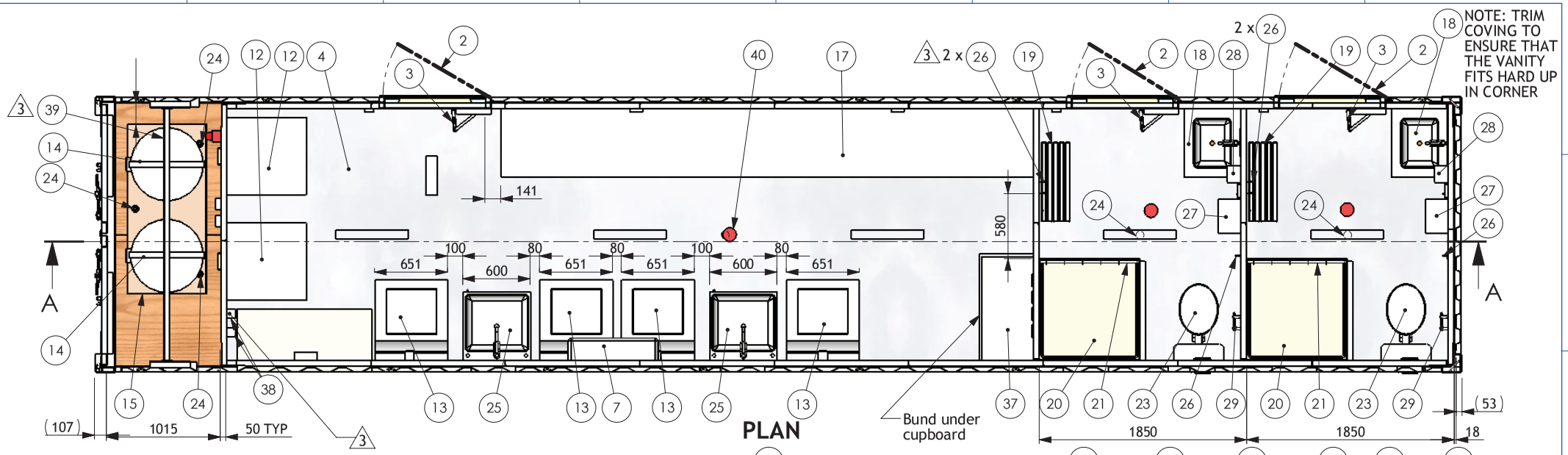
Rev	Date	Amendment
A	03.05.23	ISSUED FOR DEVELOPMENT APPLICATION

Design | Drawn | Check
HS

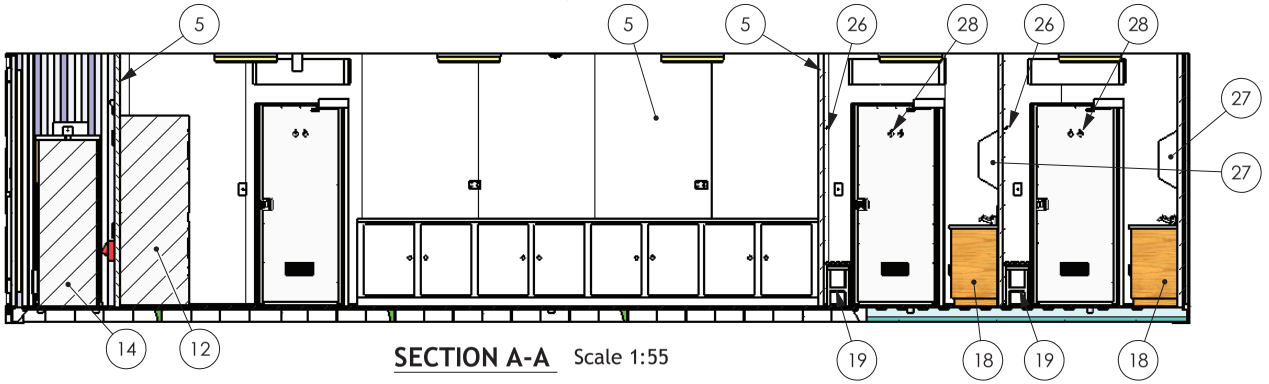
Sheet 02 of 02

Drawing Number: 17239- A301

Revision: A



PLAN



SECTION A-A Scale 1:55

ITEM NO.	QTY.	DESCRIPTION	NOTES
40	3	smoke detector	
39	1	HWS Brace	
38	9	isolator	
37	1	Steel Cabinet Model FSSH11 - 914 x 457 x 1800	
36	1	Penetration Box 200x200x90x3 with two S/S 3/4" sockets	see details
35	5	Penetration Box 200x200x90x3	
34	2	Penetration Box 400x400x90x3	
33	3	Penetration for external lamp, Drg.No.RWT-CSC-HS276	
32	1	AC Aluminium Cover Plate, tread-face, 3x225(length to suit)	
31	2	Unistrut Supports - P1000 (41x41)	length to suit
30	2	Wall Mirror	
29	2	Toilet Paper Holder	
28	2	Soap Dispenser	
27	2	Paper Towell Dispenser - Roll	
26	10	Coat Hook	
25	2	Laundry Tub - 680 x 600 x 900	-
24	6	Type 2 Vermin Proof Floor Drain	
23	2	Toilet & Cistern - P Trap	
22	2	Shower Curtain 2010	
21	2	Shower Rail 2010	
20	2	Shower,Single Mould 900x900	
19	2	Type 2 Shower Bench	
18	2	Type 2 Vanity	
17	1	Bench with cabinets, 4750 long 900hx600d	
16	1	Type 2 Cabinet Bund, for one steel cabinet	
15	1	HWS Tray 2010,3 Points Vermin Proof Drainage	
14	2	315 Litre HWS Rapid Recovery 3 x 3.6KW - RHEEM 613316	
13	4	Washer LWS42	
12	2	Stack Dryer SSE807	
11	2	Exhaust Fan ∅100 as per Drg. RWT-CSC-HS254-002	on 10A supply
10	4	Vent, passive. Use McNaughtans PN MCN-LV-200x200, 2x13 Slots	
9	2	Alu Vent 400x1500	
8	2	Steel Strap for AC Outdoor Unit	
7	1	Mitsubishi AC Split System - Indoor - SRK35ZJ-S	
6	1	Mitsubishi AC Split System - Outdoor - SRK35ZJ-S	3.5 kW
5	AR	Ablution Laundry Lining	-
4	AR	Floor Vinyl	
3	3	DOOR CLOSER, automatic heavy duty	
2	3	PA Door, per Drg. RWT-CSC-HS266-001 with Door Vent 150x300	
1	1	Ablution Laundry CONTAINER	-

NOTES:
1. ALL PLUMBING TO BE COPPER TUBED. PLUMBING INSTALLATION IN ACCORDANCE WITH AS/NZS 3500-2003 .
2. ELECTRICAL INSTALLATION IN ACCORDANCE WITH AS/NZS 3000-2007 & AS/NZS 3001-2008.
3. FOR ELECTRICAL LAYOUT DRG. SEE RWT-NMD-HS626-003 .
4. COMMERCIAL VINYL FLOORING COVED 100mm.
5. PADs TO BE REBATE STYLE WEATHER PROOF WITH HEAVY DUTY DOOR CLOSERS AND PASSIVE AIR VENTS.
6. A/C HEAD TO BE SECURED, TOP AND BOTTOM WITH ANGLES.
7. CONTAINER TO BE PAINTED WHITE EXTERNALLY WITH 304 SPRAYING ENAMEL.
8. IF IN DOUBT ASK.

REVISIONS				
REV.	DESCRIPTION	DATE	DRAWN BY	APPROVED
2	DRG. created from RWT-NMD-HS626-00, vENT SIZE CHANGED TO SUIT LOCKING BARS	27/09/2012	MKB	
3	AS BUILT REVISION	17/05/2013	MKB	

APPROVED FOR PRODUCTION

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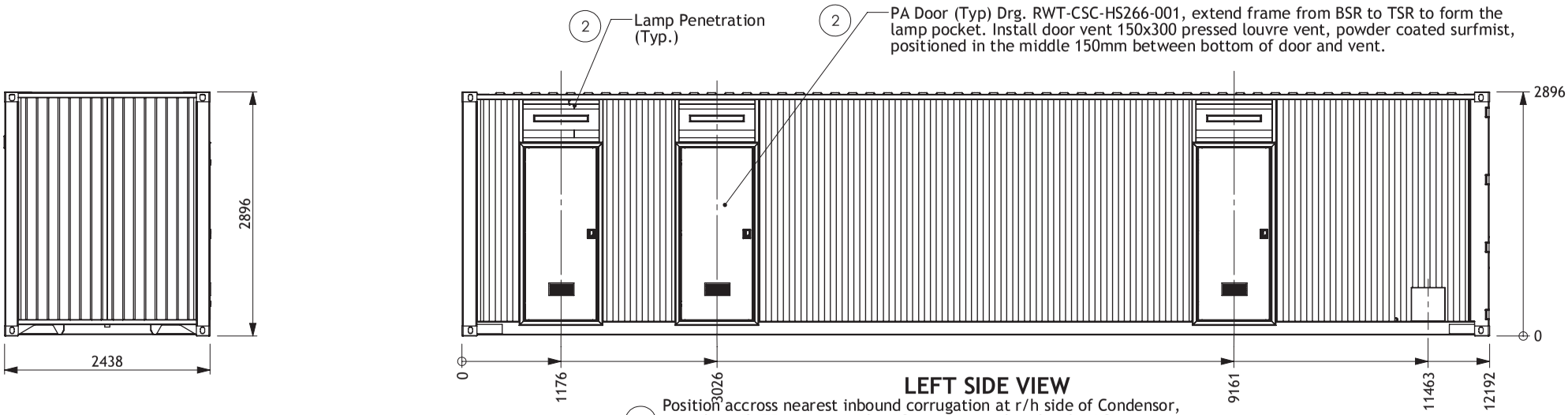
PAPER	A3		
SCALE	STATED		
MASS		KG	
DESIGNED			
DRAWN	JIM J	02/04/2012	
CHECKED			
RWT APP.			
CLIENT APP.			

GENERAL FABRICATION TOLERANCES
0-50 mm ; ±0.5 mm
51mm-1M ; ±1.0 mm
1.001M - 6.1 M ; ±2.0 mm
6.101 M - 13 M ; ±3.0 mm

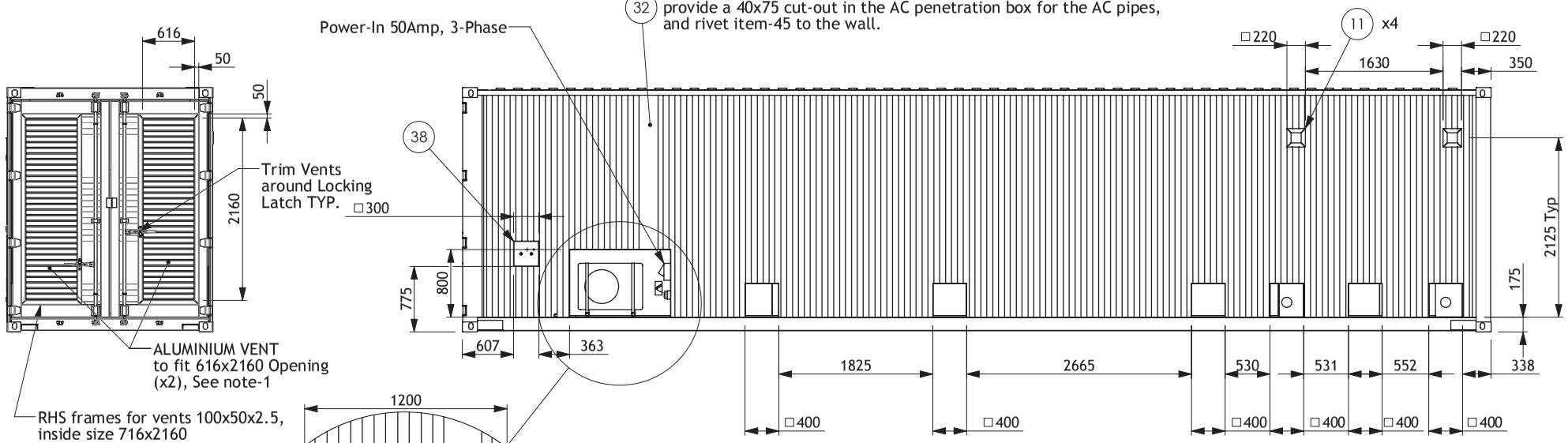
CLIENT: RWT
PROJECT: PA# 12-0054
AREA: NATIONAL MINING & DEFENCE
DRAWING TITLE: 40' ABLUTIONS LAUNDRY
FURTHER DESCRIPTION: GENERAL ASSEMBLY

SHEET	REVISION	REVISION DATE
SHEET 1 OF 6	3	

DRAWING NUMBER: RWT-NMD-HS777-001



LEFT SIDE VIEW



DETAIL O SCALE 1 : 25

RIGHT SIDE VIEW

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PAPER	A3	
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MASS		KG
DESIGNED		
DRAWN	MKB	04/05/2012
CHECKED		
RWT APP.		
CLIENT APP.		

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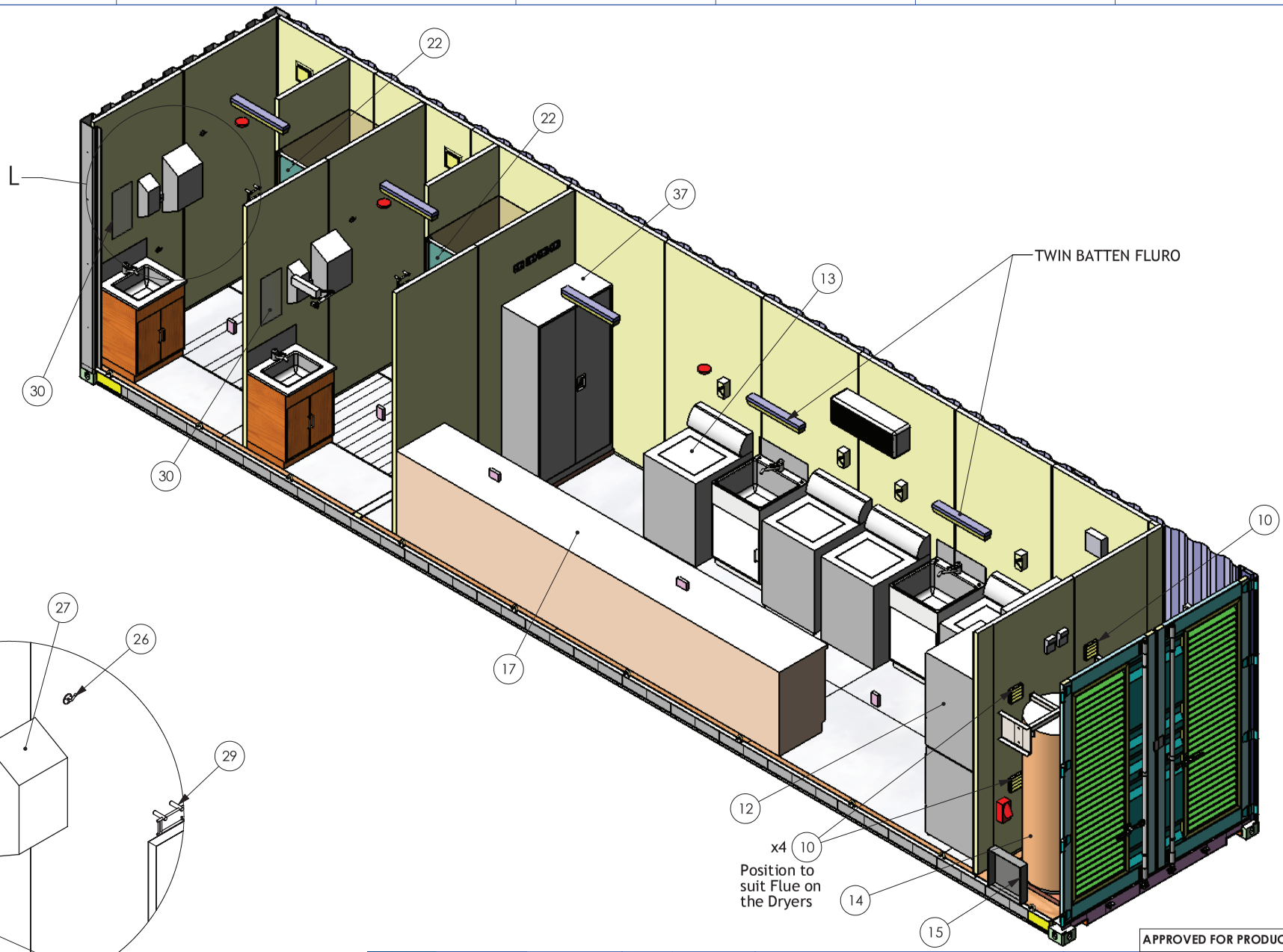
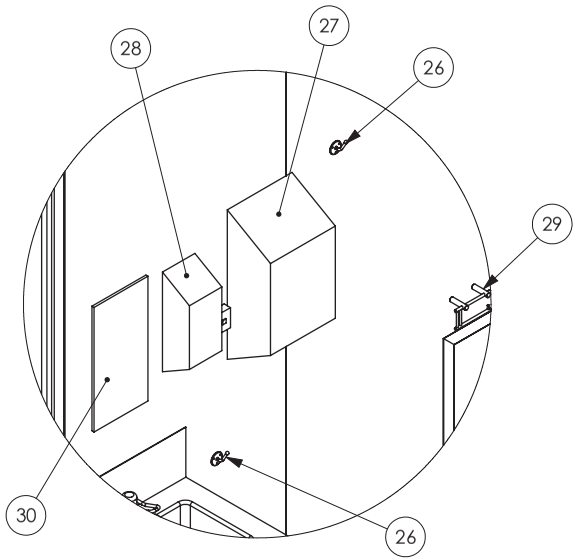
SHEET	REVISION	REVISION DATE
SHEET 2 OF 6	3	

DRAWING NUMBER: RWT-NMD-HS777-001





DETAIL L SCALE 2 : 35

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MASS		KG
DESIGNED		
DRAWN	MKB	04/05/2012
CHECKED		
RWT APP.		
CLIENT APP.		

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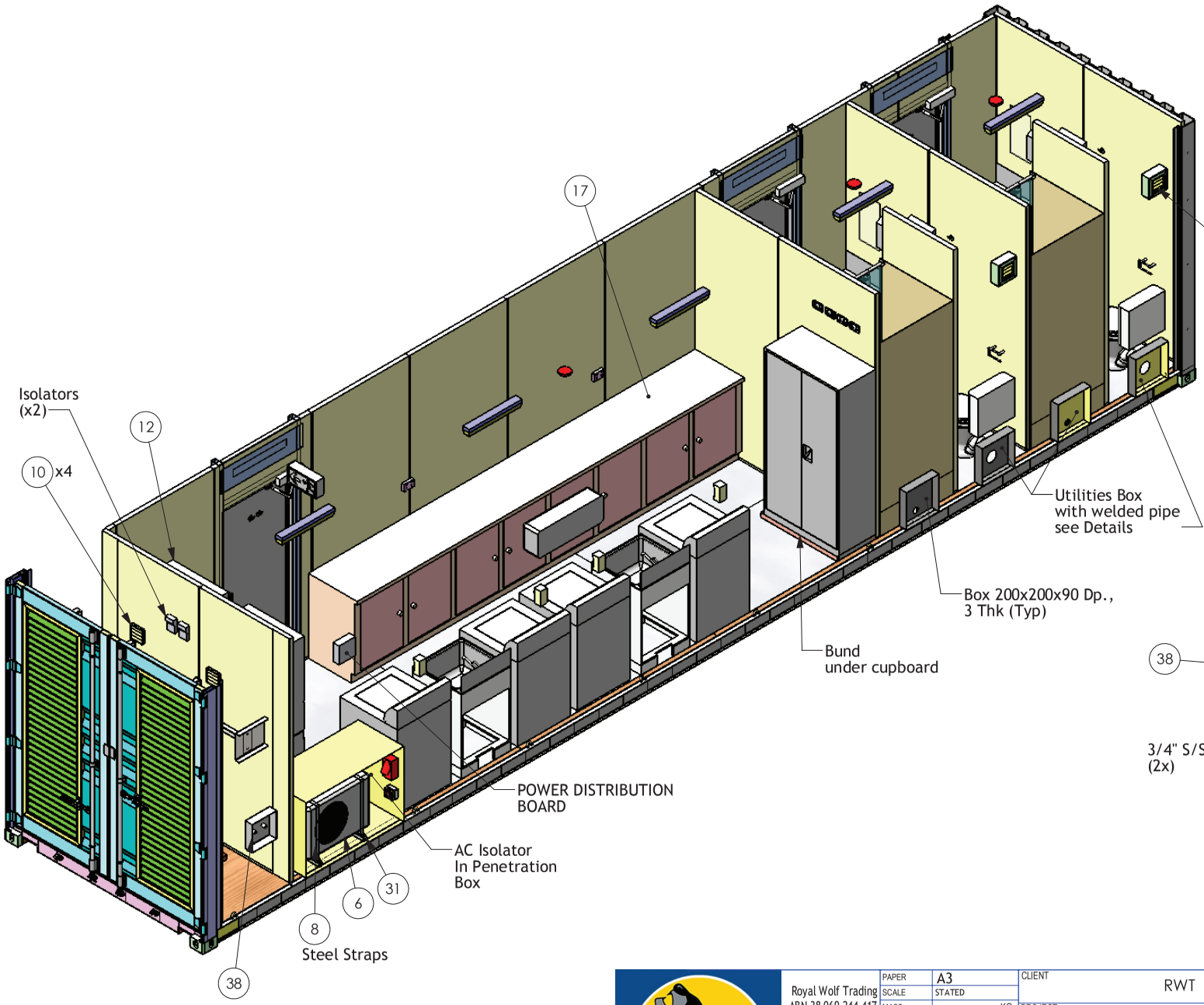
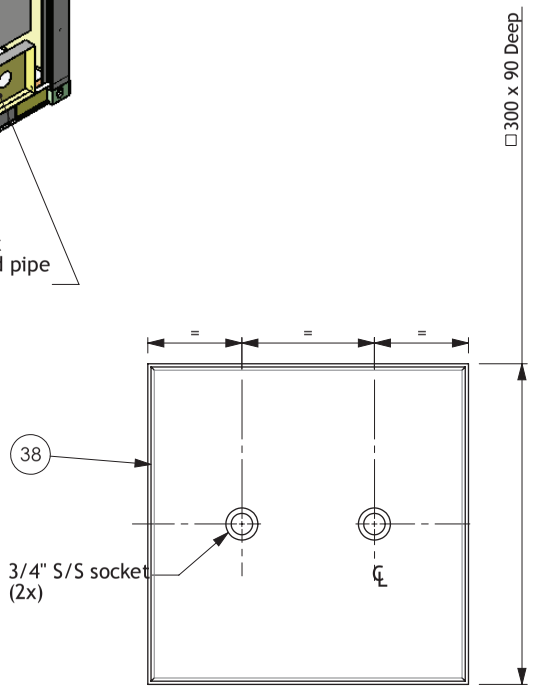
FURTHER DESCRIPTION: GENERAL ASSEMBLY

SHEET	REVISION	REVISION DATE
SHEET 3 OF 6	3	

DRAWING NUMBER: RWT-NMD-HS777-001





UTILITIES BOX WITH 3/4" S/S SOCKETS
VIEWED FROM OUTSIDE
one place (Scale 1:10)

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SCALE	STATED		
MASS		KG	
DESIGNED			
DRAWN	MKB	04/05/2012	
CHECKED			
RWT APP.			
CLIENT APP.			

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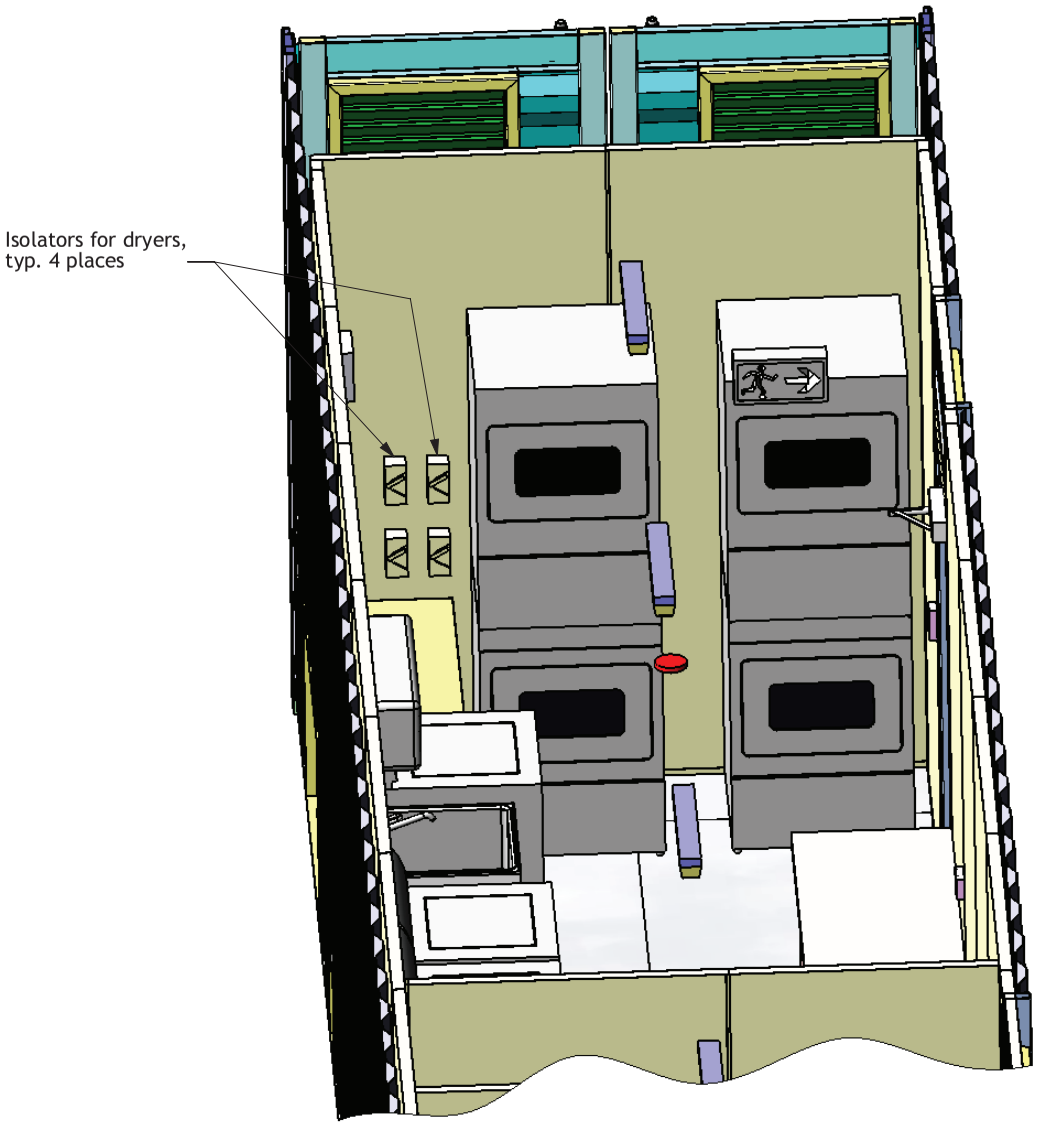
CLIENT: RWT
PROJECT: PA# 12-0054
AREA: NATIONAL MINING & DEFENCE
DRAWING TITLE: 40' ABLUTIONS LAUNDRY
FURTHER DESCRIPTION: GENERAL ASSEMBLY

SHEET	REVISION	REVISION DATE
SHEET 4 OF 6	3	

DRAWING NUMBER: RWT-NMD-HS777-001



PARTIAL VIEW ONTO DRYERS

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PAPER	A3	
SCALE	STATED	
MASS		KG
DESIGNED		
DRAWN	MKB	04/05/2012
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RWT APP.		
CLIENT APP.		

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6.101 M - 13 M ; ±3.0 mm

CLIENT: RWT

PROJECT: PA# 12-0054

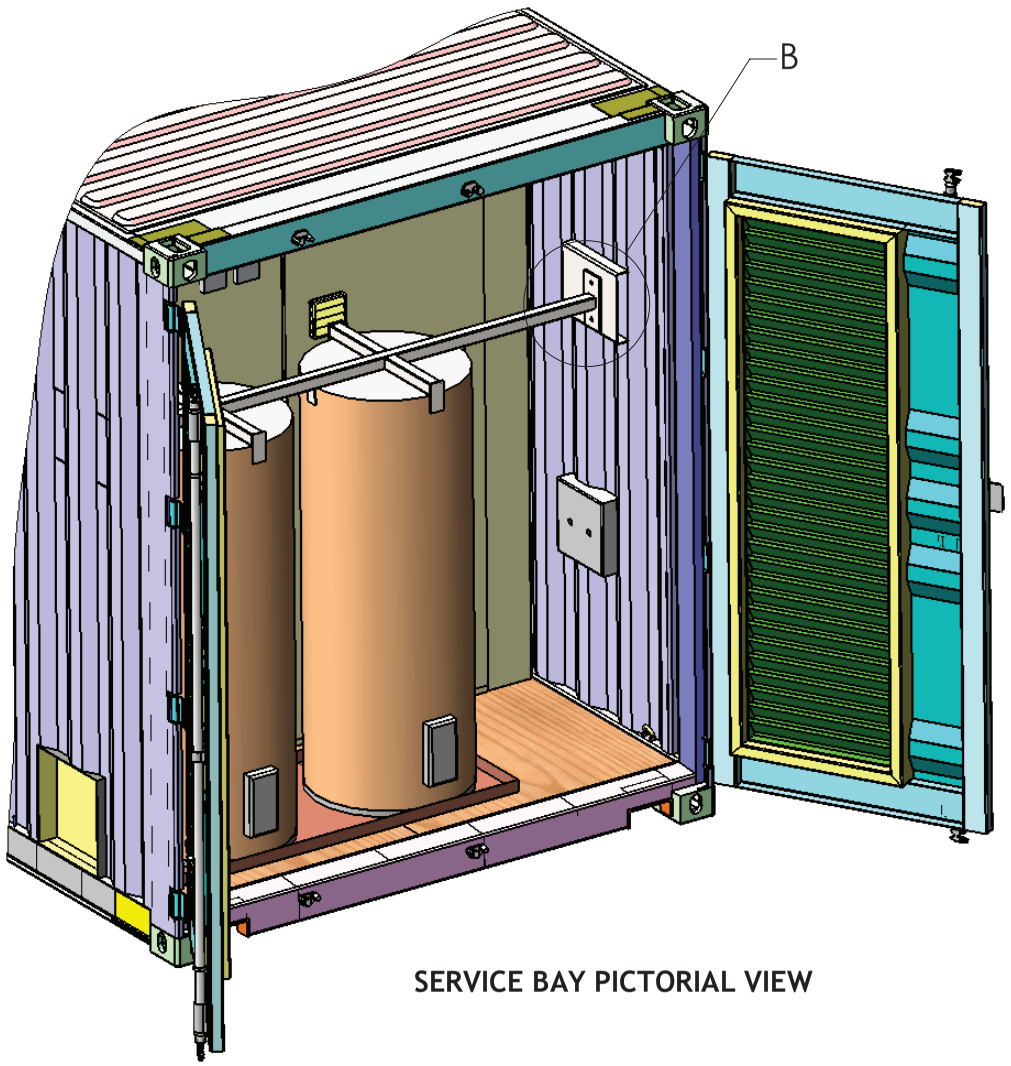
AREA: NATIONAL MINING & DEFENCE

DRAWING TITLE: 40' ABLUTIONS LAUNDRY

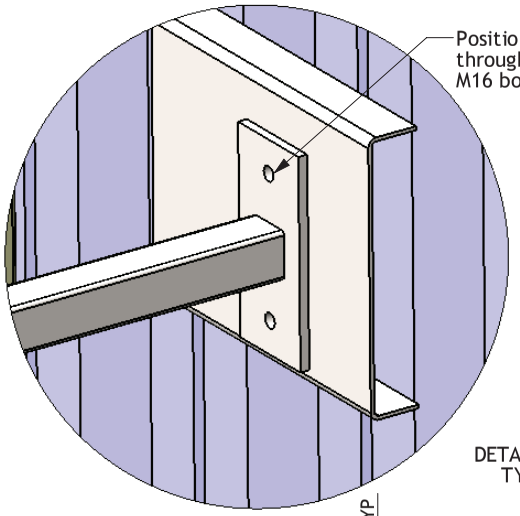
FURTHER DESCRIPTION: GENERAL ASSEMBLY

SHEET	REVISION	REVISION DATE
SHEET 5 OF 6	3	

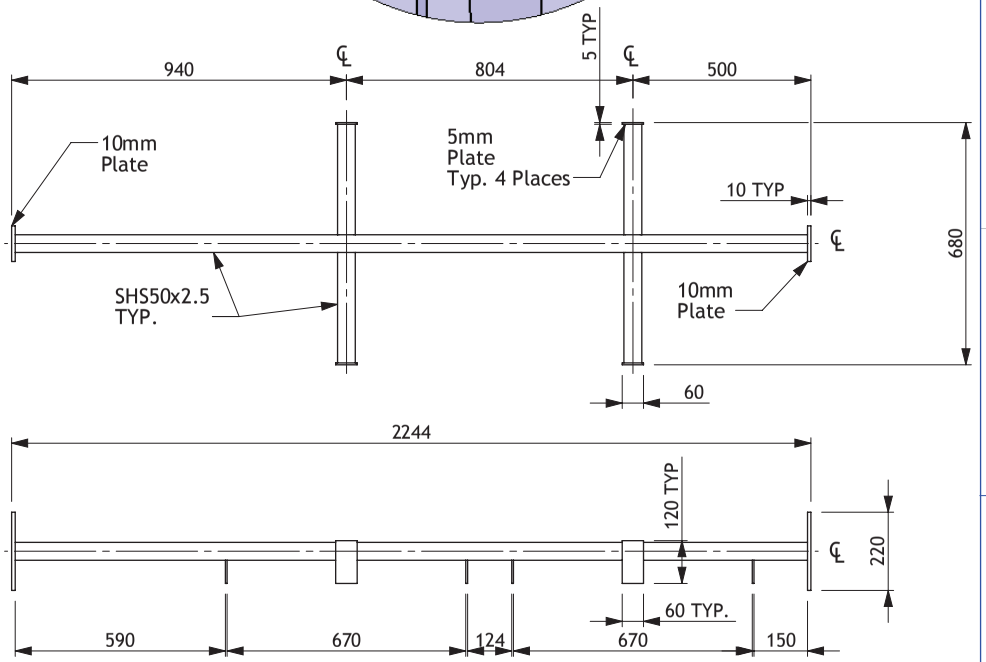
DRAWING NUMBER: RWT-NMD-HS777-001



SERVICE BAY PICTORIAL VIEW



DETAIL B SCALE 1 : 5
TYP. Both sides



ITEM 41, HWS BRACE
STEEL CONSTRUCTION

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PAPER	A3	
SCALE	STATED	
MASS		KG
DESIGNED		
DRAWN	MKB	04/05/2012
CHECKED		
RWT APP.		
CLIENT APP.		

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51mm-1M ; ±1.0 mm
1.001M - 6.1 M ; ±2.0 mm
6.101 M - 13 M ; ±3.0 mm

CLIENT: RWT
PROJECT: PA# 12-0054
AREA: NATIONAL MINING & DEFENCE
DRAWING TITLE: 40' ABLUTIONS LAUNDRY
FURTHER DESCRIPTION: GENERAL ASSEMBLY

SHEET	REVISION	REVISION DATE
SHEET 6 OF 6	3	

DRAWING NUMBER: RWT-NMD-HS777-001

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APPENDIX E

Servicing Plans

HYDRAULIC DESIGN FOR STAGE 5 OF MINING CAMP AT 94 MAIN STREET, ULAN, NSW 2850

DRAWING REGISTER

17329 - HD30	TITLE PAGE, GENERAL NOTATIONS & SPECIFICATIONS
17329 - HD31	EXISTING APPROVED PLAN, STAGES 1 -4
17329 - HD32	SURFACE STORMWATER MANAGEMENT PLAN
17329 - HD33	ROOF STORMWATER MANAGEMENT PLAN
17329 - HD34	STORMWATER SPECIFICATION SHEET
17329 - HD35	SEWER COLLECTION MANAGEMENT PLAN
17329 - HD36	SEWER DISPOSAL PLAN
17329 - HD37	SEWER SPECIFICATION SHEET
17329 - HD38	POTABLE WATER RETICULATION PLAN
17329 - HD39	POTABLE WATER SPECIFICATION SHEET

SITEWORKS NOTES
1. ORIGIN OF LEVELS :- LOCAL BENCH MARK.
2. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK.
3. ALL WORK IS TO BE UNDERTAKEN IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS, THE SPECIFICATIONS AND THE DIRECTIONS OF THE SUPERINTENDENT.
4. EXISTING SERVICES HAVE BEEN OBTAINED FROM SURFACE INSPECTION ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH THE LOCATION AND THE LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE SUPERINTENDENT. CLEARANCES SHALL BE OBTAINED FROM THE RELEVANT SERVICE AUTHORITY.
5. WHERE NEW WORKS ABUT EXISTING THE CONTRACTOR SHALL ENSURE THAT A SMOOTH EVEN PROFILE, FREE FROM ABRUPT CHANGES IS OBTAINED.
6. THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A QUALIFIED SURVEYOR.
7. CARE IS TO BE TAKEN WHEN EXCAVATING NEAR EXISTING SERVICES. NO MECHANICAL EXCAVATIONS ARE TO BE UNDERTAKEN OVER TELECOM OR ELECTRICAL SERVICES. HAND EXCAVATE IN THESE AREAS.
8. ON COMPLETION OF CONSTRUCTION, ALL DISTURBED AREAS MUST BE RESTORED TO ORIGINAL, INCLUDING KERBS, FOOTPATHS, CONCRETE AREAS, GRAVEL AND GRASSED AREAS AND ROAD PAVEMENTS.
9. MAKE SMOOTH TRANSITION TO EXISTING AREAS.
10. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY DIVERSION DRAINS AND MOUNDS TO ENSURE THAT AT ALL TIMES EXPOSED SURFACES ARE FREE DRAINING AND WHERE NECESSARY EXCAVATE SUMPS AND PROVIDE PUMPING EQUIPMENT TO DRAIN EXPOSED AREAS. ALL WORK TO BE UNDERTAKEN WITH ADHERENCE TO THE REQUIREMENTS OF THE SOIL AND WATER MANAGEMENT PLAN.
11. THESE PLANS SHALL BE READ IN CONJUNCTION WITH APPROVED ARCHITECTURAL, STRUCTURAL, HYDRAULIC AND MECHANICAL DRAWINGS AND SPECIFICATIONS.

BEDDING NOTES
1. THE MINIMUM DEPTH TO TOP OF PIPE SHALL BE 600mm, EXCEPT UNDER ROAD PAVEMENT WHERE MINIMUM COVER TO TOP OF PIPE SHALL BE 800mm MINIMUM UNLESS SHOWN OTHERWISE. PIPES WITH LESS COVER THAN THESE LIMITS TO BE CONCRETE ENCASED, AND DICL UNDER ROADS.
2. GRADES OF GRAVITY MAINS NOT TO BE FLATTER THAN 1 IN 200 (0.5%) FOR 150mm DIAMETER PIPES AS PER DESIGN, UNLESS APPROVED BY COUNCIL
3. MANHOLES SHALL BE PLACED AT EACH CHANGE IN DIRECTION OR GRADE OF THE PIPE LINE AT INTERVALS ALONG THE LINE NOT EXCEEDING 80m.

GENERAL NOTES
1. ALL SEWER MAINS SHALL BE 150ø CLASS SN8 RRJ UPVC PIPE (U.N.O). ALL GRAVITY LINES TO USE SEWER GRADE FITTINGS WHERE REQUIRED.
2. CONSTRUCTION OF SEWER MAINS AND MANHOLES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WSA SEWERAGE CODE, WSA-02, 2002.
3. ANY OTHER SERVICES INCLUDING TELSTRA, GAS, POWER, WATER AND STORMWATER MUST BE LOCATED BEFORE WORK COMMENCES.
4. ALL SEWER MAINS TO BE PRESSURE TESTED A2002.
5. ALL SEWER LINES PASSING THROUGH CONCRETE FOOTINGS TO BE INSTALLED WITH 'ABLEFLEX' OR SIMILAR TO ACCOMODATE EXPANSION.
6. WHERE REQUIRED, PENETRATIONS THROUGH CONCRETE FOOTINGS ARE TO BE INSTALLED WITHIN CENTRAL 1/3 OF FOOTING AND TO BE APPROVED BY STRUCTURAL ENGINEER PRIOR TO POURING OF CONCRTE.

SEWER NOTES
1. ALL PLUMBING WORKS SHALL BE IN ACCORDANCE WITH AS 3500, LOCAL WATER AUTHORITY, THE BUILDING CODE OF AUSTRALIA, AND WATER GUIDELINES.
2. LIASE WITH THE LOCAL WATER AUTHORITY AND PLUMBING INDUSTRY COMMISSION AND ALLOW TO PAY ALL REQUIRED FEES/LEVIES ETC. ASSOCIATED WITH THE WORKS.
3. FIXTURES, TAP WARE AND FITTINGS SHALL BE SUPPLIED AND INSTALLED AS PER ARCHITECTS SELECTION. REFER BUILDING WORKS SPECIFICATION. CONCEAL ALL PIPES WITHIN WALLS. NO SURFACE MOUNTED PIPING IS ACCEPTABLE. INCLUDE RETICULATION OF DOMESTIC HOT AND COLD WATER TO ALL FIXTURES - REFER ARCHITECT'S PLANS.
4. COORDINATE ALL WORKS WITH ALL OTHER SERVICES. CHECK LEVELS OF ALL PIPES PRIOR TO WORKS.
5. THE PLUMBING CONTRACTOR SHALL CARRY OUT ALL EXCAVATION, SHORING AND BACKFILLING. BACK FILL WITH CONSOLIDATED CLASS 2 CRUSHED ROCK WHERE SERVICES ARE BELOW PATHS, ROADS ETC. 98% COMPACTION DRY DENSITY.
6. PIPING LOCATED UNDERGROUND SHALL WHERE REQUIRED BE WRAPPED WITH AN APPROVED MATERIAL.
7. THE PLUMBING CONTRACTOR SHALL SUPPLY AND INSTALL, TEST AND COMMISSION ALL PLUMBING SYSTEMS AS NOTED ON DRAWINGS. ALL WORKS TO BE IN ACCORDANCE WITH AS 3500 RELEVANT PARTS, LOCAL WATER AUTHORITY, FIRE AUTHORITY AND BUILDING CODE OF AUSTRALIA.
8. PROVIDE Ø100 CONNECTION TO SEWER FROM EACH WC.
9. MATERIALS: - SEWER TO BE IN UPVC IN ACCORDANCE WITH AS/NZS 3500.2.2 - 1996.
10. TUNDISH TO BE PROVIDED TO ALL MECHANICAL SERVICES.
11. MANHOLES SHALL BE PRECAST CONCRETE FROM A SUPPLIER APPROVED BY COUNCIL AND HAVE STEP IRONS AT 300mm SPACINGS, A ROUND REMOVABLE LIGHT DUTY GATIC COVER (UNO) AND A MINIMUM INTERNAL DIAMTER OF 1020mm.

STORMWATER NOTES
1. ALL DOWNPIPE LINES SHALL BE SEWER GRADE uPVC WITH SOLVENT WELD JOINTS (U.N.O)
2. EQUIVALENT STRENGTH VCP OR FCP PIPES MAY BE USED.
3. MINIMUM GRADE TO STORMWATER LINES TO BE 0.5% MINIMUM (U.N.O)
4. CONTRACTORS TO SUPPLY AND INSTALL ALL FITTINGS AND SPECIALS INCLUDING VARIOUS PIPE ADAPTORS TO ENSURE PROPER CONNECTION BETWEEN DISSIMILAR PIPEWORK.
5. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.
6. APPROVED PRECAST PITS MAY BE USED.
7. WHERE TRENCHES ARE IN ROCK, THE PIPE SHALL BE BEDDED ON A MIN. 50mm CONCRETE BED (75mm THICK BED OF 12mm BLUE METAL) UNDER THE BARREL OF THE PIPE. THE PIPE COLLAR AT NO POINT SHALL BEAR THE ROCK. IN OTHER THAN ROCK, PIPES SHALL BE LAID ON A 75mm THICK SAND BED. IN ALL CASES, BACKFILL THE TRENCH WITH THE SAND TO 200mm ABOVE THE PIPE .WHERE THE PIPE IS UNDER PAVEMENTS, BACKFILL REMAINDER OF TRENCH WITH SAND OR APPROVED GRANULAR BACKFILL COMPACTED IN 150mm LAYERS TO 98% MAX. DRY DENSITY.
8. WHERE STORMWATER LINES PASS UNDER FLOOR SLABS, SEWER GRADE RUBBER RING JOINTS ARE TO BE USED.
9. ALL PIPES IN THE ROADWAY AND FOOTPATH AREAS, WHERE THE DEPTH OF PIPE IS LESS THAN 500mm FROM THE FINISHED SURFACE LEVEL ARE TO BE CONCRETE ENCASED.

SURVEY NOTES
1. CONTOURS SHOWN DEPICT THE TOPOGRAPHY. EXCEPT AT SPOT LEVELS SHOWN THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT.
2. SERVICES SHOWN HEREON HAVE BEEN DETERMINED FROM VISUAL EVIDENCE AND ARE INDICATIVE ONLY. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE THE RELEVANT AUTHORITY SHOULD BE CONTACTED TO ESTABLISH DETAILED LOCATION AND DEPTH.

PIPE TRENCH - FILL NOTES:
1. BEDDING SAND
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 95% AS DETERMINED IN ACCORDANCE WITH AS1289.

2. APPROVED IMPORTED GRANULAR FILL
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK TO A DRY DENSITY OF 100% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

3. ORDINARY EXCAVATED FILL MATERIAL
ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

BASE PREPARATION FILL NOTES:
1. FILLING USED IN THE CONSTRUCTION OF A SLAB, EXCEPT WHERE THE SLAB IS SUSPENDED, SHALL CONSIST OF CONTROLLED FILL AS FOLLOWS:
CONTROLLED FILL:
A) MAXIMUM 500mm DEEP. FILL SHALL BE WELL COMPACTED IN 150mm LAYERS BY AMECHANICAL ROLLER TO A MINIMUM 95% STANDARD COMPACTION FOR A SINGLE STORY DWELLING, AND 98% STANDARD COMPACTION FOR A DOUBLE STORY DWELLING. FILL SHALL BE OF LESS REACTIVITY THAN NATURAL SOIL.
2. FILL WITH A GREATER DEPTH THAN THAT SPECIFIED ABOVE SHALL BE INSTALLED AND CERTIFIED BY A NATA REGISTERED LABORATORY IN ACCORDANCE WITH AS3798-2007, LEVEL 2.
3. FILL SHALL BE EXTENDED PAST THE EDGE OF THE RESIDENCE AND SHALL BE RETAINED OR BATTERED BY A SLOPE.

Drawing Status:
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Project:
PROPOSED CAMP VILLAGE, STAGE 5 SA
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
HYDRAULIC DESIGN
DRAWING REGISTER
GENERAL NOTATIONS & SPECIFICATIONS

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number 17239 HD30

Revision 0

MAIN ST.

MAIN ST.

BOUNDARY

BOUNDARY

BOUNDARY

BOUNDARY

50 KL POTABLE SUPPLY
STORAGE TANK.
SUPPLY BY ULAN WATER

CONCRETE ENTRANCE

GRANDSTAND (EXISTING)

RECREATION (EXISTING)

BUS DROP OFF / LOADING BAY

PARKING BITUMEN

PARKING BITUMEN

PARKING BITUMEN

OFFICE

P2

P3

KITCHEN / DINING

TOILETS

GYM

ACCESSIBLE AWNING

ACCESSIBLE AWNING

LAUNDRY

OZZI-KLEEN STP

OZZI-KLEEN STP

OZZI-KLEEN STP

AWNING

LAUNDRY

PROPOSED 58cu.m OSD BASIN.
12m x12m x0.5 m DEEP, BATTER AT 1:3
TOP RL= 416.100
BOTTOM RL = 415.500
REFER DRAINAGE REPORT 17239- CR02b
BY BARNSON FOR VOLUME DETAILS

PROPOSED 2m LONG x 100 mm DEEP
RIP RAP LINED SPILLWAY
SPILLWAY CREST =416.000

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE
- EXISTING SEWER LINE
- EXISTING STORMWATER LINE

EXISTING APPROVED PLAN
STAGES 1 - 4
SCALE = 1:400

DESIGN NOTE:
ARI = 1 in 100 YEAR STORM
RAINFALL INTENSITY = 154mm/hr

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ULAN NSW 2850

Drawing Title:
EXISTING APPROVED PLAN, STAGES 1 - 4

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
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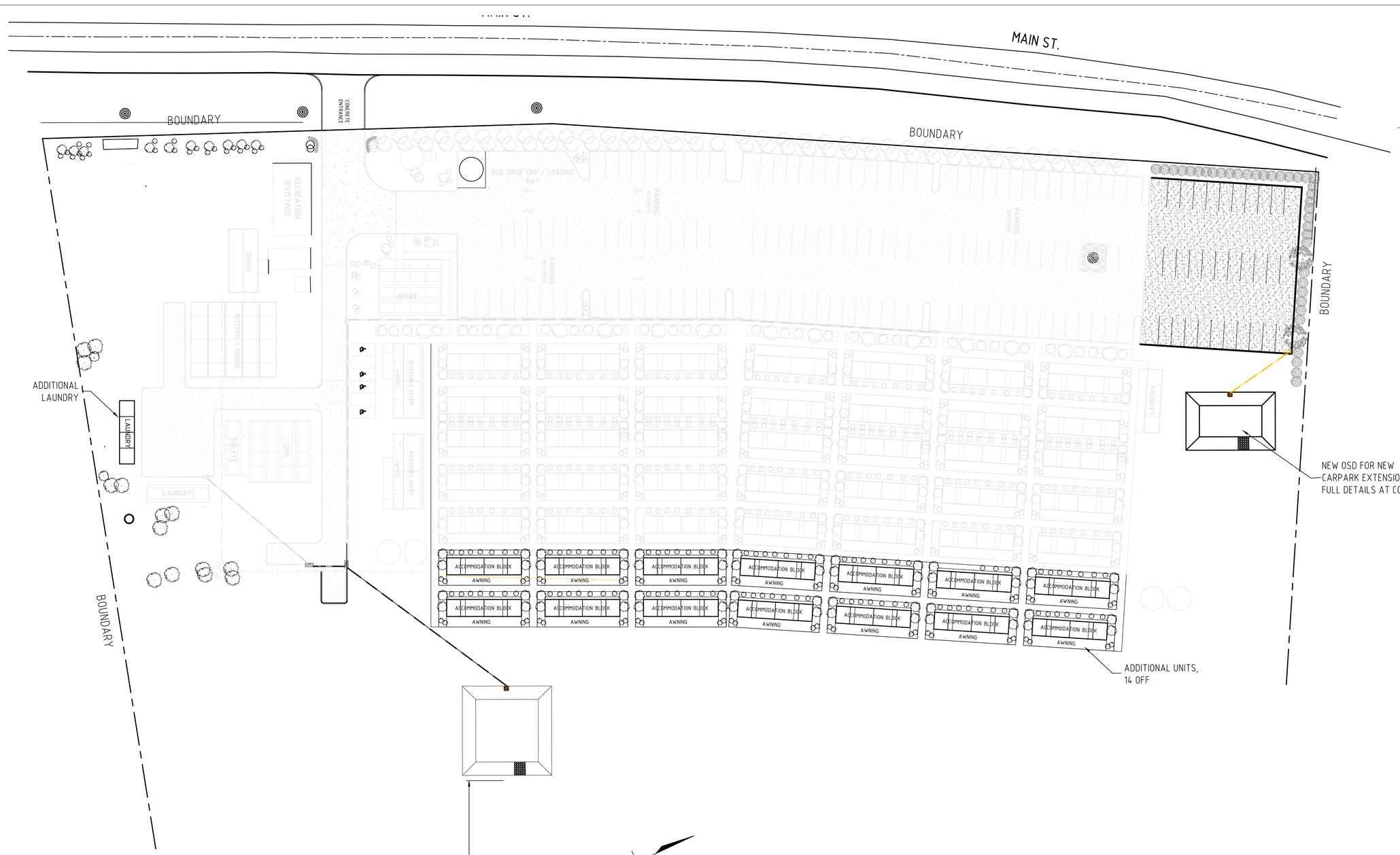
Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Drawing Status:
SUBMISSION FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD31

Revision: 0



GENERAL ARRANGEMENT
SURFACE STORMWATER MANAGEMENT PLAN
SCALE = 1:400

DESIGN NOTE:
ARI = 1 in 100 YEAR STORM
RAINFALL INTENSITY = 154mm/hr

SURFACE STORMWATER LEGEND

P1 GRATED STORMWATER PITS (600 SQ. UNO). LID AS SPECIFIED.

PROPOSED STORMWATER DRAINAGE PIPE.

PROPOSED SEWER LINE

GENERAL LEGEND

EDGE OF PAVEMENT (PROPOSED)

BOUNDARY LINE

EXISTING FENCE

EXISTING TELSTRA U/G

EXISTING POWER POLE

STORMWATER ANALYSIS
1. DESIGN CALCULATIONS AS PER AS3500.3-2003
2. RAINFALL INTENSITY FOR 10 MINUTES DURATION AND AN ARI OF 100 YEARS Q_{100} = 154 mm/hr.

Drawing Status:
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PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
SURFACE STORMWATER MANAGEMENT PLAN

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

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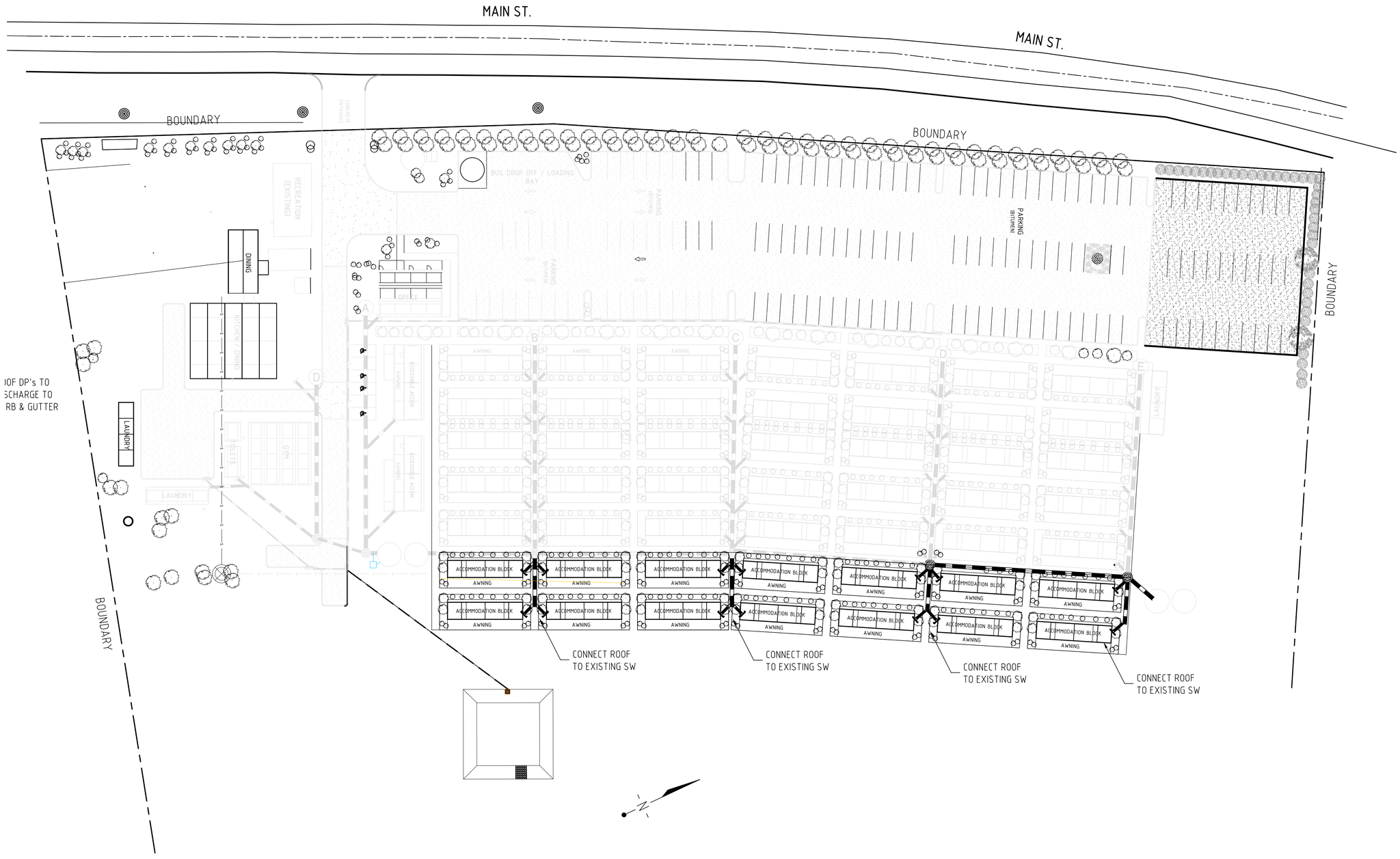
Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD32
Revision: 0



ROOF STORMWATER LEGEND

MS1-SW — SEALED STORMWATER JUNCTION PITS WITH CONCRETE LID SUPPORT.

PROPOSED STORMWATER DRAINAGE PIPE.

MAJOR FLOW OVERLAND FLOW PATH 1:100 ARI MIN FALL 1:200 U.N.O.

PROPOSED SEWER LINE

GENERAL LEGEND

EDGE OF PAVEMENT (PROPOSED)

BOUNDARY LINE

EXISTING FENCE

EXISTING TELSTRA U/G

EXISTING POWER POLE

STORMWATER ANALYSIS

1. DESIGN CALCULATIONS AS PER AS3500.3-2003
2. RAINFALL INTENSITY FOR 10 MINUTES DURATION AND AN ARI OF 100 YEARS Q_{100} = 154 mm/hr.

GENERAL ARRANGEMENT
ROOF STORMWATER MANAGEMENT PLAN

SCALE = 1:400

DESIGN NOTE:
ARI = 1 in 100 YEAR STORM
RAINFALL INTENSITY = 154mm/hr

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Drawing Title:
ROOF STORMWATER MANAGEMENT PLAN

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

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Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD33
Revision: 0

STORMWATER NOTES

1. CONTRACTOR IS TO ADEQUATELY INFORM HIMSELF AS TO THE DEPTH AND LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2. PIPE IS TO BE LAID AT UNIFORM GRADE BETWEEN INVERT LEVELS SHOWN WITH MINIMUM COVER MAINTAINED UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.

3. MINIMUM COVER OVER ALL PIPES IN NON-TRAFFICABLE AREAS TO BE 450mm UNO. MINIMUM COVER OVER ALL PIPES IN TRAFFICABLE AREAS TO BE 600mm UNO. WHEN THIS CRITERIA CANNOT BE ACHIEVED, PIPES TO BE ENCASED IN 150 CONCRETE.

5. ALL CONNECTIONS TO EXISTING DRAINAGE PITS SHALL BE MADE IN A TRADESMAN-LIKE MANNER AND THE INTERNAL WALL OF THE PIT AT THE POINT OF ENTRY SHALL BE CEMENT RENDERED TO ENSURE A SMOOTH FINISH.

6. PRECAST PITS MAY BE USED AS APPROVED BY THE SUPERINTENDENT.

7. ALL PIPES SHALL BE RUBBER RING JOINTED CLASS '2' UNLESS NOTED OTHERWISE.

COMPACTION OF BACKFILL

1. BEDDING SAND

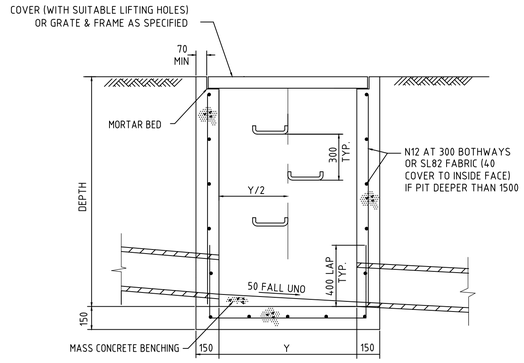
BEDDING SAND SHALL BE GRANULAR MATERIAL HAVING A LOW PERMEABILITY AND HIGH STABILITY WHEN SATURATED, CONFORMING TO THE GRADING LIMITS FOR BEDDING SAND AS INDICATED IN THE CONTRACT DOCUMENTS. BEDDING SAND SHALL BE COMPACTED TO A DENSITY INDEX OF 70% AS DETERMINED IN ACCORDANCE WITH AS1289.

2. APPROVED IMPORTED GRANULAR FILL

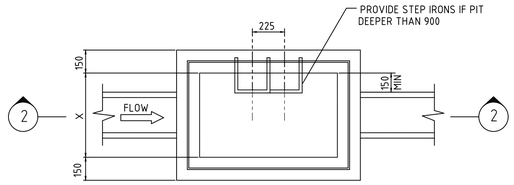
ONLY IMPORTED GRANULAR FILL MATERIAL APPROVED BY THE SUPERINTENDENT SHALL BE USED. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm THICK TO A DRY DENSITY OF 95% OF THE STANDARD MAXIMUM DRY DENSITY OF THE MATERIAL AND WITH A MOISTURE CONTENT NO MORE THAN 1% ABOVE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.

3. ORDINARY EXCAVATED FILL MATERIAL

ORDINARY EXCAVATED FILL MATERIAL IS EXCAVATED TRENCH MATERIAL THAT IS FREE OF VEGETABLE MATTER, HUMUS, LARGE CLAY LUMPS AND ROCK BOULDERS. THIS FILL MATERIAL SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 300mm THICK, TO A DENSITY OF 90% OF THE STANDRAD MAXIMUM DRY DENSITY OF THE MATERIAL WITH A MOISTURE CONTENT OF NOT MORE THAN 1% ABOVE THE OPTIMUM MOISTURE CONTENT AS DETERMINED IN ACCORDANCE WITH AS1289.



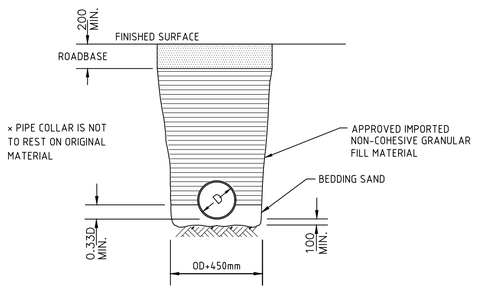
SECTION 2



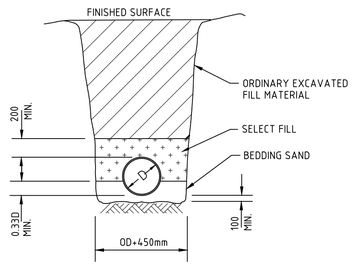
PLAN

GRATED INLET PIT
N.T.S.

PIT DIMENSIONS		
DEPTH	X	Y
D<600	450	450
D<1000	600	600
D<1500	600	900
1500<D<2400	900	900
D>2400	750	1200



TYPICAL SECTION - TRENCH IN ROADWAY
N.T.S.



TYPICAL SECTION - EARTH FOUNDATION TRENCH
N.T.S.

INSPECTION HOLD POINTS

1. INSTALLATION OF SEDIMENT & EROSION CONTROL MEASURES.
2. WATER & SEWER LINE INSTALLATION PRIOR TO BACKFILL.
3. ESTABLISHMENT OF LINE & LEVEL FOR KERB & GUTTER PLACEMENT.
4. ROAD PAVEMENT CONSTRUCTION.
5. ROAD PAVEMENT SURFACING.
6. PRACTICAL COMPLETION.

SERVICES INSTALLATION

1. INSTALLATION OF ALL UUNDERGROUND PIPES BE INSTALLED PRIOR TO INSTALLATION OF ROAD PAVEMENT.

Drawing Status:
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Client: LONGNECKS Pty Ltd

Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
STORMWATER SPECIFICATION
SHEET

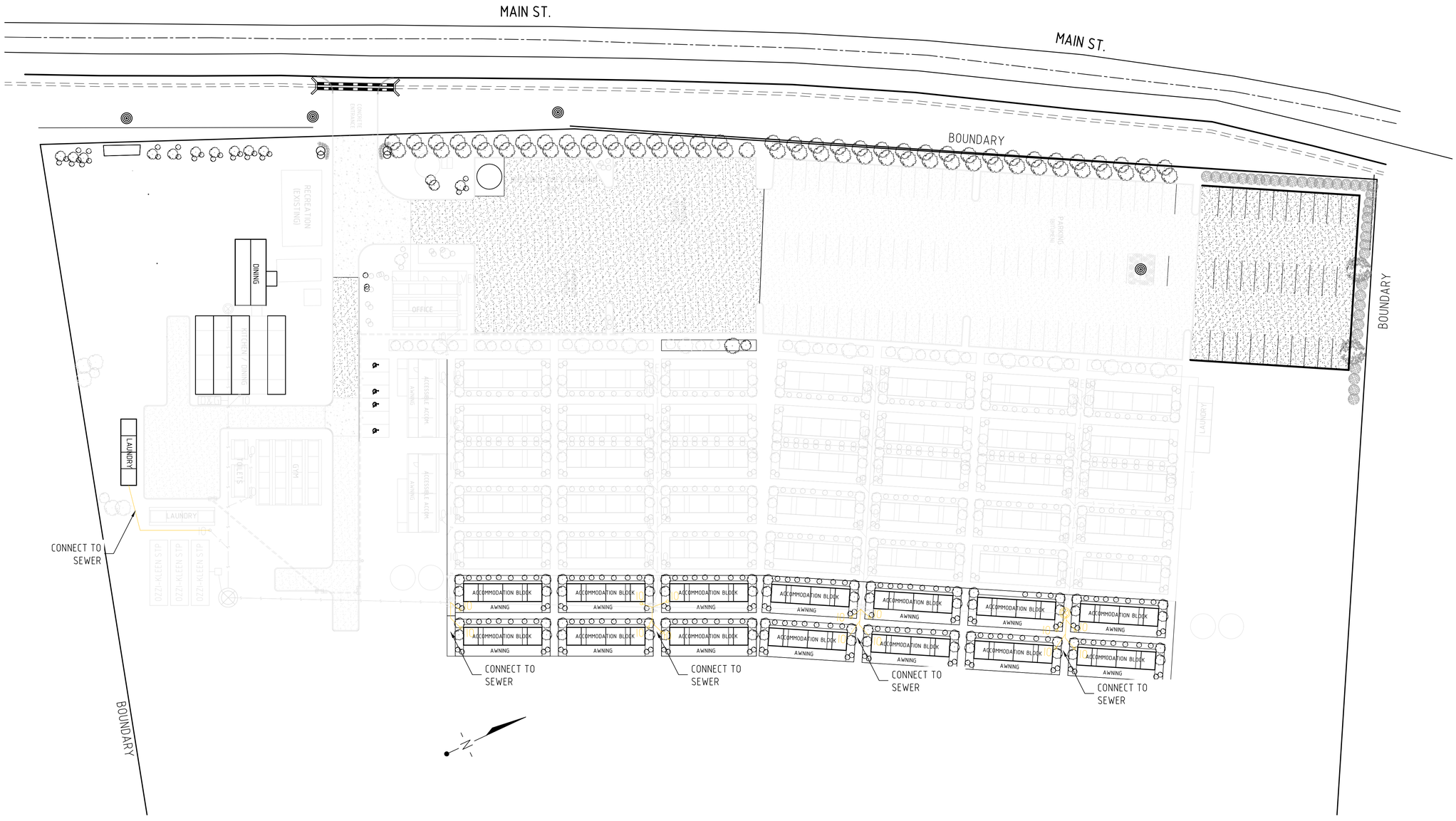
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD34
Revision: 0



SEWER LEGEND

- MS1 — SEALED SEWER MAINTENANCE SHAFT WITH CONCRETE LID SUPPORT, REFER DETAILS.
- PROPOSED SEWER LINE. ALL SEWER PIPES LEADING FROM UNITS ARE Ø150 @ 2%. SEWER LINES BETWEEN MANHOLES AS PER SCHEDULE.
- O&G — 2000l OIL & GREASE REMOVAL UNIT.
- IO — INSPECTION OPENING.

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE

SEWER COLLECTION MANAGEMENT PLAN

SCALE = 1:400

Drawing Status:
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PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
SEWER COLLECTION MANAGEMENT PLAN

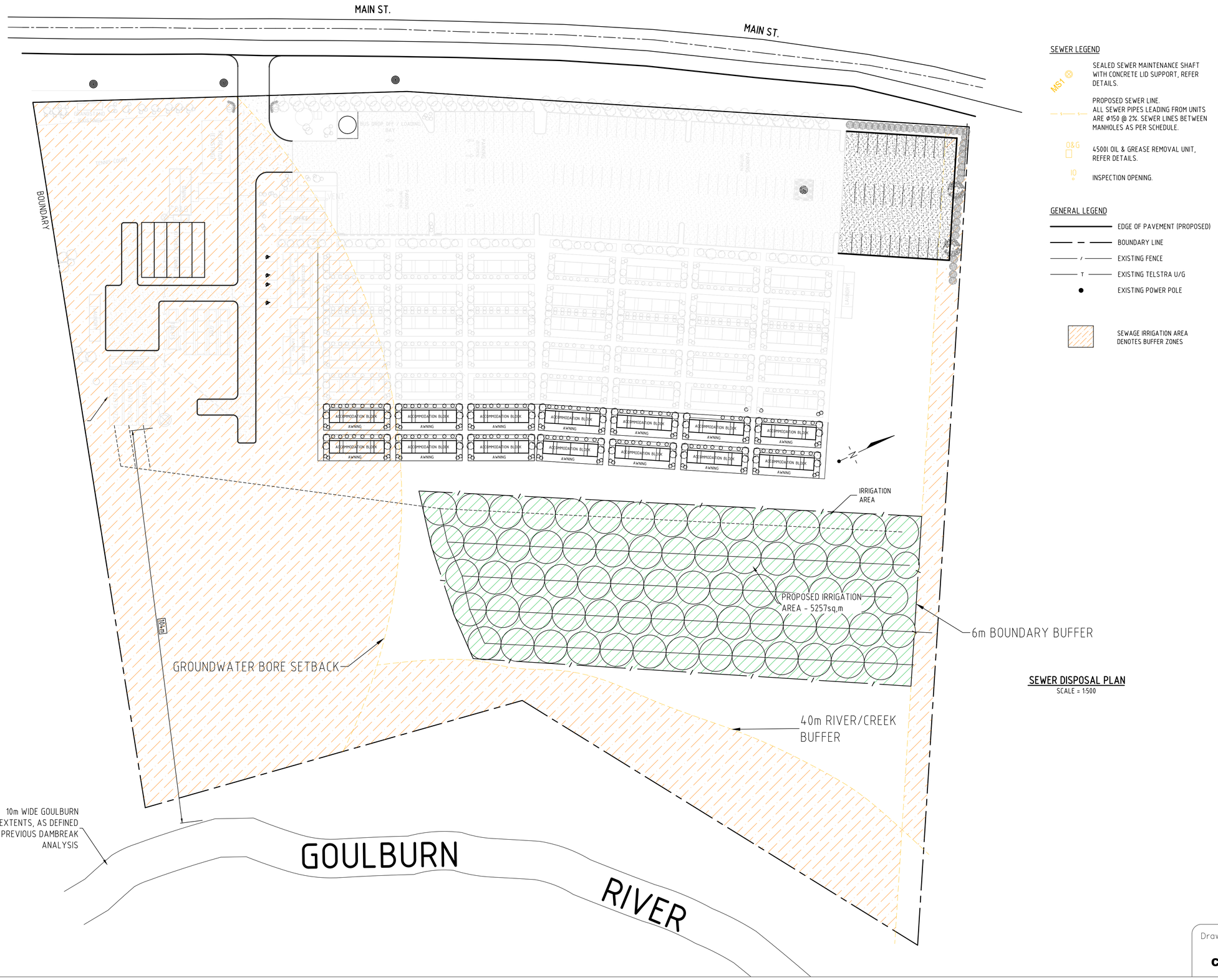
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HD35
Revision: 0



SEWER DISPOSAL PLAN
SCALE = 1:500

SEWER LEGEND

MS1 — SEALED SEWER MAINTENANCE SHAFT WITH CONCRETE LID SUPPORT, REFER DETAILS.

PROPOSED SEWER LINE. ALL SEWER PIPES LEADING FROM UNITS ARE Ø150 @ 2%. SEWER LINES BETWEEN MANHOLES AS PER SCHEDULE.

O&G — 4500l OIL & GREASE REMOVAL UNIT, REFER DETAILS.

IO — INSPECTION OPENING.

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE
- SEWAGE IRRIGATION AREA DENOTES BUFFER ZONES

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94 MAIN STREET
ULAN NSW 2850

Drawing Title:
SEWER DISPOSAL PLAN

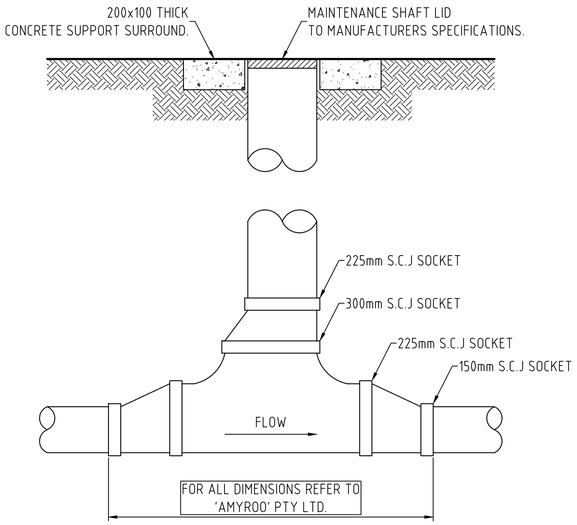
Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
A	12-05-2023	FOR COUNCIL INFORMATION

Certification

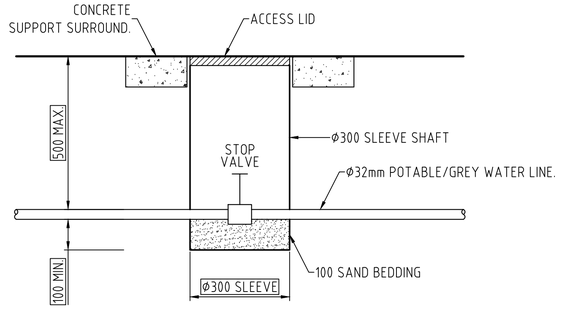
Drawing Number: 17239 HDH6
Revision: 0



TYPICAL MAINTENANCE SHAFT FOR ROOFWATER &SEWER LINES SHOWING ø150 PIPE

SCALE 1:10

NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL



TYPICAL IN-GROUND STOP VALVE ACCESS SHAFT

SCALE 1:10

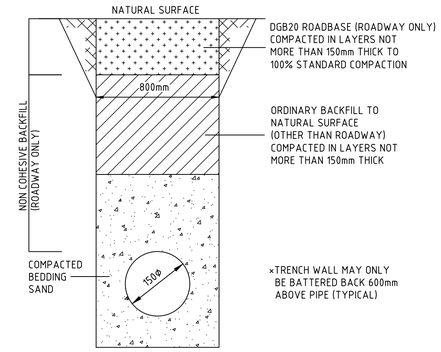
NOTE: SIMILAR ALTERNATIVE IN-GROUND VALVE ACCESS SHAFT ARRANGEMENT IS ACCEPTABLE.

NOTES

1. ALL SEWER MAINS SHALL BE 150ø/225ø CLASS SN8 RRJ UPVC PIPE. ALL GRAVITY LINES TO USE SEWER GRADE FITTINGS WHERE REQUIRED.
2. CONSTRUCTION OF SEWER MAINS AND MANHOLES SHALL BE CARRIED OUT IN ACCORDANCE WITH THE WSA SEWERAGE CODE, WSA-02, 2002.
3. ANY OTHER SERVICES INCLUDING TELSTRA, GAS, POWER, WATER AND STORMWATER MUST BE LOCATED BEFORE WORK COMMENCES.
4. MANHOLES SHALL BE PRECAST CONCRETE FROM A SUPPLIER APPROVED BY COUNCIL AND HAVE A ROUND REMOVABLE LIGHT DUTY GATIC COVER (UNO) AND A MINIMUM INTERNAL DIAMTER OF 1020mm.
5. 150mmø BOUNDARY RISERS SHALL BE PROVIDED TO EACH LOT TO BATHURST REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.
6. RISERS AND SIDELINES TO BE CONSTRUCTED TO WSA-02 2002.
7. FLOW LINE CHANNELS AND INTERSECTIONS SHALL BE CONSTRUCTED THROUGH MANHOLES AS PER WSA-02 2002.
8. ALL SEWER MAINS TO BE PRESSURE TESTED AS PER WSA-02 2002 AND BATHURST REGIONAL COUNCIL'S GUIDELINES FOR ENGINEERING WORKS.

BEDDING NOTES

1. THE MINIMUM DEPTH TO TOP OF PIPE SHALL BE 1000mm, EXCEPT UNDER ROAD PAVEMENT WHERE MINIMUM COVER TO TOP OF PIPE SHALL BE 1200mm MINIMUM UNLESS SHOWN OTHERWISE. PIPES WITH LESS COVER THAN THESE LIMITS TO BE CONCRETE ENCASED, AND DICL UNDER ROADS.
2. GRADES OF GRAVITY SEWER NOT TO BE FLATTER THAN 1:179 (0.55%) FOR 150mm DIAMETER PIPES AS PER WSA-2014.
3. MANHOLES SHALL BE PLACED AT EACH CHANGE IN DIRECTION OR GRADE OF THE PIPE LINE AT INTERVALS ALONG THE LINE NOT EXCEEDING 80m.



TYPICAL TRENCH SECTION

N.T.S.

× INSTALLATION OF UPVC PIPES SHALL TO CONFORM TO AS2032-1977 "INSTALLATION OF UPVC PIPE SYSTEMS", AS2566-1998 "BURIED FLEXIBLE PIPELINES", WSA-02 2002 AND MANUFACTURERS INSTRUCTIONS.

Drawing Status:
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Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
SEWER SPECIFICATION SHEET

Design	Drawn
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LM	RJN

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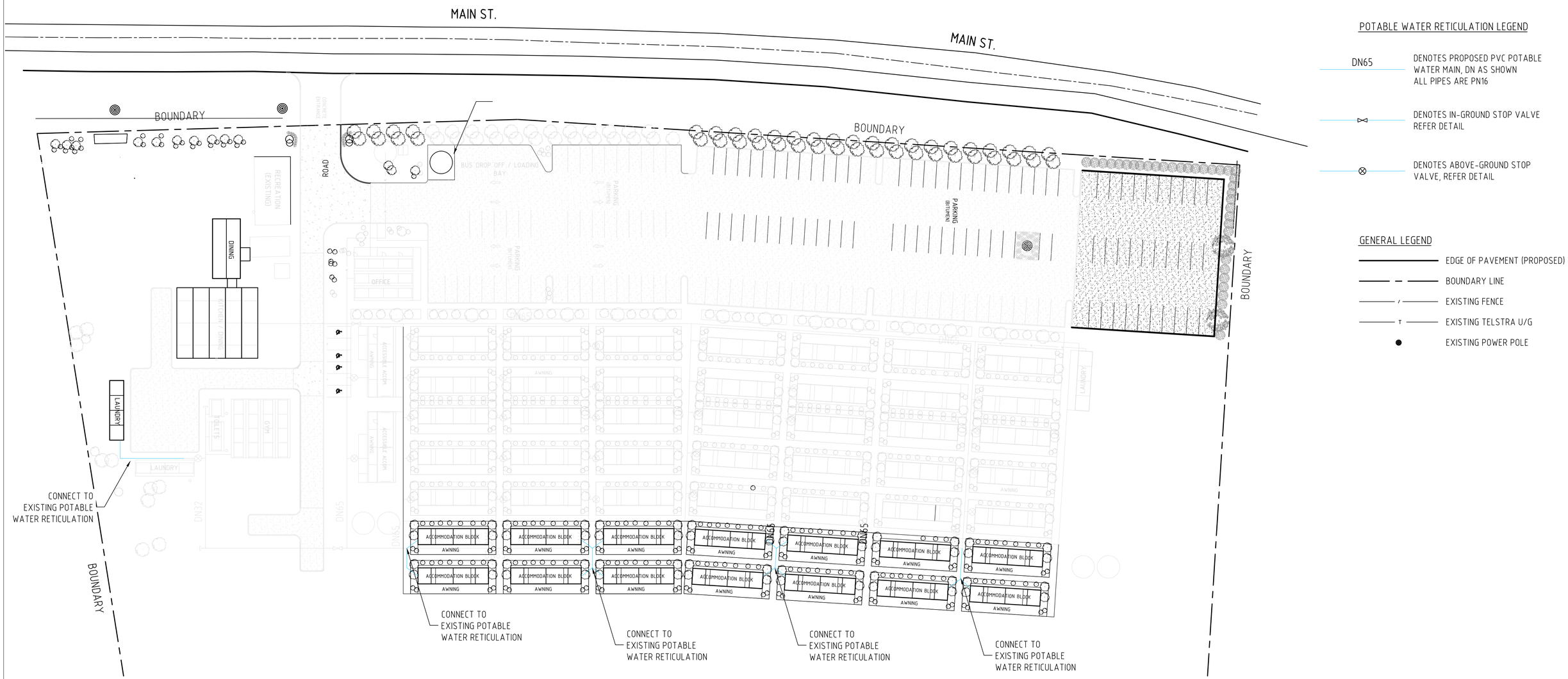
Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HDH7
Revision: 0



POTABLE WATER RETICULATION LEGEND

DN65	DENOTES PROPOSED PVC POTABLE WATER MAIN, DN AS SHOWN ALL PIPES ARE PN16
⋈	DENOTES IN-GROUND STOP VALVE REFER DETAIL
⊗	DENOTES ABOVE-GROUND STOP VALVE, REFER DETAIL

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE

POTABLE WATER RETICULATION PLAN -

SCALE = 1:400

Drawing Status:
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Drawing Title:
POTABLE WATER RETICULATION PLAN - STAGE 1

Design	Drawn
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Check	QA
LM	RJN

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Rev	Date	Amendment
0	12-05-2023	FOR COUNCIL INFORMATION

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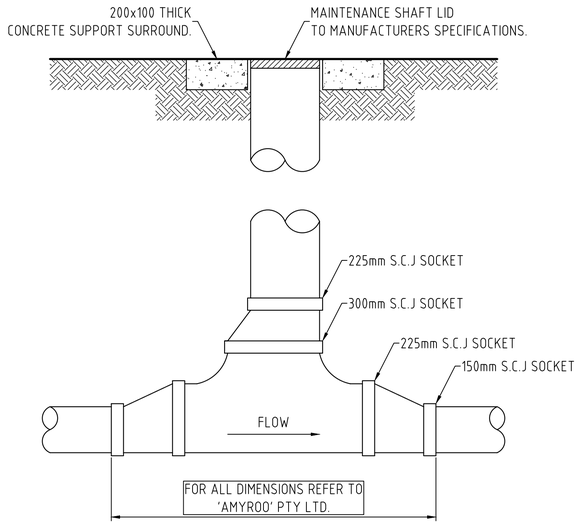
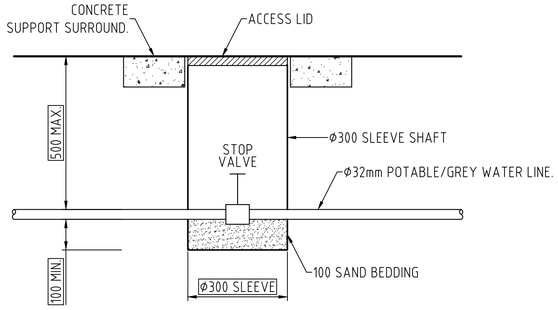
Drawing Number: 17239 HD38
Revision: 0



TYPICAL MAINTENANCE SHAFT FOR ROOFWATER &SEWER LINES SHOWING Ø150 PIPE

SCALE 1:10

NOTE: PIPE COLLAR IS NOT TO REST ON ORIGINAL MATERIAL



TYPICAL IN-GROUND STOP VALVE ACCESS SHAFT

SCALE 1:10

NOTE: SIMILAR ALTERNATIVE IN-GROUND VALVE ACCESS SHAFT ARRANGEMENT IS ACCEPTABLE.

NOTES:

1. STOP VALVE & SCOUR VALVE CHAMBERS MAY EITHER BE CONSTRUCTED USING PREFABRICATED POLYPROPYLENE UNITS, 375mm DIAM. PVC OR CONCRETE PIPE, INTERLOCKING CONCRETE BLOCKS OR BRICKS WITH SAND/CEMENT MORTAR JOINTS.

2. THE BOTTOM OF THE BRICK, INTERLOCKING CONCRETE BLOCK OR PIPE CHAMBERS SHALL NOT REST DIRECTLY ON THE PIPE BUT ON A COURSE OF BRICKS OR A 100mm THICK CONCRETE FOUNDATION.

3. MINIMUM COVER OVER PIPELINES (ALL TYPES) SHALL BE 750mm IN AREAS SUBJECT TO VEHICULAR LOADING SUCH AS ROADS & FOOTPATHS AND 600mm ELSEWHERE.

4. IN AREAS PAVED WITH BITUMEN SEALING, ASPHALT, CONCRETE OR PAVING BLOCKS THE SURFACE OF VALVE AND HYDRANT COVERS SHALL FINISH FLUSH WITH THE PAVED SURFACE.

5. FOR STOP VALVES INSTALLATION, SOCKETS SHALL BE BUTTED UP TO SPIGOTS AND TRENCH WIDTHS SHALL BE KEPT TO A MINIMUM.

6. FILL SAND SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm AND COMPACTED TO ACHIEVE A MINIMUM 70 % DENSITY INDEX AND TO THE SATISFACTION OF THE SUPERINTENDENT.

7. INDICATOR POSTS SHALL BE WHITE IN COLOUR AND ONE OF THE FOLLOWING TYPES :
- 100mm x 100mm REINFORCED CONCRETE WITH 20mm CHAMFERS.
- POWDER COATED METAL SUCH AS "EZIDRIVE" POST OR EQUIVALENT.
- RECYCLED PLASTIC POST WITH RECESSES FOR MARKER PLATES.
- OTHER POSTS APPROVED BY COUNCIL.

8. DIMENSIONS OF SURFACE BOX COVERS SHOWN ON THIS DRAWING ARE NOMINAL. IF SURFACE BOX COVERS OTHER THAN THOSE SHOWN ARE SUPPLIED, THE DIMENSIONS OF THE CONCRETE SURROUNDS SHALL BE ADJUSTED ACCORDINGLY.

9. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20 MPa AND COMPLY WITH THE AUS-SPEC SPECIFICATION FOR MINOR CONCRETE WORKS.

10. THE DIMENSION BETWEEN THE UNDERSIDE OF THE STOP VALVE SURFACE BOX LID AND THE TOP OF THE VALVE SPINDLE SHALL BE A MINIMUM OF 80mm. THE TOP OF VALVE SPINDLE SHALL BE NO MORE THAN 300mm BELOW TOP SURFACE OF SURFACE BOX LID. IF THIS CANNOT BE ATTAINED, A GALVANIZED OR EPOXY PAINTED VALVE KEY EXTENSION SECURED BY GRUB SCREWS SHALL BE FITTED. IF NECESSARY, TO ENSURE THAT THE KEY EXTENSION IS CENTERED CORRECTLY A SPIDER ASSEMBLY SHALL BE INCORPORATED IN THE EXTENSION.

CONSTRUCTION NOTES

1. WATER MAINS TO HAVE MINIMUM 500mm COVER IN FOOTPATH AND 800mm COVER IN ROADWAYS.
2. PIPES TO BE RACKED & BENDS PLACED AS REQUIRED.
3. STOP VALVES TO BE FBE/RILSAN COATED, ANTI-CLOCKWISE CLOSING AND TABLE C FLANGES.
4. ALL PIPES AND FITTINGS AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS & WSA WATER RETICULATION CODE.
5. MAIN SHALL BE PRESSURE-TESTED TO AS PER BATHURST REGIONAL COUNCIL'S ENGINEERING GUIDELINE'S FOR ENGINEERING WORKS, SECTION 8.3.2.
6. ALL MAINS FOR CONNECTION TO THE PUBLIC WATER SUPPLY SYSTEM SHALL BE DISINFECTED TO THE SATISFACTION OF COUNCIL INSPECTOR.
7. ALL CONCRETE SHALL BE 20MPa.
8. WATER MAINS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH BATHURST REGIONAL COUNCILS SPECIFICATIONS.
9. THE CONTRACTOR SHALL LOCATE AND POTHOLE ALL UTILITIES AND SERVICES INTERSECTING THE WORKS AND CONNECTIONS TO THE EXISTING WATER MAINS PRIOR TO COMMENCEMENT OF TRENCH EXCAVATION. PIPES SHALL BE DEFLECTED AT JOINTS IN ACCORDANCE WITH THE MANUFACTURERES RECOMMENDATIONS SUCH THAT CLEARANCES ARE MAINTAINED TO MEET UTILITY OR SERVICE OWNERS REQUIREMENTS

Drawing Status:
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Accredited Laboratories
Dubbo & Bathurst

Client: LONGNECKS Pty Ltd

Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
POTABLE WATER
SPECIFICATION SHEET

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

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APPENDIX F

Management Plans

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DESIGN . PLAN . MANAGE

Site and Soil Assessment for On-site Effluent Management

Client: Long Necks Developments Pty Ltd
Site Address: 94 Main Street, Ulan NSW 2850

28 April 2023

Our Reference : 17239-ER01_H

EXECUTIVE SUMMARY

The following table provides a summary of the information for sustainable onsite effluent management systems proposed at the Ulan Village Green temporary workers accommodation facility, Lot 32 DP750773, 94 Main Street, Ulan NSW 2850. The sections of this report that follow provide site specific details justifying the listed recommendations.

System Overview

Site Assessor	Nardus Potgieter
Client	Long Necks Developments Pty Ltd
Site Location	Ulan Village Green 94 Main Street, Ulan NSW 2850 - Lot 32 DP750773
Water Source	Off-site potable water supply delivered to site by water tanker. On-site roof water tank for use in flushing of toilets and landscaping
Estimated Daily Flow (L/day)	Daily flow estimates based on 92L/person per day: Extended 200 room capacity including WC, urinal, basin, and shower as well as use of kitchen and laundry – 18,400L/day
Treatment Recommendation	OZZI KLEEN Sewage Treatment Plant Model – SC100A (20,000 L/d). Treatment System was previously designed using an effluent generation estimate of 138L/person/day for a 144-room facility. The installed treatment capacity of 20,000L per day therefore provides a 8.6% safety buffer for operation of a 200 room facility.
Sub Soil Assessment Class	Field assessment and subsequent laboratory tests have classed the subsoil as category 4, as discussed in section 2.7.
Recommended Effluent Application Type	Category 4 soil (Clay Loams) and the disturbed nature of the soil present some restriction to the utilisation of absorption based systems for dispersion of the treated effluent. Surface Irrigation is therefore recommended.
Sub Soil Recommended Hydraulic Loading mm/day (DIR/DLR)	Drip and spray irrigation systems in category 4 soils have a design-loading rate of 3.5mm/day. (Refer to 2.7)
Effluent Design Criteria	As per section 4.2, the minimum application area was determined by calculating the requirements of hydraulic loading. As shown, a total of 5,257.0m² of irrigation field is required to dispose of the advanced secondary treated effluent from the OZZI KLEEN Sewage Treatment Plant.

It is recommended that a registered plumber be engaged to site and install the recommended on-site wastewater management systems.

DISCLAIMER

This report has been prepared solely for Long Necks Developments Pty Ltd (the Client) in accordance with the scope provided and for the purpose(s) as outlined throughout this report. Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

Installation must be by a licensed plumber and Barnson will not be liable for the incorrect installation and/or construction of the system. Installation and construction of the system must hold true to the design recommendations presented in this report. Installation should be in accordance with the prescriptions within AS 1547:2012.

Unless otherwise stated in this report, Barnson has not verified the accuracy or completeness of the data retrieved from online databases and guidance documents. The recommendations for the proposed system as presented in this report are based on historical data obtained for the area. Barnson will not be liable in relation to incorrect recommendations should any information provided by the client be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed.

The accuracy of the advice provided in this report may be limited by unobserved variations in ground conditions across the site in areas between and beyond test locations and by any restrictions in the sampling and testing which was able to be carried out, as well as by the amount of data that could be collected given the project and site constraints. These factors may lead to the possibility that actual ground conditions and materials behaviour observed at the test locations may differ from those which may be encountered elsewhere on the site. If the sub-surface conditions are found to differ from those described in this report, we should be informed immediately to evaluate whether recommendations should be reviewed and amended if necessary.

Project Name:	Site and Soil Assessment for On-Site Effluent Management System Ulan Village Green, 94 Main Street, Ulan NSW 2850
Client:	Long Necks Developments Pty Ltd
Project Number:	17239
Report Reference:	17239 ER01_G
Date:	28/04/2023

Prepared by:	Reviewed by:
[redacted]	[redacted]
Nardus Potgieter **MSc(Chem) BSc(Hons)(Env.Tech.)** Senior Environmental Scientist	**Luke Morris** **B.E. MIEAust CPEng (NPER)** Director

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1. INTRODUCTION

1.1 Overview

This report has been prepared by Barnson Pty Ltd on behalf of Long Necks Developments Pty Ltd (the Client), for submission to Mid-Western Regional Council. This report provides direction for sustainable on-site effluent management for the operation of the accommodation, crib and laundry facilities associated with the extended Ulan Village Green temporary workers accommodation facility located at the Lot 32 DP750773, 94 Main Street, Ulan NSW 2850 (hereafter referred to as the Subject Site).

The Subject Site is located to the north-east of the Village of Ulan along Main Street, approximately 925m north of its intersection with Ulan Road. (see Figure 1.1). The Subject Site has a property area of approximately 4 hectares and adjoining to the Goulburn River to the east.

The Ulan Village Green facility makes use of a modular sewage treatment plant to treat sewage generated from the temporary workers accommodation, commercial kitchen and laundry. The secondary treated and sterilised effluent from the sewage treatment plant is dispersed via on-site irrigation.

This report provides an overview of the wastewater treatment system, taking into account soil and site conditions and presents updated volume estimates and expanded irrigation requirements related to an increase in the capacity of the facility from 144 rooms to 200 rooms and the addition of a second laundry room. Plans showing the proposed new site layout with an additional twenty (56) demountable rooms and additional laundry building (a total of 200 rooms) added, is presented in Appendix A.

The existing sewage treatment plant and effluent dispersion system was designed in accordance with the NSW Health Department – Septic Tank and Collection Well Accreditation Guideline and was installed, and is maintained, by accredited persons. The proposed expansion is expected to be within the capacity of the existing system to accommodate. The proposed increase in the capacity of the accommodation facility is not expected to place any additional strain on the operation or maintenance of the wastewater management system and existing procedures for these will be continued to prevent failures generally associated with operation and maintenance practices.

1.2 Key References

The following key references were utilised as part of this assessment:

- AS/NZS 1547:2012. *On-site Domestic Wastewater Management;*
- NSW Government 1998. *On site Sewerage Management for Single Households* (The Silver Book/OSMSH);
- NSW Government 2000. *The Easy Septic Tank Guide.* Developed by Social Change Media for the NSW Department of Local Government;
- NSW Health, 2001. 'Septic Tank and Collection Well Accreditation Guidelines";
- Mid-Western Regional Council Local Environment Plan, 2012;
- Mid-Western Local Environment Plan, 2011;

- Murphy B.W. & Lawrie J.W. 1998. Soil Landscapes of the Dubbo 1:250 000 Sheet Report, DLWC.
- Sydney Catchment Management Authority, 2019. *Designing and Installing On-Site Wastewater Systems;*

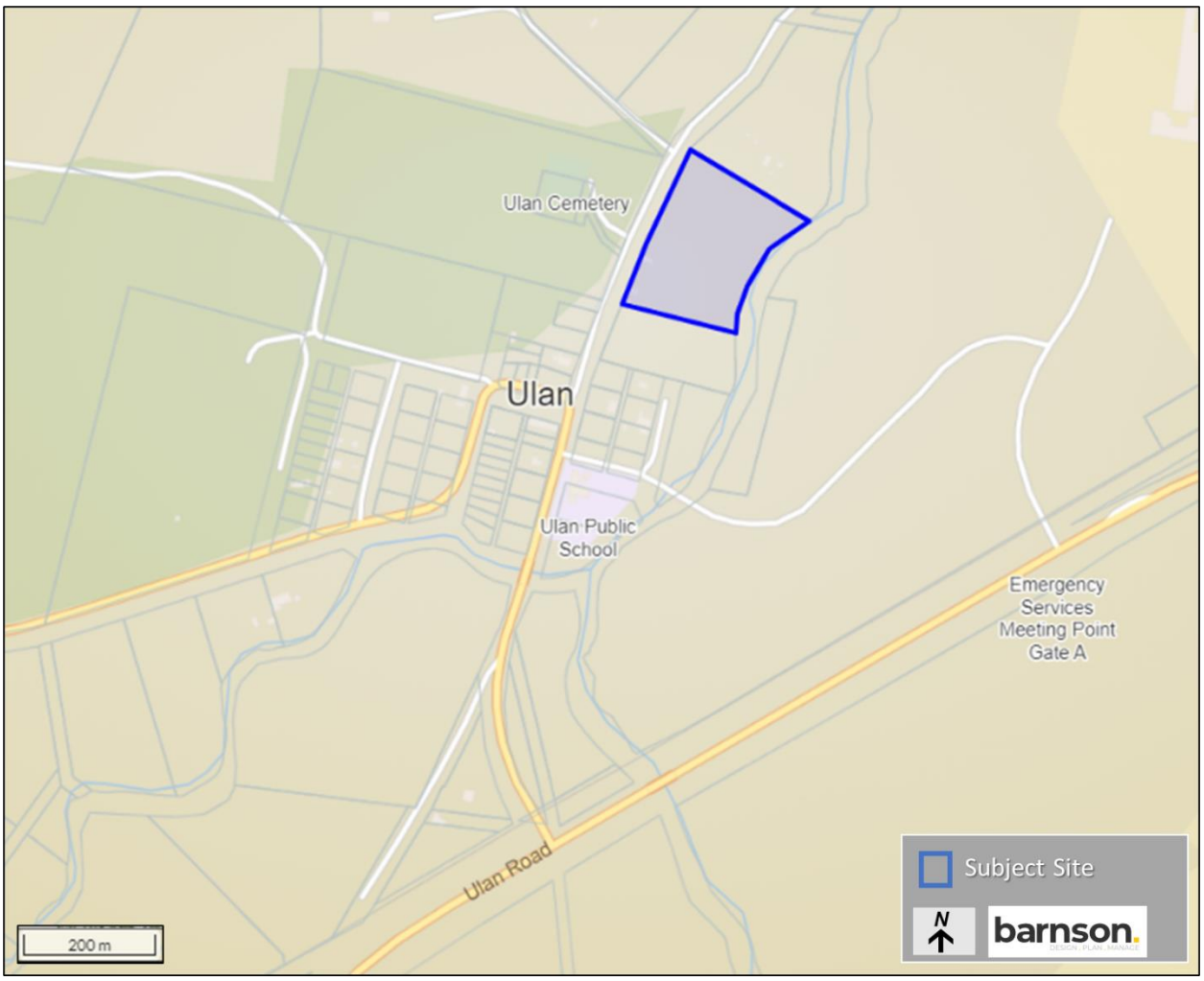

Figure 1.1: Site location plan.

2. SITE AND SOIL EVALUATION

2.1. Site Evaluators Details

Table 2.1 provides an overview of the evaluator's particulars.

Table 2.1: Details

Name / Role	Nardus Potgieter
Role/ Qualifications	Environmental Scientist
Company	Barnson Pty Ltd
Company Address	Unit 4 108-110 Market St, Mudgee NSW 2850
Contact Details	Phone: 1300 BARNSON
Date of Assessment	28/04/2023

2.2. Site Information

Table 2.2 provides an overview of the site information.

Table 2.2: Site Particulars

Address/Locality	94 Main Street, Ulan NSW 2850 Lot 32 DP750773
Local Government Area	Mid-Western regional Council
Block Configuration	Approximately 3.9 ha
Intended Water Supply	Off-site supply for potable purposes. Delivered to on-site storage tank by tanker truck. Roof water collection tank (supplemented by potable water supply) for landscape irrigation and washing machines
Intended Power Supply	Supplied
Local Experience	Care needs to be taken to minimise runoff and erosion. Systems commonly malfunction due to lack of ongoing maintenance. The system is to be inspected and maintained regularly in accordance with manufacturer details, Council requirements, and prescriptions identified in this report.

2.3. Desktop Assessment

The following information (Table 2.3) was obtained via desktop review of the site.

Table 2.3: Desktop Assessment Details

Climate Overview[1]		Annual Mean Rainfall for Gulgong is 650.5 mm. Warm summers with large evaporative deficit, cool winters with small evaporative deficit. The mean summer monthly rainfall (January) is 70.5 mm. The mean winter rainfall (July) is 48.8mm.
Soil Landscape Reference[2]	Area has been mapped within the "Ulan" Landscape Group. Yellow Podzolic Soils and Yellow Solodic Soils are common in the area.	
	Surface Conditions	Gravelly or Hardsetting
	Drainage	Imperfectly drained
	Available water holding capability	Moderate
	Water table depth	Occassionally seasonal waterlogging
	Depth to bedrock	60 to >100cm
	Flood hazard	Nil to slight
	Expected Nutrient deficiencies	Nitrogen, Phosphorous, Sulphur
	Soil Salinity	Low - some salting evident as salt scalds
	Erosion Hazard	Moderate to high
Underlying Geology[3]		*"Lithic sandstone, shale, carbonaceous shale, coal conglomerate tuff.". Quaternary sediments comprised of "Alluvial silt, clay and sand, variable humic content, sporadic pebble- to cobble-sized unconsolidated conglomeratic lenses"*
Groundwater Review		There are three registered bores identified within 500m of the Subject Site (see Figure 2.1). The Subject Site is not mapped within a zone of groundwater vulnerability as per the Mid-Western Regional Council LEP map GRV_005 (see Figure 2.2).

[1] Bureau of Meteorology online Climate Data website

[2] NSW Soil and Land Information System

[3] New South Wales 1:1000000

2.4. Groundwater Review

A desktop review of the NSW Office of Water online groundwater information for the local area identified one bore on-site and two off-site bores within a radius of 500m of the Subject Site (see Figure 2.1). A fourth off-site borehole is located at a distance of 600m from the Subject Site. The bores are identified as being for either monitoring, domestic or industrial water use.

Table 2.4 presents a summary of information relating to historic groundwater report details for the four identified bores located closest to the proposed effluent disposal area. The information presented include water bearing zones and standing water levels available.

Table 2.4: Groundwater information summary

Groundwater Bore Reference	Total Depth (m)	Water Bearing Zones (m)	Standing Water Level (m)	Yield (L/s)	Salinity Yield
GW200870 Industrial ~200m south of site	16.50	Not Provided	7.00	1.5	Not Provided
GW273091 Monitoring bore On site	17.50	3.00 - 5.00	2.80	0.1	Not Provided
GW080350 Domestic ~400m southwest of site	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
GW065950 Irrigation ~600m northeast of site	81.00	53.50 - 55.50	Not Provided	11.00	Not Provided

Based on the information available from the local groundwater bores, the minimum depth to water bearing zones and the standing water level in the local vicinity is likely around 3 m below the ground surface. Given irrigation of secondary treated effluent is the preferred method of effluent disposal, potential contamination of groundwater is a factor to consider.

However, the properties of the soil underlaying the site indicate a low permeability, so the rate of infiltration is expected to be similarly low. The risk of groundwater contamination as a result of the effluent irrigation is therefore considered possible, due to the depth to the groundwater, but unlikely because of the limited infiltration that is expected.

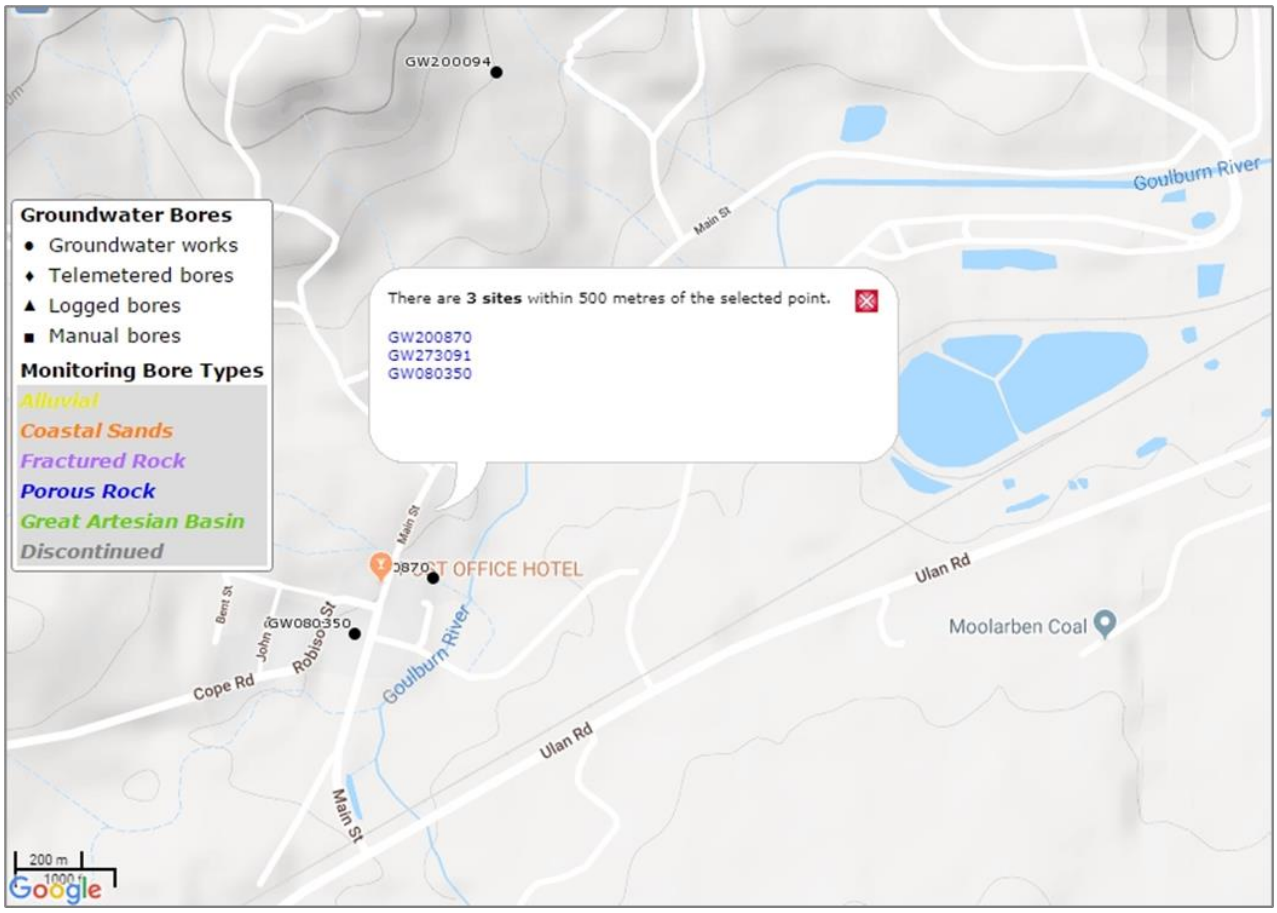

Figure 2.1: Registered bores

The entire Subject Site is shown outside any mapped zones of potential groundwater vulnerability (see Figure 2.2).

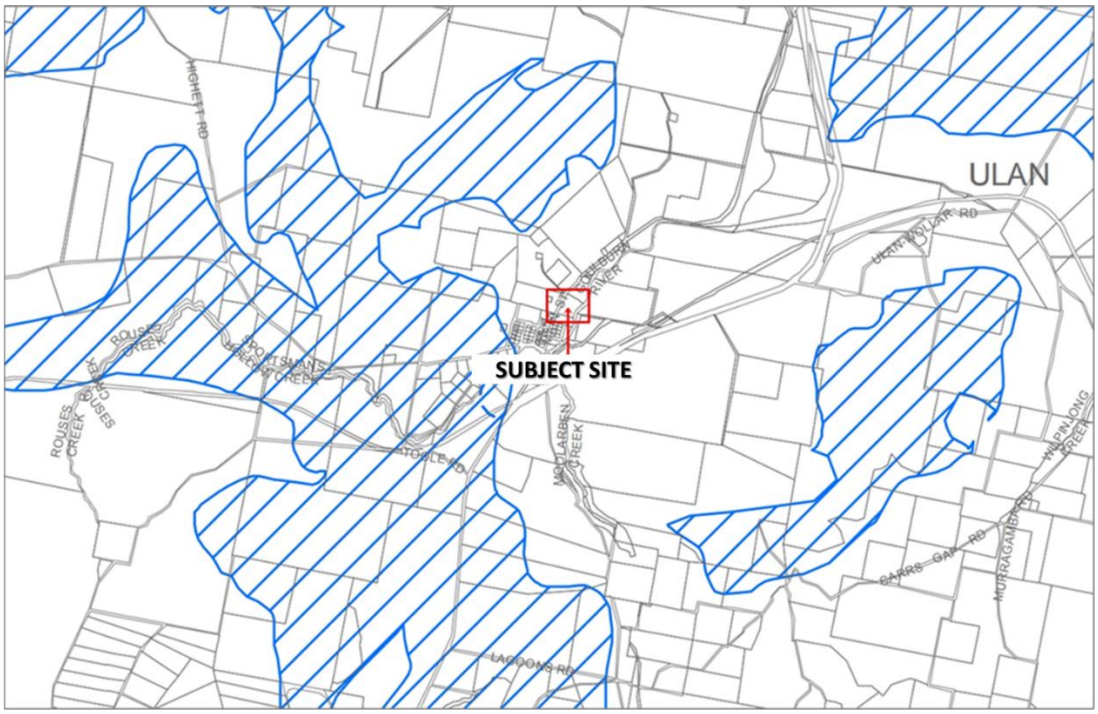

Figure 2.2: Groundwater Vulnerability Map

2.5. Surface Water

The Goulburn River forms the eastern boundary of the Subject Site. The accommodation rooms and facilities as well as the wastewater management infrastructure are located at a suitable distance from the river so as to prevent contamination. Surface water runoff from roads and infrastructure is captured and contained in an on-site detention pit. The treated effluen disposal area is similarly bunded with earth embankments to prevent any irrigated effluent not immediately absorbed from leaving the area as runoff.

No impact to surface water resources is therefore foreseen from the treated effluen disposal area.

2.6. Field Assessment Information

An inspection of the of the Subject Site was undertaken on 13/3/2012. Table 2.5 provides detail on the findings of the field assessment conducted at the time of the site inspection.

Table 2.5: Site Assessment Details

Water Balance Attached		Proposed Extension - See *Appendix C*
Exposure		Good exposure.
Elevation		Approximately 415 m.
Run-On		None
Seepage		None
Erosion Potential		Low due to vegetation cover.
Fill		None encountered
Surface rock/Outcrops		None encountered
Is there sufficient land area for:	Application system, including buffers	Yes
	Reserve application system	Yes

2.7. Soil Assessment

Samples of soil was collected for laboratory analysis during the site inspection undertaken in 2012. The samples were collected from two locations (boreholes) and were collected at depths of 800mm and 2,000mm in each. Samples were collected and handled as per AS1289.1.2.1.6.5.3. Borelogs and laboratory results are provided in Appendix B. Field assessment parameters were also obtained. Table 2.6 provides a summary of field and laboratory assessment results.

Table 2.6: Soil Assessment Details

Depth to bedrock or hardpan via field assessment		>3.0m
	pH – subsoil (1:5)	Borehole 5 – 7.9 Borehole 6 – 8.9
	Soil Colour – topsoil, subsoil (field)	Light Brown, Orange
	Emerson Test Result –subsoils (Lab)	4
	Soil Classification (particle size) topsoil, subsoil A	Clay: 28%, 41% Silt: 32%, 29% Fine sand: 26%, 19% Course sand: 0%, 0% Gravel: 14%, 11%
	Estimated Soil Category–topsoil, subsoil A, subsoil B,	Borehole 5 - 3,2,5,5 Borehole 6 - 3,2,5,4,4
	Structure massive, weak, high, moderate, strong (Field)	High/Moderately Structured
	Sub soil Permeability (from table 5.2 of AS 1547:2012)	0.5 – 1.5 (k_{sat}) (m/d) (Infiltration is slow)
	Recommended Hydraulic Loading for disposal system (from Table 5.2 of AS 1547:2012)	3.5mm/day (for Drip/Spray Irrigation)

3. SITE AND SOIL LIMITATION ASSESSMENT

The following two limitation tables are a standardised guide to the site and soil characteristics which summarise the limitations of the site for effluent disposal and indicate those that may require attention through specific management practises. The tables have been reproduced from the NSW Government endorsed '*On-Site Sewerage Management for Single Households*' (1998), Table 3.1 and Table 3.2. The highlighted categories represent site and soil conditions of the land covered in this report.

Table 3.1: Site Limitation Assessment

Site Feature	Relevant System	Minor Limitation	Moderate Limitation	Major Limitation	Restrictive Feature
Flood Potential	All land application systems	> 1 in 20 years		Frequent below 1 in 20 years	Transport in wastewater off site
	All treatment application systems	Components above 1 in 100 years		Components below 1 in 100 years	Transport in wastewater off site system failure
Exposure	All land application systems	High sun and wind exposure		Low sun and wind exposure	Poor evaporation transpiration
Slope %	Surface Irrigation	0-6	6-12	>12	Runoff, erosion potential
	Sub-surface irrigation	0-10	10-20	>20	Runoff, erosion potential
	Absorption	0-10	10-20	>20	Runoff, erosion potential
Landform	All systems	Hillcrests, convex side slopes and plains	Concave side slopes and foot slopes	Drainage plains and incised channels	Groundwater pollution hazard, resurfacing hazard
Run-on and upslope seepage	All land Application Areas	None-low	Moderate	High, diversion not practical	Transport of wastewater off site
Erosion potential	All land application systems	No sign of erosion potential		Indications of erosion e.g. rils, mass failure	Soil degradation and off-site impact
Site drainage	All land application systems	No visible signs of surface dampness		Visible signs of surface dampness, such as moisture-tolerant veg	Groundwater pollution hazard, resurfacing hazard
Fill	All systems	No fill	Fill present		Subsidence
Land area	All systems	Area available	Area not available		Health and pollution risk
Rock and rock outcrop	All land application systems	<10%	10-20%	>20%	Limits system performance
Geology	All land application systems	None		Major geological discontinuities, fractured or highly porous regolith	Groundwater pollution hazard

Table 3.2: Soil Limitation Assessment

Soil feature	Relevant system	Minor limitation	Moderate limitation	Major limitation	Restrictive feature
Depth to bedrock or hardpan (m)	Surface and sub-surface irrigation	> 1.0	0.5-1.0	< 0.5	Restricts plant growth
	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Depth to seasonal water table (m)	Surface and sub-surface irrigation	> 1.0	0.5-1.0	< 0.5	Groundwater pollution hazard
	Absorption	> 1.5	1.0-1.5	< 1.0	Groundwater pollution hazard
Permeability Category	Surface and sub-surface irrigation	2b, 3 and 4	2a, 5	1 and 6	Excessive runoff and waterlogging
	Absorption	3, 4		1, 2, 5, 6	Percolation
Coarse fragments %	All systems	0-20	20-45	>40	Restricts plant growth, affects trench installation
Bulk density (g/cc) SL L, CL C	All land application systems	 < 1.8 < 1.6 < 1.4	 > 1.8 > 1.6 >1.4		restricts plant growth, indicator of permeability
pH	All land application systems	> 6.0	4.5-6.0	-	Reduces plant growth
Electrical conductivity (dS/m)	All land application systems	<4	4-8	>8	Restricts plant growth
Sodicity (ESP)	Irrigation 0-40cm; absorption 0-1.2mtr	0-5	5-10	> 10	Potential for structural degradation
CEC mequiv/100g	Irrigation systems	> 15	5-15	< 5	Nutrient leaching
P sorption kg/ha	All land application systems	> 6000	2000-6000	< 2000	Capacity to immobilise P
Modified Emerson Aggregate Test – depressiveness	All land application systems	Classes 3-4	Class 2	class1	Potential for Structural degradation.

4. SYSTEM REQUIREMENTS

4.1. System Overview

The Ulan Village Green consists of demountable structures each containing four single occupancy rooms, a parking area as well as a laundry and commercial kitchen facilities.

The sources of wastewater include toilets, basins and showers in each of the residential units, and the laundry and kitchen facilities, with an additional laundry room being added to accommodate the increased capacity of the accommodation facility.

The activities at the camp best resemble a caravan park where residents stay, eat and do laundry. In accordance with "Septic Tank and Collection Well Accreditation Guideline" document published by NSW Health (1999), the recommended design flow allowance for use at caravan parks with consideration of wastewater generated from WC, urinal, basin, and shower as well as use of kitchen and laundry is 86L/person/day. Although this rate accounts for the use of laundry facilities, an additional 6L per person is added to account for the addition of the second laundry room. The total flow used for the assessment is therefore 92L/ person/day.

The number of persons that will use the facilities vary but as a maximum the number will be 200, which equates to a total design flow of 18,400L/day. The system proposed for treatment of the sewage effluent is a modular aerated wastewater treatment system (AWTS), OZZI KLEEN Sewage Treatment Plant Model – SC100A. With a hydraulic loading capacity of 20,000 L per day. The existing treatment system is therefore suited to manage the estimated daily flow from the expanded residential facility.

Table 4.1 present a summary of the details for the system.

Table 4.1: System Selection Details

Consideration of connection to centralised sewerage system	Distance to sewer	>5km
	Potential for future connection?	None planned
	Potential for reticulated water?	None planned
Expected Wastewater volume (litres/day)*	Daily flow estimates based on 92L/person per day: 200 Rooms including WC, urinal, basin, and shower as well as use of kitchen and laundry – 18,400L/day	
Type of Treatment system best suited	OZZI KLEEN Sewage Treatment Plant Model – SC100A (20,000 L/d). Capable of achieving advanced secondary treated effluent standards. The installed treatment capacity therefore provides a as a 8.6% safety buffer for operation.	

4.2. Effluent Management

Barnson Pty Ltd has analysed the proposed on-site waste management system in accordance with the NSW Government endorsed *'Silver Book'* (1998) and the ANZ Standard 1547:2012 On-site

Domestic Wastewater Management', with additional advice sought from the NSW Water '*Designing and installing On-site Wastewater Systems*' 2019 guideline. For this site, given the climate and soil constraints, irrigation is considered the most appropriate effluent management device.

4.2.1. Irrigation Area Calculation

In accordance with these documents, the irrigation area for surface and subsurface irrigation must *be the largest area calculated considering nutrient and liquid loading.*

For calculation purposes, the nutrient balances assume a maximum effluent irrigation requirement of 18,400L per day. This is to establish the area required for the effluent treatment rate.

4.2.2. Nitrogen Loading

The following formula is provided:

$$A = (C \times Q)/Ln$$

Where: A = land area (m^2)
C = concentration of nutrient (mg/L)
Q = treated wastewater flow rate (L/d)
L_n = critical loading rate of nutrient ($mg/m^2/d$)

It is appropriate to assume nitrogen has a nominal value of 20mg/L in the advanced secondary treated effluent from the OZZI KLEEN Sewage Treatment Plant, as per manufacturer specifications.

In this case, Ln can be determined as 280kg/ha/yr. – this figure is obtained from Appendix 1 of the Sydney Catchment Management Authority 'Designing and installing On-site Wastewater Systems' 2019 guideline, for improved pasture for the uptake of nitrogen.

Ln = 280kg/ha/yr. = 28000mg/m^2/year

Therefore

$$A = (20 \times 18{,}400 \times 365)/28{,}000$$

A= 4,797m^2

4.2.3. Phosphorus Loading

The general formula used to determine irrigation size based on Phosphorous loading is:

$$A = \ Pgenerated/(\ PAbsorbed\ +\ PUptake)$$

Pgenerated = the amount of phosphorus generated over time, and is calculated as –

Pgenerated = total phosphorous (TP) concentration x volume of wastewater produced over 50 years

= TP X Q L/day X 365 days X 50years, where 5mg/L (concentration of phosphorous in advanced secondary treated effluent produced from the OZZI KLEEN Sewage Treatment Plant as per the manufacturer specifications) and Q of 18,400L/day

= 5 X 18,400 X 365 X 50

= 1,679kg

Where Pabsorbed = the amount of phosphorus that can be absorbed without leaching over 50 years. As per the 'Silver Book', this is typically 1/3 of the P sorption Value. The nominal Phosphorus Sorption Capacity (mg/kg) of 500mg/kg together with the nominal bulk density value of Clays being 1.4g/cm3 (nominal value as per Interpreting soil results), the Phosphorus sorption capacity was estimated to be 6,000kg/ha.

= PSorb X 1/3

= 6,000kg/ha X 1/3

= 2,000.kg/ha

= 0.2kg/m^2

P_{Uptake} = the amount of P uptake by vegetation over 50 years.

For improved pasture, a phosphorous uptake value of 24 kg/ha/year will be used (as per SCA, 2019), which is equivalent to 0.0024kg/m^2/year.

Therefore, P Uptake = 0.0024 (kg/m^2/year) x 50 (years)

= 0.12kg/m^2

$$A = Pgenerated/(PAbsorbed + PUptake)$$

Where, Pgen = 1,679kg, Pabs = 0.2kg/m^2 and Puptake = 0.12kg/m^2

$$A = 1{,}679/(0.2 + 0.12)$$

$$\boldsymbol{A = 5{,}248.87}\ m^2$$

4.2.4. Hydraulic Loading Method

Hydraulic loading is the amount of liquid applied to land over a specified time interval. The hydraulic loading rate must be such that surface ponding or run-off and excessive percolation of the treated wastewater does not occur. As per the *Silver Book* 2012 the following formula can be used to estimate the size of the irrigation area for secondary treated effluent.

$$A = Q/DIR$$

Where Q = 18,400L/day and the DIR = 3.5mm/day (as per AS 1547:2012)

Therefore

$$A = 18{,}400/3.5$$

$$A=5{,}257\ m^2$$

4.2.5. Water Balance & Irrigation Area Size

The purpose of the water balance is to assess the sensitivity of the design to the various inputs and outputs of the system. An irrigation area too small will result in saturated soils for long periods. An irrigation area too large will result in poor dispersal of effluent over the area and during dry periods will result in vegetation dying.

A water balance for the area is contained at Appendix C. This balance utilises the 70th percentile monthly rainfall data as provided in the *Bureau of Meteorology*. The water balance calculation utilised is this report is the minimum area method as per Table A6.2 of the *Silver Book*. Based on the average annual liquid loading, H (the amount of wastewater that maybe applied per year, is calculated as 1,404mm/year. Therefore, using historical data, the land area required is:

$$A = 365 \times \frac{Q}{H}$$

A = land area (m^2)

Q = average treated wastewater flow rate (L/day) – 18,400L/day

H = average annual liquid loading (mm/yr.) –1,404mm/year

$$A = \frac{365 \times 18{,}400}{1{,}404}$$

A= 4,783.5m^2

Therefore, based on the largest required minimum area, the Hydraulic Loading requirement of 5,257m^2 is used for sizing of the effluent disposal requirement.

5. SETBACK REQUIREMENTS

5.1. General

In accordance the Environmental Guidelines - Use of Effluent for Irrigation (2004) published by the Department of Environment and Conservation, separation distances and buffer zone management must consider the nature of the receiving environment and its sensitivity to impacts. Examples of sensitivities that may need protection include:

- surface water
- groundwater
- human health, heritage and well being
- domestic and wild plant and animal health
- native vegetation, wetlands and associated biological diversity.

The Guidelines continue, noting that proponents should recognise that the responsibility for the establishment and management for buffer zones rests with the proponent and that the size of the buffer zone established will need to be justified based on:

- the sensitivity of the receiving environment,
- the strength of the effluent,
- the level of effluent treatment, and
- the method of effluent application

In the case of the Subject Site, the sensitivities identified include surface water, in the form of the nearby Goulburn River, groundwater, with the known presence of water bores in the vicinity of the accommodation facility, and human health, with the proximity of worker accommodation units near the effluent irrigation area considered.

The Guideline provides a list of recommended buffer distances for water resources and public areas, for the protection of such sensitive areas. The recommendations note that for effluent of low strength, as the advanced secondary treated effluent from the OZZI KLEEN Sewage Treatment Plant is expected to be, the buffer distances are determined on a site specific basis and that the most appropriate buffer zone will be one that complements best effluent irrigation practices in providing a margin of safety against the possibility of nutrient pollution, aerosol drift and human and animal health impacts, without unnecessarily restricting the efficiency of the enterprise or amenity of adjacent land uses.

As a point of departure for determining buffer distances appropriate to the Subject Site, the Australian Standard for On-site domestic wastewater management (AS 1547:2012) was consulted.

5.2. AS1547:2012 – Table R1 Setback Requirements

AS 1547:2012 Table R1 Guidelines for Horizontal and Vertical Setback Distances identifies the following ranges applicable to secondary treated effluent irrigation:

- Property Boundary 1.5-50m;
- Buildings/houses 2-6m;
- Surface Waters 15-100m;
- Bores/Wells 15-50m;

Thus, given irrigation of secondary treated effluent is the preferred form of effluent disposal and the properties of the soil existing in the area (reducing water infiltration) contamination of groundwater is accepted to have a low risk of occurrence, values within the ranges listed above were selected for application at the Subject Site. A site plan indicating the relevant buffer distances as well as the area identified for siting of the extended irrigation fields is included in Appendix A.

Other site setback requirement as per AS/NZS 1547:2012 are provided in Appendix D.

Actual siting of the effluent application area is the responsibility of the licenced plumber. The prescribed buffer areas/setbacks are to be adhered to.

6. CONCLUSIONS & RECOMMENDATIONS

- Calculation of the system requirements for on-site wastewater management of effluent generated from the expanded Ulan Village Green temporary workers accommodation facility was based on conservative assumptions of daily flow, as well as site specific observations of soil at the likely drainage area.
- The system requirements derived from this assessment are; sewage collection coupled to aerated wastewater treatment system(s) capable of treating 20,000L of sewage effluent and disposal of the secondary treated effluent through drip or spray irrigation onto an area of minimum 5,257m^2.
- The irrigation area is to be protected from disturbances and will not be suitable for foot traffic.
- The area should be fenced off and protected from vehicles and animals.
- Vegetation (pasture grass) cover of the area is recommended and should be slashed, removed and kept well maintained.
- Shrub species can also be used in the land application area. Appendix E provides a list of species suitable for use in the MWRC LGA, taking into consideration Appendix 7 of the Silver Book and the Upper Macquarie Catchment Revegetation Species Guideline.
- The effluent disposal area should be protected from potential run on and stormwater via an upslope diversion drain or beam. An example from the Design and Installation of On Site Wastewater Treatment (2012) guideline is provided at Appendix F.
- As per the 'On-Site Sewerage Management for Single Households' (1998) publication, stakeholders should be aware that all on site systems and components have a finite life and at some point will require replacement. Septic tanks and AWTSs generally require replacement as per the '*On-Site Sewerage Management for Single Households*' (1998) publication, stakeholders should be aware that all on site systems and components have a finite life and at some point will require replacement. Septic tanks and AWTS' generally require replacement every 25 years, whereas effluent disposal systems can have an expected life between 5-15 years. The owner is encouraged to obtain a copy of the NSW Government "The Easy Septic Guide" (2000) available from - http://www.olg.nsw.gov.au/sites/default/files/Easy-septic-guide.pdf
- AS1547-2012 section 5.5.3.4, recommends that a reserve application area of similar size to the current design should be considered as part of the risk management process to be available on a site for expansion or for resting of the land application system. Although a reserve application is not a requirement it is advised for consideration where the site allows for location of an additional area.
- It is recommended that a registered plumber be engaged to install the system, in accordance with the recommendations of this report.

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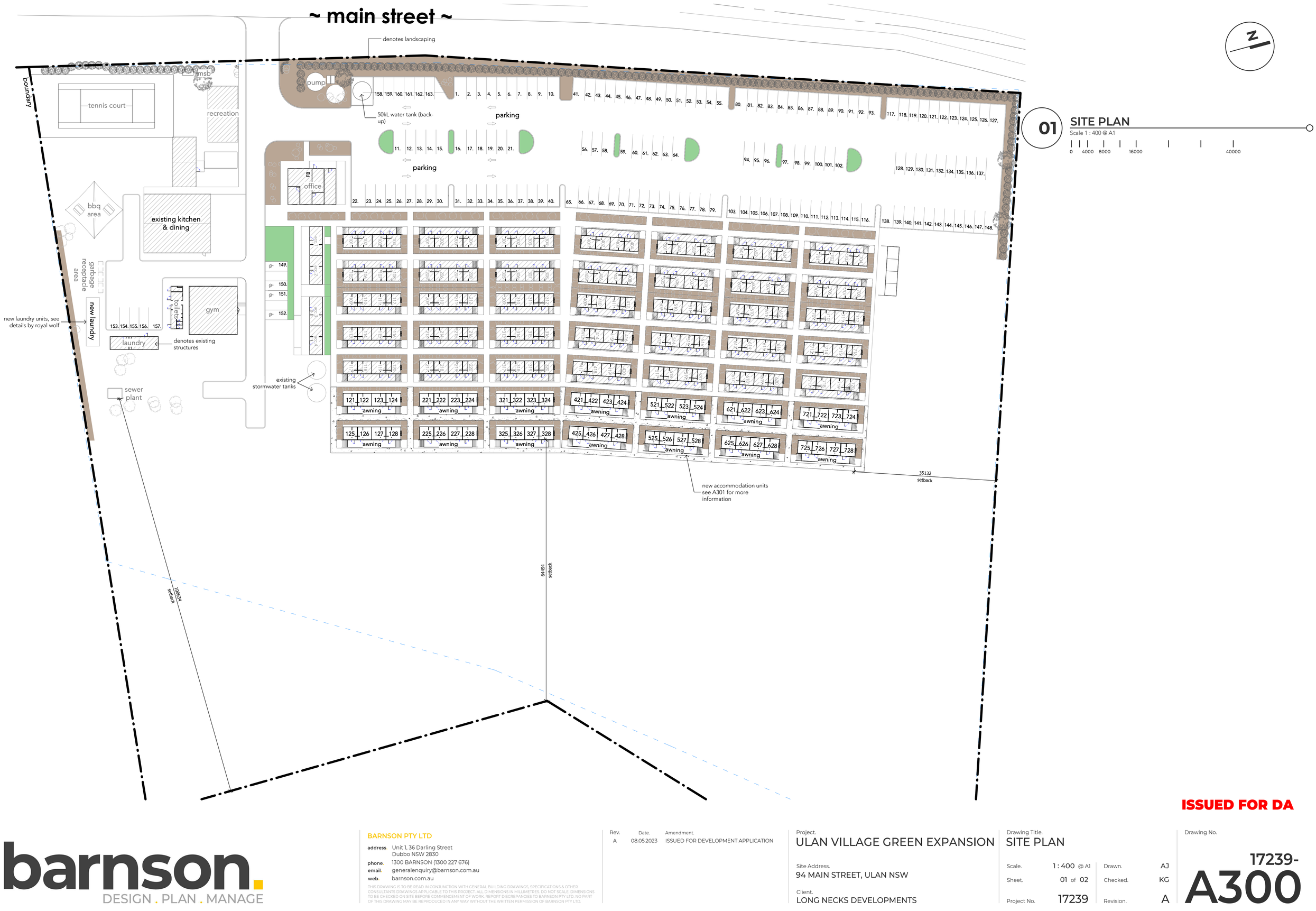
APPENDIX A

Site Layout and Setback Plans



01 SITE PLAN

Scale 1 : 400 @ A1

0 4000 8000 16000 40000

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BARNSON PTY LTD

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phone. 1300 BARNSON (1300 227 676)

email. generalenquiry@barnson.com.au

web. barnson.com.au

Rev.	Date.	Amendment.
A	08.05.2023	ISSUED FOR DEVELOPMENT APPLICATION

Project.
ULAN VILLAGE GREEN EXPANSION

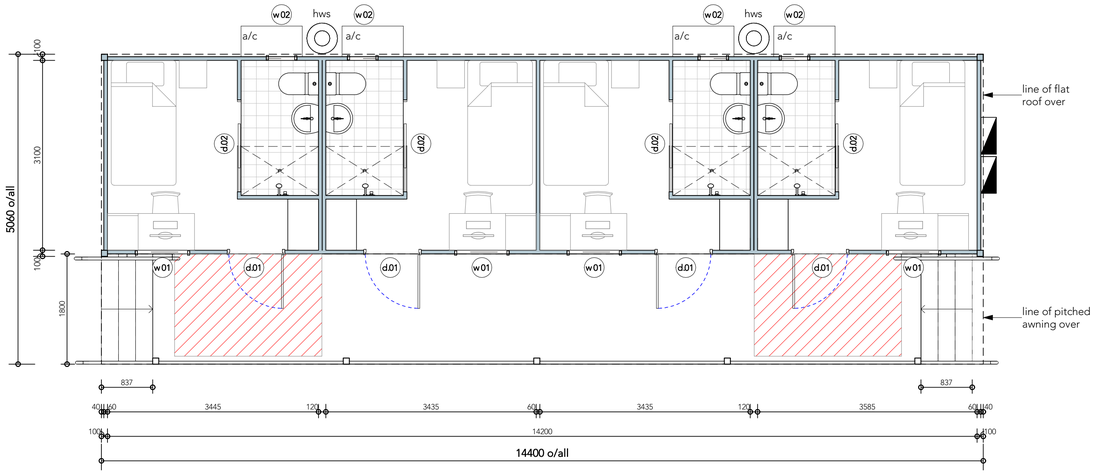
Site Address.
94 MAIN STREET, ULAN NSW

Client.
LONG NECKS DEVELOPMENTS

Drawing Title.
SITE PLAN

Scale.	1 : 400 @ A1	Drawn.	AJ
Sheet.	01 of 02	Checked.	KG
Project No.	17239	Revision.	A

Drawing No.
17239-A300



06 accommodation floor plan
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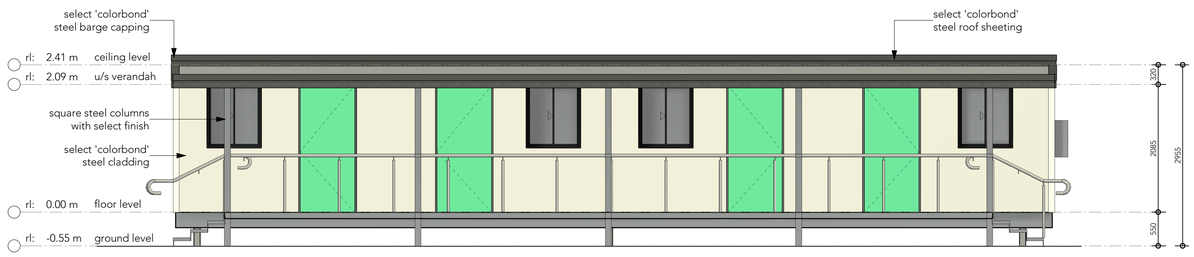
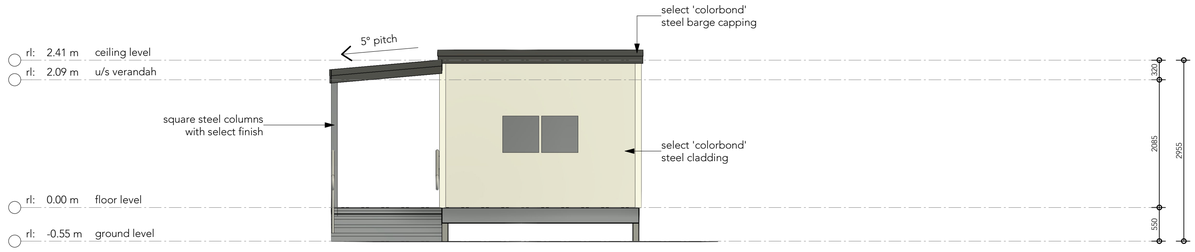
0 500 1000 2000 4000



07 elevation: front facade
1 : 50 (A1)



08 elevation: right facade
1 : 50 (A1)

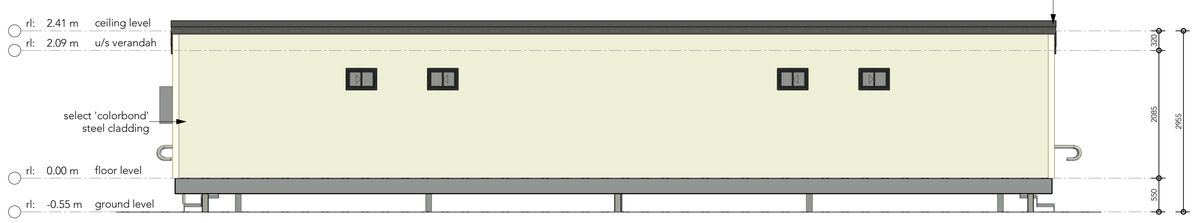
construction & finishes schedule

base member	I-300x75x5.2mm bottom frame;
floor joist	Joist C-100x50x15x2.5mm THK @407mm center;
middle member	I 300x75x5mm
steel surface treatment	Painting system 1: 250 micron of epoxy painting
base floor	22mm cellulose fibre cement board
corner post	SHS hollow section 100x100x4mm
steel surface treatment	Painting system 2:+ Primer layer with 40 micron of Epoxy-zinc + Undercoat layer with 80 micron of Epoxy + Finished layer with 60 micron of polyurethane
external wall	Corrugated Iron > Colourbond or equiv. Profile and colour range available
top frame beam	Rectangular hollow section 100x100x3mm
roof system	Skillion: Trimdeck with colour matched flashing and end capping. Excludes gutter. 50mm over-hang for gutter install. 6mm Aircell -closed cell foil backed insulation below corry, above battens. Air gap av.120mm. Welded steel 2.5mm inner roof. Air gap24mm, 6 mm air cell, 50mm glass wool batt, 6mm aircell: hunter Douglas interlocking
internal framing	60mm cold rolled steel framing
wall panel system	Aluminium Composite panel (range of colours available), .3mm steel faced, 3mm composite backed panel. EJ – black sicaflex at joins onto
glazing	Double glazing to all window assemblies
flooring in living area	High performance 3mm printed vinyl tile
flooring wet area	5mm thickness of ceramic tile, slip resistance, colour: optional Cementutious adhesive: MAPEI product with: * Kerabond T in compliance with EN 12004 as C2 mixed with Isolastic
wall finishing in wet area	Continuous Seal preparation to FC sheeting. Paint finish off white.
smoke detector	Manufacturer: SFL-188 Type: AC-220V/DC-9V Battery Back up
lighting	General Light Fittings: Panasonic, Philips, or equivalent Country of Origin: Australia,
bathroom exhausted fans	Type: Wall exhaust fan Air Flow Rate: 80 CMH Speed (RPM): 1450 RPM Maximum Power (Voltage/Phases/Hz): 240 V / 1P / 50 Hz
cold water supply pipes	Type of pipe: PP-R Pipe Manufacturer : DEKKO - German - commercial grade fusion welded.
Hot water supply pipes	Type of pipe: PP-R Pipe Manufacturer : DEKKO - German - commercial grade fusion welded.
Waste water drainage pipes	uPVC and PVC Pipe Manufacturer : Snow
hand basin	Ceramic hand basin with PVC or MDF cabinet below
Hand basin taps	3 piece basin sets
Bth cabinet	PVC or MDF cabinet with mirror front facing
Soap dish	PVC or stainless steel soap dish
Toilet	Ceramic toilet with "S" trap, 300mm roughing-in, dual flush 3/6 litre
Coat hook	Stainless steel coat hook
Towel rail	Stainless steel towel rail
Floor drain	Stainless steel puddle flange floor drain
Shower	Glass-look Acrylic, lined with ABS tray and tempered glass wall
Shower head	Mixer and water saving shower head.
External door	820mmWx2040mmH metal door c/w door closer, rubber seals, handle and multi point Hafele master keyed locks820mmWx2040mmH metal door c/w door closer, rubber seals, handle and multi point Hafele master keyed locks
Internal door	720mmWx2040mmH HDF hung sliding door c/w seals and handle
Main window	890mmWx1050mmH double glazed sliding window with powder coated aluminium frame c/w stainless flyscreen
Toilet window	500mmWx350mmH fixed tempered fixed glass window with aluminium frame.

Emergency lighting
Emergency lighting to be installed along the path of travel to the exits of the building in accordance with *Part E4D2 of the BCA Vol. 1.*

Illuminated exit signs must comply with *AS2293.1-2005* or for a photoluminescent exit sign, *Specification E4D8 of the BCA, Vol. 1* & be clearly visible at all times when the building is occupied by any person having the right of legal entry to the building.

Headline AS and BCA compliance documentation and certificates
- Region D wind rating to permanent bulding components. Temporary awnings, footings and siting requirements not inclusive.
- BCA energy efficiency requirements - 6 star rated and certified.
- Plumbing Certified to AS 3500- Form 16 supplied for plumbing works.
- Watermark compliance and certificates supplied for all plumbing fixtures and fit-off items.
- Electrical certified to AS 3000 - Form 16 supplied for electrical works to DB per building.
- Energy Efficient Lighting complying with MP 4.1 of the QDC.
- Smoke Alarms to AS3786 - Audible and visual alert system.
- BCA compliance: Certifier compliance documentation provided for buildings supplied notwithstanding siting and local statutory requirements.
- Class 1b - camp accommodation
- Structural Certification supplied - Form 16 supplied where applicable from RPEQ Engineer
- Building form 16 certification for:
  - Wet area water proofing in accordance with AS3740
  - Single piece moulded shower unit
  - Isolastic sealing and treatment to floor and wall FC Sheeting in addition to surface treatments.
- Glazing installed in accordance with AS1288 and AS2047
- Glazing safety glass certificate - double glazed units supplied within heavy duty powder-coated level spring-lock assembly. Form 16 supplied on
- Fire Hazard compliance to AS1530.3.1999 : flammability, heat release and smoke release of commercial building products.
- Roof and Wall Sheeting to AS 1562.3 -2006



09 elevation: rear facade
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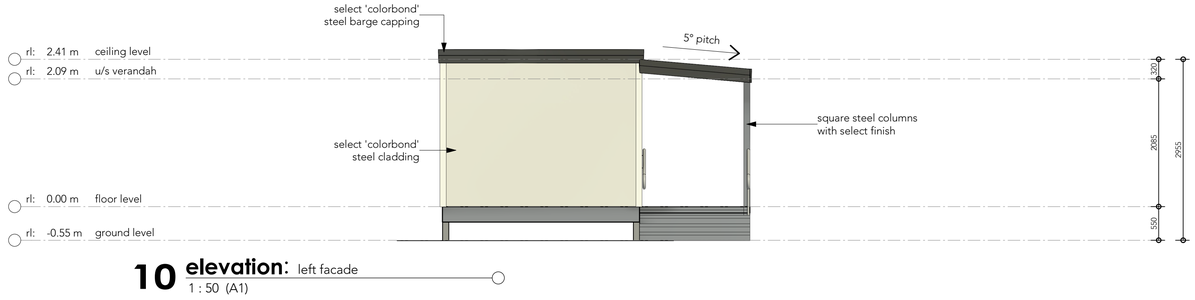

10 elevation: left facade
1 : 50 (A1)

ISSUED FOR DA

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DESIGN . PLAN . MANAGE

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Unit 1/36 Darling Street
Dubbo NSW 2830
Contact Us
t 1300 BARNSON (1300 227 676)
e generalenquiry@barnson.com.au
w www.barnson.com.au
Bathurst | Dubbo | Mudgee | Sydney | Tamworth

Client: ON EDGE PTY LTD

Project: ULAN RESERVE KITCHEN & ACCOMMODATION UNITS

Drawing Title: ACCOMMODATION PLAN

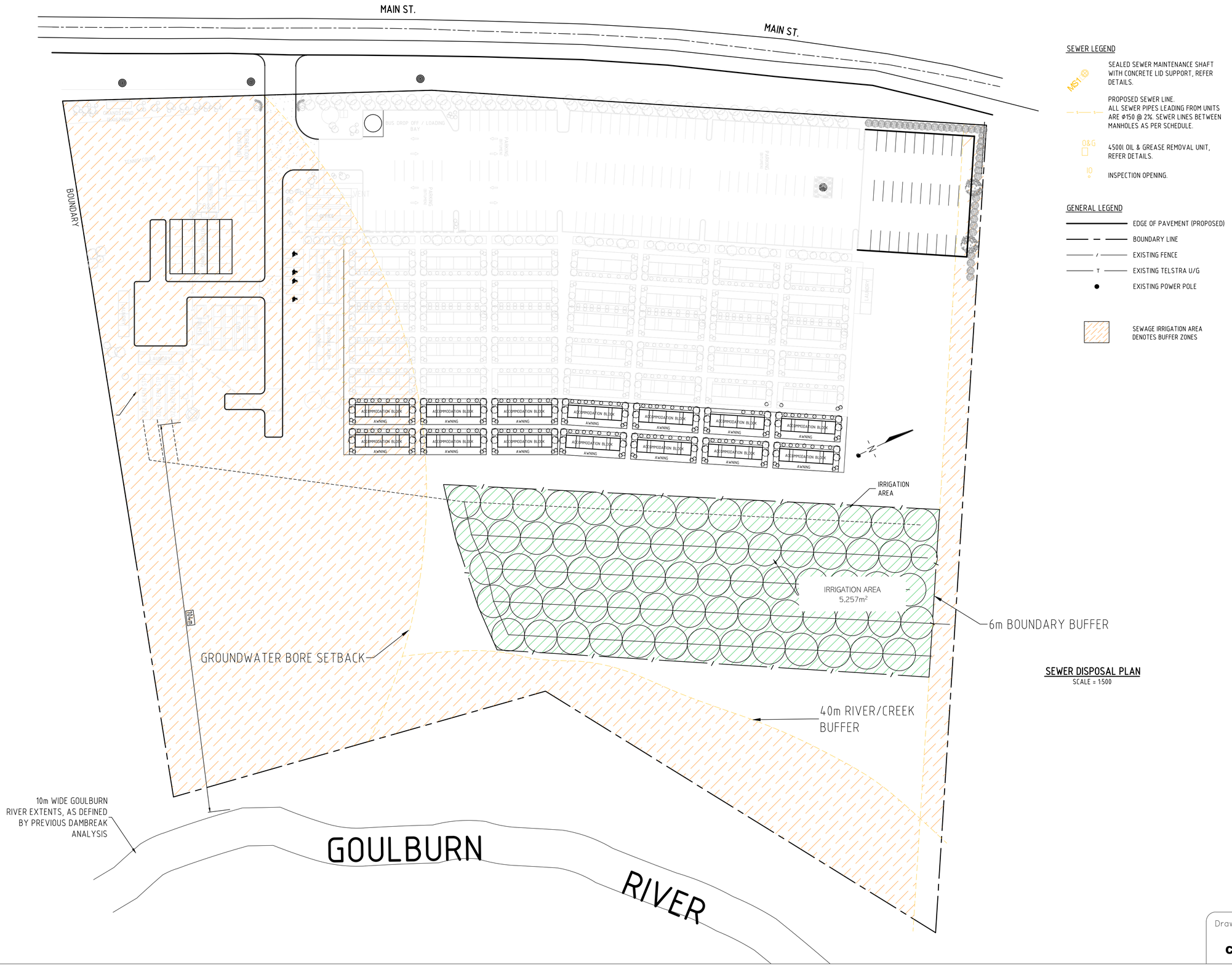
Rev	Date	Amendment
A	03.05.23	ISSUED FOR DEVELOPMENT APPLICATION

Design | Drawn | Check
HS

Sheet 02 of 02

Drawing Number: 17239- A301

Revision: A



SEWER DISPOSAL PLAN
SCALE = 1:500

SEWER LEGEND

MS1 — SEALED SEWER MAINTENANCE SHAFT WITH CONCRETE LID SUPPORT, REFER DETAILS.

PROPOSED SEWER LINE. ALL SEWER PIPES LEADING FROM UNITS ARE Ø150 @ 2% SEWER LINES BETWEEN MANHOLES AS PER SCHEDULE.

O&G — 4500l OIL & GREASE REMOVAL UNIT, REFER DETAILS.

IO — INSPECTION OPENING.

GENERAL LEGEND

- EDGE OF PAVEMENT (PROPOSED)
- BOUNDARY LINE
- EXISTING FENCE
- EXISTING TELSTRA U/G
- EXISTING POWER POLE
- SEWAGE IRRIGATION AREA DENOTES BUFFER ZONES

Drawing Status:
SUBMISSION FOR COUNCIL INFORMATION

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Offices Located
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trust-mark.com®
Dubbo - Head Office

NATA
Accredited Laboratories
Dubbo & Bathurst

Client: LONGNECKS Pty Ltd

Project:
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850

Drawing Title:
SEWER DISPOSAL PLAN

Design	Drawn
SUTHA	LT
Check	QA
LM	RJN

Drawing Sheet
A1 - Original size - Scales as noted
A3 - Minimisation - Not to scale

Rev	Date	Amendment
A	12-05-2023	FOR COUNCIL INFORMATION

Certification

Drawing Number: 17239 HDH6
Revision: 0

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APPENDIX B

Field and Laboratory Results

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Barnson
1/36 Darling Street
Dubbo NSW 2830
Telephone: 68842944

BOREHOLE NUMBER 5

CLIENT On Edge Developments
PROJECT NAME Site Classification
PROJECT NUMBER 17239
PROJECT LOCATION Proposed Camp Village, 94 Main St. Ulan NSW

DATE STARTED 13/3/12 **COMPLETED** 13/3/12 **R.L. SURFACE** ____ **DATUM** ____
DRILLING CONTRACTOR Barnson **SLOPE** 90° **BEARING** ---
EQUIPMENT Scout 1750 Drill Rig **HOLE LOCATION** Borehole 5 - See Site Plan
HOLE SIZE 90mm **LOGGED BY** DB **CHECKED BY** MB
NOTES ____

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Dynamic Cone Penetrometer Blows / 150mm (0 3 6 9 12 15 18 21)	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.2			Brown Grey Sandy Silty Loam: Moist, Firm		TOPSOIL
		0.5		SM	Light Brown Silty SAND with Gravel: Moist, Medium Dense, Low Plasticity		ALLUVIAL
	Disturbed Sample	0.7		CL	Light Brown Grey mottled Orange Sandy CLAY trace Gravel: Slightly Moist, Stiff, Medium Plasticity		
		1.0					
		1.5					
	Disturbed Sample	2.0					
		2.5					
		2.7		CL	Light Brown Grey mottled Orange Sandy CLAY trace Gravel: **Wet, Firm**, High Plasticity		**WATER INFLOW @ 2.7m**
		3.0					

Borehole 5 terminated at 3m

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Barnson
1/36 Darling Street
Dubbo NSW 2830
Telephone: 68842944

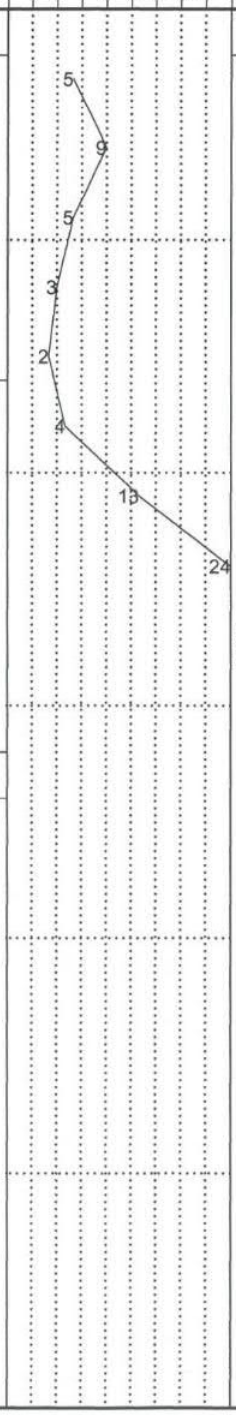
BOREHOLE NUMBER 6

CLIENT On Edge Developments
PROJECT NAME Site Classification
PROJECT NUMBER 17239
PROJECT LOCATION Proposed Camp Village, 94 Main St. Ulan NSW

DATE STARTED 13/3/12 **COMPLETED** 13/3/12 **R.L. SURFACE** **DATUM**
DRILLING CONTRACTOR Barnson **SLOPE** 90° **BEARING** ---
EQUIPMENT Scout 1750 Drill Rig **HOLE LOCATION** Borehole 6 - See Site Plan
HOLE SIZE 90mm **LOGGED BY** DB **CHECKED BY** MB
NOTES

Method	Samples	Depth (m)	Graphic Log	Classification Symbol	Material Description	Additional Observations
Flight Auger & Tungsten Carbide (T.C) Bit		0.1			Brown Grey Sandy Silty Loam: Moist, Firm	TOPSOIL
		0.5		SM	Light Brown Silty SAND with Gravel: Moist, Loose, Low Plasticity	ALLUVIAL
	Disturbed Sample	0.8		CL	Light Brown Grey mottled Orange Sandy CLAY trace Gravel: Slightly Moist, Stiff to Very Stiff, Medium Plasticity	
		1.0				
		1.5				
		1.6		GC	Light Brown Clayey GRAVEL: Moist, Very Dense, Low Plasticity	
		1.7		CL	Light Brown Orange Gravely CLAY: Moist, Stiff, Medium Plasticity	
	Disturbed Sample	2.0				
		2.5				
		3.0				

Dynamic Cone Penetrometer Blows / 150mm



WATER INFLOW @ 1.3m. S.W.L AFTER 1 HOUR = 0.7m

Borehole 6 terminated at 3m

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Barnson Pty Ltd A.C.N. 088 342 625

16L Yarrandale Rd
Dubbo NSW 2830

Phone:+61 2 6884 2944
Fax:+61 2 6884 5857

Consulting Civil, Structural and Geotechnical Engineers, Environmental Consultants
Project Management, NATA Soil and Concrete Laboratory

Report For The Soil Index Properties

CLIENT: On Edge Developments
ADDRESS: 1/36 Darling Street, Dubbo NSW 2830
PROJECT: Site Classification
Reference: 17239-01
LOCATION: "Ulan Camp" 94 Main Street, Ulan NSW 2850
DATE: 16/3/2012

Sample		BH1 800mm	BH1 2.0m	BH2 2.0m	BH4 800mm
LIQUID LIMIT % **WL** Method: Standard One Point **As per AS 1289.3.1.1/3.1.2**					
PLASTIC LIMIT % **WP** **As per AS 1289 3.2.1**					
PLASTICITY INDEX % **IP** **As per AS 1289 3.3.1**					
LINEAR SHRINKAGE % **LS** **As per AS 1289 3.4.1**		8.5%	13.0%	11.0%	5.0%
FIELD MOISTURE CONTENT (%) AS1289.2.1.1					

Comments: Sampled by Barnson as per AS1289.1.2.1.6.5.3

Sample Preparation:

Air Drying			Wet Sieving	
Oven Drying		x	Dry Sieving	x
Curling	Slight		Crumbling	
	Moderate	x		
	High			

Length of Linear Shrinkage Mould if Differs from 250mm: N/a

Pretreatment Method: T102 ____ **CA3**
T103 ____ **W**

Sample Prepared as per AS 1289.1.1 section 5.1 & 5.3.1
Soil moisture content w[redacted]

Approved Signatory: [redacted] Date: 3/4/12.
Matthew Brown

NATA

This document is issued in accordance with
NATA's accreditation requirements.
Accredited for compliance with ISO/IEC 17025.
Laboratory No.9605
Authorised By MB

Effluent Subdivison Profile

Sample Drop Off: 16 Chilvers Road, Thornleigh NSW 2120
Mailing Address: PO Box 357, Pennant Hills NSW 1715
Tel: 02 9980 6554
Fax: 02 9484 2427
Em: info@sesl.com.au
Web: www.sesl.com.au

Batch N°: 21805	Sample N°: 1	Date Received: 16/3/12	Report Status: ○ Draft ○ Final

Client Name:	**Barnson Pty Ltd**	Project Name:	**Ulan Town Camp**
Client Contact:	**Natalie Richards**	Location:	**Main Rd, Ulan**
Client Job N°:	**17329**	SESL Quote N°:	
Client Order N°:		Sample Name:	**Horizon A**
Address:	**Unit 2, 108-110 Market St Mudgee NSW 2850**	Description:	**Soil**
		Test Type:	**pHEC, ECEC, ESP, TDS, P-Sorp, PSAUS, mEAT**

TEST	RESULT	COMMENTS
pH in water 1:5	7.4	Slight alkalinity
pH in $CaCl_2$ 1:5	6.4	Slight acidity
EC mS/cm 1:5	0.03	Very Low Salinity

CATION ANALYSIS

TEST	SOLUBLE		EXCHANGEABLE		
	meq%	Comment	meq%	% of ECEC	Comment
Sodium			0.1	5.90	Elevated
Potassium			0.2	11.80	Acceptable
Calcium			0.8	47.10	Very low
Magnesium			0.6	35.30	High
Aluminium			D.N.T.		
		ECEC	1.70		Very low
		Ca/Mg	2.20		Low

Phosphate Retention Index (%): **PRI (mgP/kg):** **PRI (kg/ha):**

PHYSICAL CHARACTERISTICS			Comment
Texture:	Did not test	**Field Density (g/mL):**	
Texture comment:		**Emerson Stability Class:**	H20 2.2
Size:		**Low SAR:** 5.2	**High SAR:** 6
Aggregate strength:	Did not test	**Particle Size Analysis (PSA)**	
Structural unit:	Did not test	> 2mm Gravel	4.9
Approx. Clay Content (%):	Did not test	2 - 0.2 mm Coarse Sand	0
Potential infiltration rate:	Did not test	0.2 - 0.02 mm Fine Sand	8.9
Additional comments:	Soil is	0.02 - 0.002 mm Silt	11.1
		< 0.002 mm Clay	9.7

Recommendations

Phosphate Sorption Index: 89.3 mg kg -1 / log 10 ug L-1 Phosphate Adsorbed from Soil from 150mg P kg -1: 32.5%
TDS: 19.2mg/L

For the purpose of onsite effluent disposal report, this soil shows slight acidity and very low salt content.

The stability of aggregates is expected to increase with the application of high ionic strength water (i.e. effluent). The Emerson Stability Class indicates soil aggregates, in suspension, flocculate completely after standing for five minutes. Aggregates in this class are mechanically weak (slaking) but chemical conditions are such that colloids will not disperse even if severely provoked. A minimum of precaution in ploughed fields to prevent long runoff slopes is required. This soil poses slight to nil limitations to effluent disposal depending of topography.

The unbalanced soil chemistry is the only limitation of this soil and if initial plant growth is struggling, this soil can be ameliorated by the following recommendations:

- apply 70g/sqm of gypsum incorporated into 150mm of this material that will improve the cation balance.

Method References:
pH, EC, Soluble Cations, Nitrate: Bradley et al (1983). Exchangeable Cations, ECEC: Method 15A1 Rayment & Higginson (1992)
Chloride: Vogel (1961). Aluminium: Method 3500 APHA (1992). Phosphate: Method 9E1 Rayment & Higginson (1992). Wax Block Density: Method 30-4 Black (1983), Texture: Charman & Murphy (1991), Emerson's Aggregate Test: Charman & Murphy (1991), Particle Size Analysis: Modified Black (1983) Method 43-1 to 43-6.

Consultant: Kelly Lee [redacted]

Authorised Signatory: Ryan Jacka [redacted]

Date of Report: 29 Mar 2012

Effluent Subdivison Profile

sesl AUSTRALIA
AUSTRALIA'S MOST TRUSTED EARTH SCIENCE SERVICES

Sample Drop Off: 16 Chilvers Road, Thornleigh NSW 2120
Mailing Address: PO Box 357, Pennant Hills NSW 1715
Tel: 02 9980 6554
Fax: 02 9484 2427
Em: info@sesl.com.au
Web: www.sesl.com.au

Certified System Quality ISO 9001

Batch N°: 21805 **Sample N°: 2** **Date Received: 16/3/12** **Report Status:** ○ Draft ◉ Final

Client Name:	**Barnson Pty Ltd**	Project Name:	**Ulan Town Camp**
Client Contact:	**Natalie Richards**	Location:	**Main Rd, Ulan**
Client Job N°:	**17329**	SESL Quote N°:	
Client Order N°:		Sample Name:	**Horizon B**
Address:	**Unit 2, 108-110 Market St Mudgee NSW 2850**	Description:	**Soil**
		Test Type:	**pHEC, ECEC, ESP, TDS, P-Sorp, PSAUS, mEAT**

TEST	RESULT	COMMENTS
pH in water 1:5	8.2	Moderately Alkaline
pH in $CaCl_2$ 1:5	7.2	Neutral
EC mS/cm 1:5	0.06	Low

CATION ANALYSIS

TEST	SOLUBLE		EXCHANGEABLE		
	meq%	Comment	meq%	% of ECEC	Comment
Sodium			0.3	9.40	High
Potassium			0.3	9.40	Acceptable
Calcium			1.2	37.50	Very Low
Magnesium			1.4	43.80	Extreme
Aluminium			D.N.T.		
		ECEC	3.20		Very low
		Ca/Mg	1.40		Low

Phosphate Retention Index (%): **PRI (mgP/kg):** **PRI (kg/ha):**

PHYSICAL CHARACTERISTICS **Comment**

Texture:	Did not test	**Field Density (g/mL):**	
Texture comment:		**Emerson Stability Class:**	H20 2.2
Size:		**Low SAR:** 3.1	**High SAR:** 6
Aggregate strength:	Did not test	**Particle Size Analysis (PSA)**	
Structural unit:	Did not test	> 2mm Gravel	4.9
Approx. Clay Content (%):	Did not test	2 - 0.2 mm Coarse Sand	0
Potential infiltration rate:	Did not test	0.2 - 0.02 mm Fine Sand	8.5
Additional comments:	Soil is	0.02 - 0.002 mm Silt	12.6
		< 0.002 mm Clay	18.2

Recommendations

Phosphate Sorption Index: 152 mg kg -1 / log 10 ug L-1 Phosphate Adsorbed from Soil from 150mg P kg -1: 52.2%
TDS: 38.4mg/L

For the purpose of onsite effluent disposal report, this soil shows a neutral pH and low salt content.

The stability of aggregates is expected to increase with the application of high ionic strength water (i.e. effluent). The Emerson Stability Class indicates soil aggregates, in suspension, flocculate completely after standing for five minutes. Aggregates in this class are mechanically weak (slaking) but chemical conditions are such that colloids will not disperse even if severely provoked. A minimum of precaution in ploughed fields to prevent long runoff slopes is required. This soil poses slight to nil limitations to effluent disposal depending of topography.

The unbalanced soil chemistry is the only limitation of this soil and if initial plant growth is struggling, this soil can be ameliorated by the following recommendations:

- apply 170g/sqm of gypsum incorporated into 150mm of this material that will improve the cation balance.

Method References:
pH, EC, Soluble Cations, Nitrate: Bradley et al (1983). Exchangeable Cations, ECEC: Method 15A1 Rayment & Higginson (1992) Chloride: Vogel (1961). Aluminium: Method 3500 APHA (1992). Phosphate: Method 9E1 Rayment & Higginson (1992). Wax Block Density: Method 30-4 Black (1983), Texture: Charman & Murphy (1991), Emerson's Aggregate Test: Charman & Murphy (1991), Particle Size Analysis: Modified Black (1983) Method 43-1 to 43-6.

Consultant: Kelly Lee

[redacted]

Authorised Signatory: Ryan Jacka

[redacted]

Date of Report:
29 Mar 2012

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APPENDIX C

Water and Nutrient Balances

Minimum Area Method Water Balance an Wet Weather Storage Calculations

Barnson Job No	17239		
Location :	Ulan		

Design Wastewater Flow	**Q**	**l/day**	18400
Design Percolation Rate	**R**	**mm/day**	3.5

Climate Zone	3 C	*As per Soil Landscapes of Dubbo 1:250 000* **Dropdown Box**

Paramter	**Symbol**	**Formula**	**Units**	**Jan**	**Feb**	**Mar**	**April**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Total**
Days in Month	**(D)**	**n/a**	**days**	**31**	**28**	**31**	**30**	**31**	**30**	**31**	**31**	**30**	**31**	**30**	**31**	**365**
Precipitation (70th percentile)	**(P)**	**n/a**	**mm/month**	94	86	76	64	70	75	60	66	60	81	78	96	906
Evaporation	**(E)**	**n/a**	**mm/month**	229	178	155	104	51	46	41	58	89	130	165	229	1475
Crop Factor (as per Silver Book)	**(C)**	**n/a**	**n/a**	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Outputs																
Evapotranspiration	**(ET)**	**E X C**	**mm/month**	160.3	124.6	108.5	72.8	35.7	**32.2**	28.7	40.6	62.3	91	115.5	160.3	1032.5
Percolation	**(B)**	**(R/7)xD**	**mm/month**	108.5	98.0	108.5	105.0	108.5	105.0	108.5	108.5	105.0	108.5	105.0	108.5	1277.5
Outputs		**(ET +B)**	**mm/month**	268.8	222.6	217.0	177.8	144.2	137.2	137.2	149.1	167.3	199.5	220.5	268.8	2310.0
Inputs																
Precipitation (70th percentile)	**(P)**	**n/a**	**mm/month**	94	86	76	64	70	75	60	66	60	81	78	96	906
Possible Efflient Irrigation	(W)	**(ET + B) -P**	**mm/month**	174.8	136.6	141.0	113.8	74.2	62.2	77.2	83.1	107.3	118.5	142.5	172.8	**1404.0**
Actual Effluent Production	(I)	**H/12**	**mm/month**	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0	117.0
Inputs		**(P +I)**	**mm/month**	211.0	203.0	193.0	181.0	187.0	192.0	177.0	183.0	177.0	198.0	195.0	213.0	1023.0
Storage	(S)	**(P+I) - (ET+B)**	**mm/month**	-57.8	-19.6	-24.0	3.2	42.8	54.8	39.8	33.9	9.7	-1.5	-25.5	-55.8	
Cumulative Storage	(M)	**n/a**	**mm**	0.0	0.0	0.0	3.2	46.0	100.8	140.6	174.5	**184.2**	182.7	157.2	101.4	

Note - H = sum of W

Irrigation Area	**(L)**	**365 x Q/H**	**m²**	**4783.5**
Storage	**(v)**	**Largest M**	**mm**	**184.2**
		(V xL)/1000	**m³**	**881.1**

Phosphours Balance

Job Number 17239

Phosphorus Sorption capacity - calculated to a depth of 1m if possible

Weighted pSorb from lab results - as per SCA pg 203

Soil Depth	pSorption (mg/	pSorption/soil layer
0-20	250	5000
20-40	420	8400
40-70	560	16800
70-100	580	17400

Weighted Psorp = Column C/thickness

Weighted Psorp = 400 mg/kg

OR USE Psorption Uptake values for soil type as per Appendix 1 of SCA pg 207

BULK Density - use the following, unless determined by lab/field (SCM pg, 207)

Soil Type	g/cm3
Sandy Soil	1.8
Fine sandy loam*	1.7
Intermediate	1.5
clay	1.3

*Interpruting soil test results

Need to calculate the pSorption of the soil in kg/ha, using the bulk density and Weighted Psorb mg/kg

Note - use top 1m of the soil

1 hecatre = 10,000m2

Therefore in the top 1m of soil = 10,000m2 X 1m X Bulk density

15000 tonnes/hectare of soil (update with Bulk density)

Convert tonnes to kg 15000000 kg

Therefore the pSorption is value mg/kg X kg of soil you have

6000000000 mg/hectare

Convert mg/ha to kg/ha	6000

Irrigation Area = $P_{generated}$ / $P_{absorbed}$ + P_{uptake})

$P_{generated}$ = total phosphorus (TP) concentration x volume (V)of wasewater produced in 50 years

TP = 5mg/L (obtained from effluent/AWTS output spec.)

V = Q x 365 days x 50 years, where Q is daily flow L/d

Q L/day =	18400	
$P_{generated}$ =	1679000000	mg
Convert to kg	1679.00	kg

$P_{absorbed}$ = in soil is between 1/4 and 1/2 of the the phosphorus sorption capacity, therefore in accordance with the silver book, use 1/3

Is value x 1/3 =	2000	kg/ha
convert to kg/m2	0.200	kg/m2

P_{uptake} = the amount of vegetation uptake over 50 years

Is value from SCA pg207 X 365 days X50 years

Value (kg/ha/year) 24 (choose from SCM Appendix 1… or use 12 for unmaintained lawn)

Convert to mg/m2/day 6.57098 (using conversion factor from per year to per day)

Therefore total = amount mg/m2/day X 365 days X 50 years

Which is 119920.4256

Convert to kg/m2 0.11992 kg/m2

Irrigation Area = $P_{generated}$ / $P_{absorbed}$ + P_{uptake})

$P_{generated}$ =	1679.00	
$P_{absorbed}$ =	0.200	
P_{uptake} =	0.1199	
Irrigation Area =	5248.5	m2

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APPENDIX D

Site Setback Requirements

TABLE R1
GUIDELINES FOR HORIZONTAL AND VERTICAL SETBACK DISTANCES
(to be used in conjunction with Table R2)

Site feature	**Setback distance range** (m) (See Note 1)	**Site constraint items of specific concern** (from Table R2) (see Note 1)
	Horizontal setback distance *(m)*	
Property boundary	1.5 – 50 (see Note 2)	A, D, J
Buildings/houses	2.0 – > 6 (see Note 3)	A, D, J
Surface water (see Note 4)	15 – 100	A, B, D, E, F, G, J
Bore, well (see Notes 5 and 6)	15 – 50	A, C, H, J
Recreational areas (Children's play areas, swimming pools and so on) (see Note 7)	3 – 15 (see Notes 8 and 9)	A, E, J
In-ground water tank	4 – 15 (see Note 10)	A, E, J
Retaining wall and Embankments, escarpments, cuttings (see Note 11)	3.0 m or 45° angle from toe of wall (whichever is greatest)	D, G, H
	Vertical setback distance *(m)*	
Groundwater (see Notes 5, 6, and 12)	0.6 – > 1.5	A, C, F, H, I, J
Hardpan or bedrock	0.5 – ≥ 1.5	A, C, J

NOTES:

1 The overall setback distance should be commensurate with the level of risk to public health and the environment. For example, the maximum setback distance should be adopted where site/system features are on the high end of the constraint scale. The setback distance should be based on an evaluation of the constraint items and corresponding sensitive features in Table R2 and how these interact to provide a pathway or barrier for wastewater movement.

2 Subject to local regulatory rules and design by a suitably qualified and experienced person, the separation of a drip line system from an upslope boundary, for slopes greater than 5%, may be reduced to 0.5 m.

TABLE R1

GUIDELINES FOR HORIZONTAL AND VERTICAL SETBACK DISTANCES

(to be used in conjunction with Table R2) (continued)

3	Setback distances of less than 3 m from houses are appropriate only where a drip irrigation land application system is being used with low design irrigation rates, where shallow subsurface systems are being used with equivalent low areal loading rates, where the risk of reducing the bearing capacity of the foundation or damaging the structure is low, or where an effective barrier (designed by a suitably qualified and experienced person) can be installed. This may require consent from the regulatory authority.
4	Setback distance from surface water is defined as the areal edge of the land application system to the edge of the water. Where land application areas are planned in a water supply catchment, advice on adequate buffer distances should be sought from the relevant water authority and a hydrogeologist. Surface water, in this case, refers to any fresh water or geothermal water in a river, lake, stream, or wetland that may be permanently or intermittently flowing. Surface water also includes water in the coastal marine area and water in man-made drains, channels, and dams unless these are to specifically divert surface water away from the land application area. Surface water excludes any water in a pipe or tank.
5	Highly permeable stony soils and gravel aquifers potentially allow microorganisms to be readily transported up to hundreds of metres down the gradient of an on-site system (see R3, Table 1 in Pang et al. 2005). Maximum setback distances are recommended where site constraints are identified at the high scale for items A, C, and H. For reading and guidance on setback distances in highly permeable soils and coarse-grained aquifers see R3. As microbial removal is not linear with distance, data extrapolation of experiments should not be relied upon unless the data has been verified in the field. Advice on adequate buffer distances should be sought from the relevant water authority and a hydrogeologist.
6	Setback distances from water supply bores should be reviewed on a case-by-case basis. Distances can depend on many factors including soil type, rainfall, depth and casing of bore, direction of groundwater flow, type of microorganisms, existing quality of receiving waters, and resource value of waters.
7	Where effluent is applied to the surface by covered drip or spray irrigation, the maximum value is recommended.
8	In the case of subsurface application of primary treated effluent by LPED irrigation, the upper value is recommended.
9	In the case of surface spray, the setback distances are based on a spray plume with a diameter not exceeding 2 m or a plume height not exceeding 0.5 m above finished surface level. The potential for aerosols being carried by the wind also needs to be taken into account.
10	It is recommended that land application of primary treated effluent be down gradient of in-ground water tanks.
11	When determining minimum distances from retaining walls, embankments, or cut slopes, the type of land application system, soil types, and soil layering should also be taken into account to avoid wastewater collecting in the subsoil drains or seepage through cuts and embankments. Where these situations occur setback clearances may need to be increased. In areas where slope stability is of concern, advice from a suitably qualified and experienced person may be required.
12	Groundwater setback distance (depth) assumes unsaturated flow and is defined as the vertical distance from the base of the land application systems to the highest seasonal water table level. To minimise potential for adverse impacts on groundwater quality, minimum setback distances should ensure unsaturated, aerobic conditions in the soil. These minimum depths will vary depending on the scale of site constraints identified in Table R2. Where groundwater setback is insufficient, the ground level can be raised by importing suitable topsoil and improving effluent treatment. The regulatory authority should make the final decision in this instance. (See also the guidance on soil depth and groundwater clearance in Tables K1 and K2.)

TABLE R2
SITE CONSTRAINT SCALE FOR DEVELOPMENT OF SETBACK DISTANCES

(used as a guide in determining appropriate setback distances from ranges given in Table R1)

Item	Site/system feature	**Constraint scale** (see Note 1) LOWER ⟷ HIGHER **Examples of constraint factors** (see Note 2)		Sensitive features
A	Microbial quality of effluent (see Note 3)	Effluent quality consistently producing ≤ 10 cfu/100 mL *E. coli* (secondary treated effluent with disinfection)	Effluent quality consistently producing ≥ 10^6 cfu/100 mL *E. coli* (for example, primary treated effluent)	Groundwater and surface pollution hazard, public health hazard
B	Surface water (see Note 4)	Category 1 to 3 soils (see Note 5) no surface water down gradient within > 100 m, low rainfall area	Category 4 to 6 soils, permanent surface water <50 m down gradient, high rainfall area, high resource/environmental value (see Note 6)	Surface water pollution hazard for low permeable soils, low lying or poorly draining areas
C	Groundwater	Category 5 and 6 soils, low resource/environmental value	Category 1 and 2 soils, gravel aquifers, high resource/environmental value	Groundwater pollution hazard
D	Slope	0 – 6% (surface effluent application) 0 – 10% (subsurface effluent application)	> 10% (surface effluent application), > 30% subsurface effluent application	Off-site export of effluent, erosion
E	Position of land application area in landscape (see Note 6).	Downgradient of surface water, property boundary, recreational area	Upgradient of surface water, property boundary, recreational area	Surface water pollution hazard, off-site export of effluent
F	Drainage	Category 1 and 2 soils, gently sloping area	Category 6 soils, sites with visible seepage, moisture tolerant vegetation, low lying area	Groundwater pollution hazard
G	Flood potential	Above 1 in 20 year flood contour	Below 1 in 20 year flood contour	Off-site export of effluent, system failure, mechanical faults
H	Geology and soils	Category 3 and 4 soils, low porous regolith, deep, uniform soils	Category 1 and 6 soils, fractured rock, gravel aquifers, highly porous regolith	Groundwater pollution hazard for porous regolith and permeable soils
I	Landform	Hill crests, convex side slopes, and plains	Drainage plains and incise channels	Groundwater pollution hazard, resurfacing hazard
J	Application method	Drip irrigation or subsurface application of effluent	Surface/above ground application of effluent	Off-site export of effluent, surface water pollution

NOTES:

1 Scale shows the level of constraint to siting an on-site system due to the constraints identified by SSE evaluator or regulatory authority. See Figures R1 and R2 for examples of on-site system design boundaries and possible site constraints.

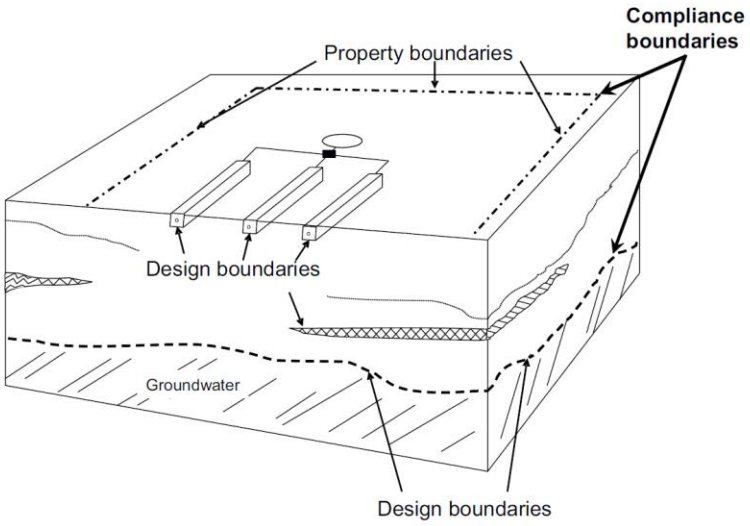
2 Examples of typical siting constraint factors that may be identified either by SSE evaluator or regulatory authority. Site constraints are not limited to this table. Other site constraints may be identified and taken into consideration when determining setback distances.

TABLE R2

SITE CONSTRAINT SCALE FOR DEVELOPMENT OF SETBACK DISTANCES

(used as a guide in determining appropriate setback distances from ranges given in Table R1) (continued)

3	The level of microbial removal for any on-site treatment system needs to be determined and it should be assumed that unless disinfection is reliably used then the microbial concentrations will be similar to primary treatment. Low risk microbial quality value is based on the values given in ARC (2004), ANZECC and ARMCANZ (2000), and EPA Victoria *(Guidelines for environmental management: Use of reclaimed water* 2003).
4	Surface water, in this case, refers to any fresh water or geothermal water in a river, lake, stream, or wetland that may be permanently or intermittently flowing. Surface water also includes water in the coastal marine area and water in man-made drains, channels, and dams unless these are to specifically divert surface water away from the land application area. Surface water excludes any water in a pipe or tank.
5	The soil categories 1 to 6 are described in Table 5.1. Surface water or groundwater that has high resource value may include potable (human or animal) water supplies, bores, wells, and water used for recreational purposes. Surface water or groundwater of high environmental value include undisturbed or slightly disturbed aquatic ecosystems as described in ANZECC and ARMCANZ (2000).
6	The regulatory authority may reduce or increase setback distances at their discretion based on the distances of the land application up or downgradient of sensitive receptors.



(Adapted from USEPA 2002)

FIGURE R1 EXAMPLE OF DESIGN AND COMPLIANCE BOUNDARIES FOR APPLICATION OF SETBACK DISTANCES FOR A SOIL ABSORPTION SYSTEM

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APPENDIX E

Recommended Species List

APPENDIX 7

VEGETATION SUITABLE FOR LAND APPLICATION AREAS

Botanical Name	Approximate Height	Common Name or Variety
Grasses		
Carex spp.		
Lomandra longifolia		
Microlaena stipoides		
Oplismenus imbecillis		
Pennisetum alopecuroides	40 - 80 cm	Available as lawn turf
Poa lab		
Stipa spp.		
Ground cover/ climbers		
Hibbertia scandens		Snake vine
Hibbertia stellaris		
Isotoma fluviatalis	Prostrate	
Kennedia rubicunda	Climber	Dusky coral pea
Scaevola albida		
Scaevola ramosissima		
Veronica plebeia		
Viola hederacea		Native violet
Sedges/ grasses/ small plants		
Anigozanthus flavidus	2m	Kangaroo Paw
Baumea acuta		
Baumea articulata	Sedge	
Baumea juncea	Sedge	
Baumea nuda	Sedge	
Baumea rubiginosa	Sedge	
Baumea teretifolia	Sedge	
Blandfordia grandiflora	30-90cm	Christmas Bell
Blandfordia nobilis	30-90cm	Christmas Bell
Brachyscome diversifolia	Clump	Native Daisy
Carex appressa	Sedge	
Cotula coronopifolia	10-20cm	Waterbutton
Crinum pedunculatum	<2m	Swamp Lily
Cyperus polystachyos	Sedge	
Dianella caerulea	Low plant	Blue Flax Lily
Epacris microphylla	50cm -1m	
Ferns		
Gahnia spp.	Tall Grass	
Juncus spp.	0.5 m Rush	
Lobelia trigonocaulis	5-10cm	
Lomandra spp.	Grass	
Patersonia fragilis		Native Iris
Patersonia glabrata		Native Iris
Patersonia occidentalis		Native Iris
Ranunculus graniticola	5cm	
Restio australis	Reed	
Restio tetraphyllus	1m	
Sowerbaea juncea	Sedge	Rush Lily
Tetratheca juncea	<30cm	
Xyris operculata	<1m	Tall Yellow Eye

Botanical Name	Approximate Height	Common Name or Variety
Shrubs		
Agonis flexuosa nana		
Baekea linifolia	1 - 2.5 m	
Baekea utilis	1-2.5 m	
Baekea virgata	< 4 m	
Banksia aemula	1 - 7 m	
Banksia robur	0.5 - 2 m	
Bauera ruboides	0.5 - 1.5 m	
Callistemon	2 - 3 m	Burgundy
Callistemon	2 - 4 m	Eureka
Callistemon	3 - 4 m	Harkness
Callistemon	3 - 4.5 m	Kings Park Special
Callistemon	2 - 3 m	Mauve Mist
Callistemon	1 - 2.5 m	Red Clusters
Callistemon	2 - 3 m	Reeves Pink
Callistemon citrinus	50 - 80 cm	Austraflora Firebrand
Callistemon citrinus	2 - 4 m	Splendens
Callistemon citrinus	60cm – 1m	White Ice
Callistemon linearis	1 - 3 m	
Callistemon macropunctatus	2 - 4 m	
Callistemon pachyphyllus	2 - 3 m	
Callistemon pallidus	1.5 - 4 m	
Callistemon paludosus	3 - 7 m	
Callistemon pinifolius	1 - 3 m	
Callistemon rigidus	1.5 - 2.5 m	
Callistemon salignus	3 – 10m	
Callistemon shiresii	4 - 8 m	
Callistemon sieberi	1.5 - 2 m	
Callistemon sieberi	50 - 80 cm	Austraflora Little Cobber
Callistemon subulatus	1 - 2 m	
Callistemon viminalis	1 - 2 m	Captain Cook
Callistemon viminalis	5 - 10 m	Dawson River
Callistemon viminalis	3 - 5 m	Hannah Ray
Callistemon viminalis	50 cm - 1 m	Little John
Callistemon viminalis	1.5 - 2 m	Rose Opal
Callistemon viminalis	2 - 3 m	Western Glory
Goodenia ovata	1 - 1.5 m	
Hibiscus diversifolius	1 - 2 m	Swamp hibiscus
Kunzea capitata	1 - 2 m	
Leptospermum flavescens	< 2 m	Tea-tree
Leptospermum juniperinum	1 m	Tea-tree
Leptospermum lanigerum	1 - 2 m	Woolly tea-tree
Leptospermum squarrosum	< 2 m	Tea-tree
Melaleuca alternifolia	4 - 7 m	
Melaleuca decussata	1 - 2 m	Cross-leaved honey myrtle
Melaleuca lanceolata	4 - 6 m	
Melaleuca squamea	1 - 2 m	
Melaleuca thymifolia		

Botanical Name	Approx Height	Common Name or Variety
Trees		
Acacia elongata	> 2 m	
Acacia floribunda	2 - 4 m	Gossamer wattle
Agonis flexuosa	5 - 6 m	Willow myrtle
Allocasuarina diminuta	1.5 m	
Allocasuarina paludosa	0.5 - 2 m	
Angophora floribunda	Large tree	
Angophora subvelutina	Large tree	
Callicoma serratifolia	< 4m	
Casuarina cunninghamiana	10 - 30 m	River she-oak
Casuarina glauca	6 - 12 m	Swamp oak
Elaeocarpus reticulatis	Large tree	Blueberry ash
Eucalyptus amplifolia	Large tree	
Eucalyptus botryoides (coastal areas)	10 - 30 m	
Eucalyptus camaldulensis (west of ranges)	15 - 20 m	River red gum
Eucalyptus deanei	Large tree	Blue Mountains blue gum
Eucalyptus elata	Large tree	River Peppermint
Eucalyptus grandis	10 - 20 m	Flooded gum
Eucalyptus longifolia	20 m	Woollybutt
Eucalyptus pilularis	30 - 40 m	Blackbutt
Eucalyptus punctata	< 35 m	Greygum
Eucalyptus robusta	20 - 30 m	Swamp mahogany
Eucalyptus saligna (coastal)	30 - 50 m	Sydney blue gum
Eucalyptus tereticornis	30 - 40 m	Forest red gum
Eucalyptus viminalis (ranges)	20 - 40 m	Ribbon gum
Acmena smithii	10 - 20 m	Lilli pilli
Flindersia australis	< 40 m	Native teak
Hymenosporum flavuum	3 - 6 m	Native frangipani
Melaleuca armillaris	3 - 4 m	Bracelet honey myrtle
Melaleuca decora	4 - 7 m	
Melaleuca ericifolia	6 m	
Melaleuca halmaturorum	4 - 6 m	
Melaleuca hypericifolia	2 - 3 m	
Melaleuca linariifolia	4 - 8 m	Snow in summer
Melaleuca quinquenervia	5 - 7 m	Broad paperbark
Melaleuca squarrosa	6 m	
Melaleuca stypheloides	6 - 15 m	
Melia azedarach	15 - 20 m	
Pittosporum spp.		
Syzgium paniculatum	8 - 10 m	Bush cherry
Tristania laurina	5 - 15 m	Kanuka
Viminaria juncea	2 - 3 m	Golden spray

Source: Australian Plants Society

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APPENDIX F

Concept Design Sketches – Irrigation System

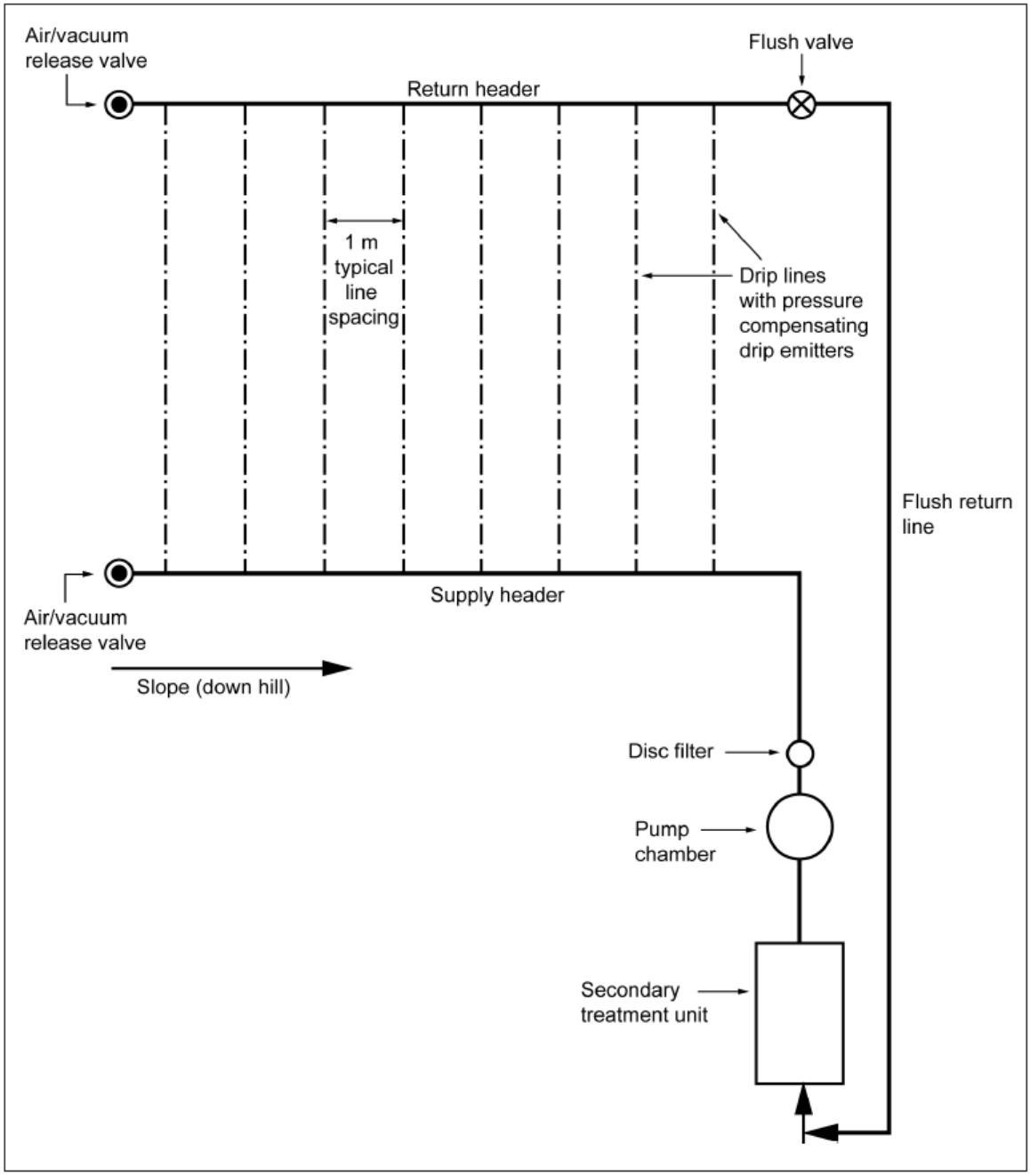


FIGURE M1 DRIP IRRIGATION SYSTEM – EXAMPLE LAYOUT OF COMPONENTS

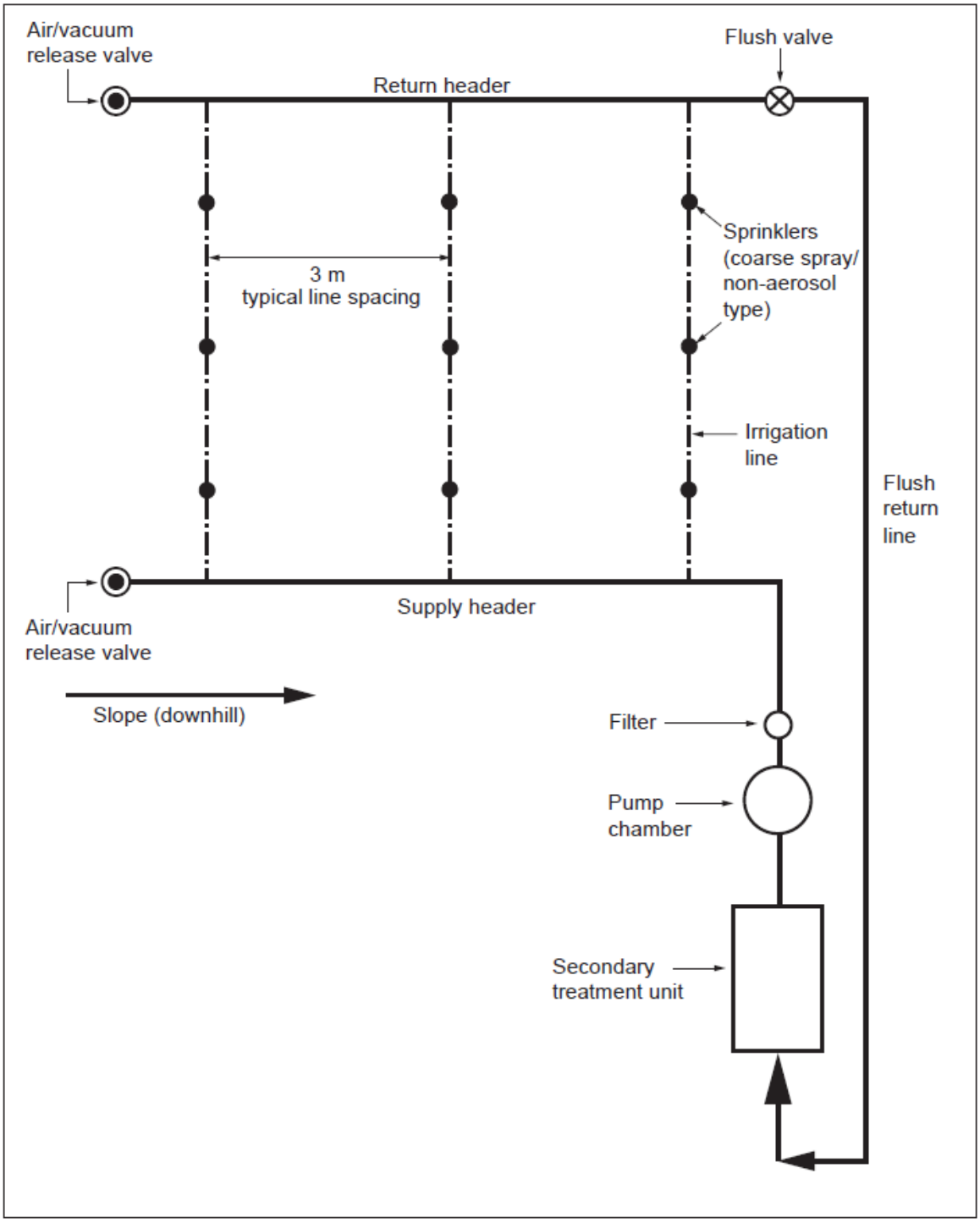
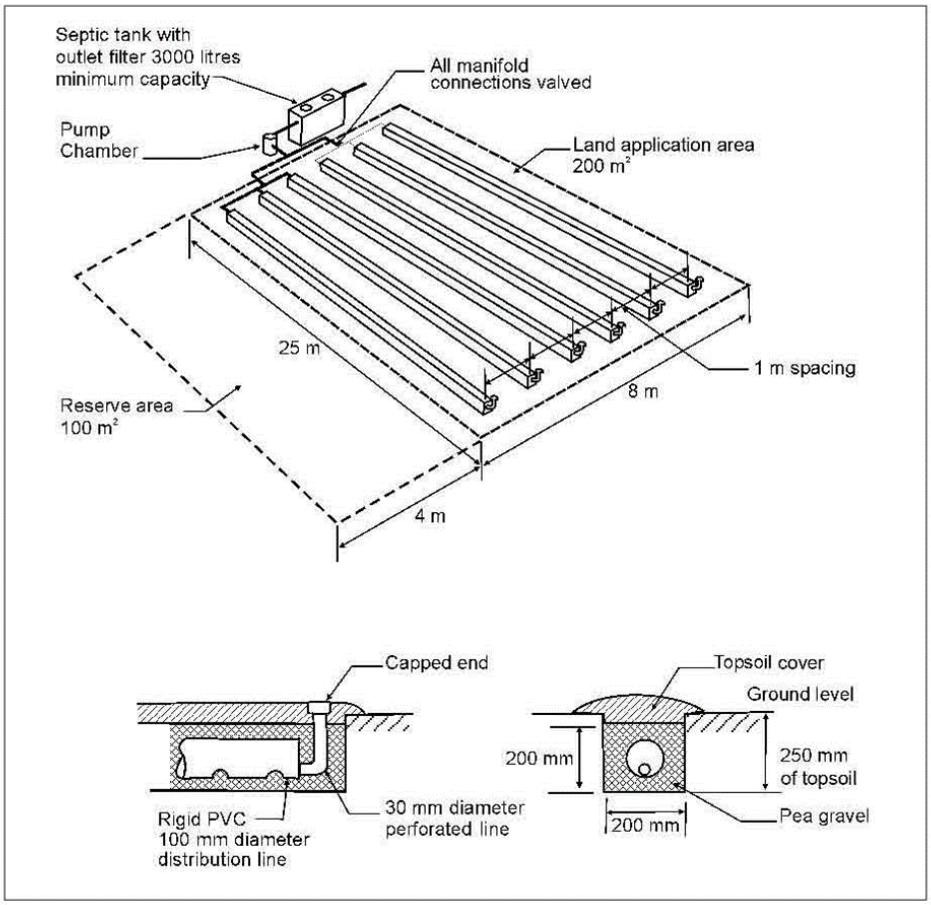


FIGURE M2 SPRAY IRRIGATION SYSTEM – EXAMPLE LAYOUT OF COMPONENTS



NOTES:

1 Example system sized for 700 L/d and DIR of 3.5 mm/d in soil Category 3 (see Table M1).

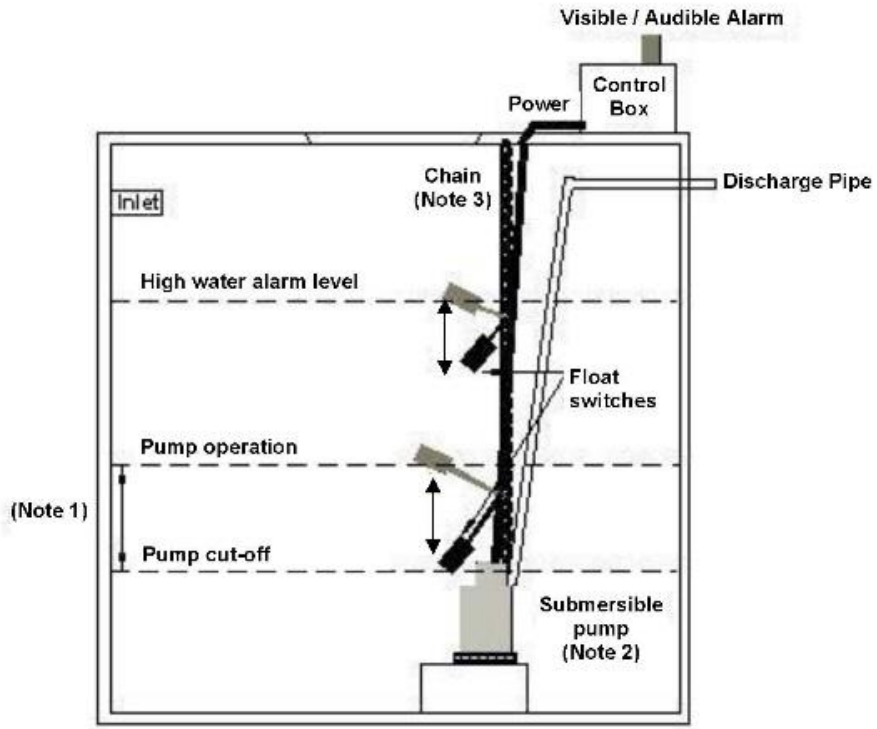
2 Preferred dosing method is by a 6-way automatic sequencing valve.

3 Good quality topsoil to 250 mm depth is required.

4 Flexible 100 mm diameter corrugated drainage line can be used in place of rigid PVC.

5 Distribution aggregate of 10 mm to 15 mm size can be used in place of pea gravel.

FIGURE M3 SHALLOW SUBSURFACE LPED IRRIGATION – EXAMPLE SYSTEM



Notes

1 The depth of effluent pumped within each cycle of the float switch (ie the depth between pump Cut-off and Operation) is calculated by:

depth of pumped effluent (m) x basal tank area (m^2) x 1,000 = discharge volume (litres per pump cycle).

This volume must match the hydraulic capabilities of the receiving component based on flow rate and total dynamic head.

2 Submersible pump used as an example only. The pump will need to be selected based on the specific task. It may be a centrifugal pump or vortex pump depending on the type of effluent being pumped and the hydraulic characteristics of the system. It may sit on top of the tank and draw effluent from the tank.

3 Submersible pumps must not be removed from a tank by their power cord. Heavier pumps may require the installation of a solid steel bar configuration according to manufacturer's specifications.

4 Cumulative storage must be assessed carefully to ensure that the pump well is large enough to buffer peak loads without the level exceeding that at which the high level alarm is triggered. The pump well should be sized to ensure that the volume of storage in the pump well reaches the low-level cut-off depth at least once every week.

Standard Drawing 12B - Demand Dose Pump well

(not to scale)

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DESIGN . PLAN . MANAGE

Site Management

Client: Long Necks Developments Pty Ltd
Site Address: 94 Main Street, Ulan NSW 2850

28 April 2023

Our Reference : 17239-ER02_G

DISCLAIMER

This report has been prepared solely for Long Necks Developments Pty Ltd (the Client) in accordance with the scope provided and for the purpose(s) as outlined throughout this report. Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

Project Name:	Site Management Ulan Village Green, 94 Main Street, Ulan NSW 2850
Client:	Long Necks Developments Pty Ltd
Project Number:	17239
Report Reference:	17239 ER02_G
Date:	5/05/2023

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1. INTRODUCTION

The Temporary Workers' Accommodation facility at No. 94 Main Street, Ulan (referred to as Ulan Village Green) is proposed to be increased to 200 accommodation units, a kitchen, dining room, laundry and recreation facility, all located on a site of approximately 4.0 hectares. The proposed development shall be expanded from 144 accommodation units to 200, and also include the addition of a laundry building.

A Development Application for the Ulan Village Green was approved in 2012 (DA0135/2012), with subsequent modifications and is currently being modified again to allow extension of the capacity of the facility to 200 rooms.

The Mid-Western Regional Council Temporary Workers Accommodation DCP identifies a number of issues that have to be addressed by a Plan of management. These issues can broadly be divided into three categories namely; Social issues, Safety and Security issues and Environmental issues. The purpose of this report is to present information on each of these categories to allow Council to make a decision on approving occupation of the proposed development. Some of the information presented is obtain from the documented rules and regulations that will be distributed to tenants and staff of the Ulan Village Green facility, as well as discussions with the facility manager and the development design consultants.

The sections that follow present an updated summary of the available information for each of the three categories to support the modification.

2. SOCIOECONOMIC ISSUES

2.1. Overview

In general, temporary mining accommodation facilities can have wide ranging impacts on both the host communities and the workers themselves. Tensions between a local community and a temporary workforce community are not uncommon and is mainly derived from a lack of social integration between the two groups. However, due to the transient nature of the occupancy expected at the *Ulan Village Green*, which will vary up to a maximum of 200 persons, the actual social and economic impacts on the town of Ulan is expected to be very low.

Location of the proposed *Ulan Village Green* in the Town of Ulan is a deliberate attempt by the project proponent to alleviate this concern by promoting interaction, social integration and economic benefits for the town of Ulan.

2.2. Social Impact Management and Mitigation

To promote the positive impacts of social integration between the temporary worker and the Ulan Town communities, the *Ulan Village Green* sets out rules and regulations for its residents on various issues concerning antisocial behaviour and behaviour towards members of the Ulan community in general. The following is a summary of the relevant rules. A copy of the facility rules and regulations is attached as Appendix A to this report.

- Unauthorised persons including family or friends are not permitted to stay in village. Sharing accommodation with unauthorised persons is strictly prohibited.

- Alcohol is not to be taken into or consumed in the dining room. The kitchen/dining room area is also a "no smoking" area.
- Village occupants are expected to maintain a high level of personal hygiene. Instances of infectious disease, whether real or suspected, must be reported to village management immediately.
- Ulan Village Green does not tolerate aggression in any form, be it physical, verbal or psychological. Any aggression will result in instant dismissal and expulsion from the accommodation facility and if appropriate will be reported to the appropriate authorities.
- No excessive noise or disturbance is to be made on site after the hours of 9:30pm. Please be aware that *Ulan Village Green* caters for shift workers and excessive noise in village, especially in rooms is not permitted at any time.

It should be noted there have been no significant incidents between community and facility occupiers since operation of the facility commenced in 2019.

Furthermore, the existing community hall located on the site of the *Ulan Village Green* has been restored as part of the construction of the facility and converted into a recreational facility open to both the residents and staff of the proposed Temporary Workers' Accommodation, as well as the Ulan community. An asset is thereby being restored to the local community.

Siting of the facility closer to the larger local employers (e.g. the Ulan or Moolarben coal mines), mean that the number of resource sector workers that have to travel to and from local nodes (e.g. Mudgee or Gulgong) are reduced, thereby reducing the impact on roads and traffic improving the safety of regional road users.

2.3. Economic Impacts

The *Ulan Village Green* will create economic opportunities in the community by:

- Employing locals to assist in the operation of the facility;
- Employing locals in the construction and maintenance of the facility; and
- Making use of local suppliers for water, food and other services required for operation of the facility.

Although housing a temporary workforce may not bring more permanent economic benefits such as an increased need for additional houses or expansion of the host community, the *Ulan Village Green* will more than double the number of people in the Town of Ulan. It is reasonable to assume that most of the facilities in Ulan will benefit in some way from the increased spending and presence of the temporary workers housed at the *Ulan Village Green*

2.4. Access to Facilities

Facilities in Ulan town include, but are not limited to:

- Post Office
- Hotel x 2
- School (primary)

- Furney's Building & Plumbing Supplies
- GB Auto Group Pty Ltd (air con)

Tenants of the *Ulan Village Green* has access to all facilities in town and are encouraged to make use of the facilities whenever possible.

The nearest hospital facilities, police station and administrative facilities such as CentreLink and NSW Services, are at Gulgong which is 25.5 km from site or 20 mins by car.

3. SAFETY AND SECURITY

3.1. General

The *Ulan Village Green* facility is not access controlled. Although there is a fence erected at the front of the property, the site can be freely accessed 24 hours a day. This is to allow residents that work shifts to have access to their accommodation at any time.

There are 17 CCTV cameras installed at strategic points on the outside of the *Ulan Village Green* accommodation facilities and inside communal areas. The purpose of the cameras is to allow the owners of the facility to remotely monitor the facility and have a record of any incidents which may occur in the areas covered by the cameras. The CCTV feed is not continuously monitored and is not intended for securing the facilities or residents.

Residents and staff of the *Ulan Village Green* facility are responsible for their own security and the safety of their possessions and facilities. This responsibility is clearly communicated to residents in the rules and regulations document, which includes items specific to the management of the safety and security of tenants. The following is a summary of the relevant rules and measures put in place by the *Ulan Village Green* management with regard to safety and security.

3.2. Security of Tenants

3.2.1. Access

Rules regarding access are designed to ensure that rooms are accessible only by occupants and authorised persons. The aim is to safeguard against theft of or damage to facility assets and tenants' personal belongings.

- *Ulan Village Green* staff is on site from 4:00 am to 9:00 pm every day.
- Accommodation is pre-arranged and although accommodation can be arranged on arrival, this will only be possible during business hours.
- Check-in and check-out during business hours (check in 2:00pm and check out 10:00am) is at the site office by the facility manager.
- In the case of after-hours arrivals of pre-arranged tenants, keys can be signed for and collected at the Kitchen.
- If arriving after 9:00pm or before 4am, arrangements for key collection must be made with facility manager prior to arrival.

- A single key will be given on arrival and tenants checking out or leaving the village either for a break or permanently, will have to return the key before leaving.
- Rooms are to be locked when not occupied and tenants are to keep their keys with them at all times.
- Identification should always be carried by guests as *Ulan Village Green* retains the right to ask for proof of identification at any time.

3.2.2. Unauthorised Persons

The Ulan Village Green is not access controlled. Management has therefore set specific rules regarding unauthorised persons, which are designed to limit the occupation of facilities to registered tenants only, and minimise risks with regard to damage to rooms, facilities or personal property.

- Unauthorised persons including family or friends are not permitted to stay in village.
- Sharing accommodation with unauthorised persons is strictly prohibited.
- No pets are to be kept anywhere in the village.

3.2.3. Vehicles

Ulan Village Green rules and regulations document state that vehicles of tenants or personnel at *Ulan Village Green* are to be parked in the designated parking area only.

Owners of the vehicles parked on the *Ulan Village Green* premises are responsible for the security of their vehicles and its contents. All speed limits inside the *Ulan Village Green* are to be strictly adhered to.

3.3. Safety of Tenants

3.3.1. Prohibited Actions

Rules regarding prohibited actions are designed to prevent damage to rooms and facilities and reduce the risk of antisocial behaviour. Alcohol will not be supplied at site facilities and the consumption of alcohol in communal areas such as the dining room, is restricted. Any misconduct or antisocial behaviour occurring as a result of prohibited actions will be dealt with accordingly.

- Rooms are strictly non-smoking. Smoking is not permitted within 3m of any door.
- Cooking is not permitted in rooms.
- Alcohol is not to be taken into or consumed in the dining room. The kitchen/dining room area is also a “no smoking” area.
- All users of the on-site gymnasium must be proficient in the use of the gym equipment and do so at their own risk.
- The gymnasium is an alcohol-free area.
- Consumption of illegal substances conducted on site are strictly prohibited and will result in instant dismissal and expulsion from village.

- Any person found interfering with or irresponsibly discharging firefighting equipment or smoke alarms shall have their accommodation withdrawn.

3.3.2. Antisocial Behaviour

Tenants of *Ulan Village Green* are members of the public and the owners and management of the facility therefore cannot control or be held liable for the actions of tenants which may affect the safety and security of other members of the public either inside or outside the confines of the facility. Nevertheless, antisocial behaviour is a risk to personnel, tenants and facilities of the *Ulan Village Green*, as well as the residents of the Ulan Town. Owners and management of the facility is therefore prepared to respond to misconduct or antisocial behaviour perpetrated by tenants through withdrawal of accommodation and expulsion from the accommodation facility. The *Ulan Village Green* rules and regulations document specifically stipulates:

- Misconduct in any of the village facilities including, but not limited to, the dining room and recreational areas or abuse to Ulan Village Green staff will not be tolerated and may result in withdrawal of accommodation and expulsion from the village.
- *Ulan Village Green* management does not tolerate aggression in any form, be it physical, verbal or psychological. Any aggression will result in instant dismissal and expulsion from village and if appropriate will be reported to the appropriate authorities.
- Wilful damage to *Ulan Village Green* property will result in accommodation being withdrawn and the cost of repairs will be charged to the account of the person involved.

3.4. Emergency Response

In the event of an emergency, the first point of contact is Emergency Services, at the telephone number 000. All emergencies must be reported to a member of staff immediately. *Ulan Village Green* staff is on site from 4:00 am to 9:00 pm every day. Outside of these hours the facility manager, who is on call 24 hours, must be contacted on the number provided.

Ulan Village Green rules and regulations document stipulate the following in the event of an emergency:

- Should evacuation of the village be required, *Ulan Village Green* staff will initiate the evacuation alarm and all persons are to evacuate to the central muster point as per the emergency evacuation procedure.
- An emergency evacuation plan is available in each room as well as all facilities and communal areas.

(A copy of the emergency evacuation plans for each room and facilities at the *Ulan Village Green* is attached as Appendix B).

- Firefighting equipment is supplied and placed throughout the site and occupants are expected to take every precaution against the possible outbreak of fire.

3.5. Signage

Signs posted at the entrance to the site will include contact details of the facility manager and site office.

4. ENVIRONMENT

4.1. General

The minimisation of impacts to the environment from the *Ulan Village Green* is achieved through engineering and design controls as well as administrative controls in the form of rules and regulations for tenants. As the environmental impacts considered include nuisance issues such as noise, light spill and odour, a complaints management procedure whereby complaints from not only residents of the facility but also neighbours and members of the public (such as residents of Ulan town) is to be handled, also forms part of the controls. The sections that follow each address specific environmental impacts and, where appropriate, also include the stipulations from the *Ulan Village Green* rules and regulations document.

4.2. Complaints

All complaints are to be directed to the facility manager. As previously indicated the contact information for the facility manager will be displayed on a sign on the outside of the fence of the facility.

All complaints received, whether from tenants or members of the public, must be recorded in complaints register indicating the date the complaint was received, the date of the specific incident or situation the complaint refers to (if applicable) and the person or persons that laid the complaint. Any documentation or evidence submitted in support of the complaint must be recorded. The register must also include a note on actions taken in response to the complaint and any matters which cannot be addressed by the facility manager and were referred elsewhere must be indicated with the date method of referral and person referred to indicated.

All complaints which the facility manger consider to be addressed or resolved, or are addressed to the satisfaction of the complainant, must be signed off by the facility manger.

The complaints register must be available for review by authorities, upon request.

4.3. Nuisance Impacts

4.3.1. Dust

All roadways for use by service vehicles as well as driveways and parking areas used by tenants and staff are paved to minimise the generation of wheel entrained airborne dust and erosion of the site. No other site activities are likely to cause dust emissions.

4.3.2. Light Spill

Lighting at the site is designed to provide illumination of the parking and communal areas and walkways. There are no residential communities or activities in the immediate vicinity of the site that are likely to be affected by the site illumination.

4.3.3. Noise

Operational noise levels at the site are unlikely to affect any neighbouring properties. For the control of noise levels, the *Ulan Village Green* rules and regulations document specifically stipulates:

- No excessive noise or disturbance is to be made on site and particularly after the hours of 9:30pm. Excessive noise, especially in rooms is not permitted at any time.

Rules on noise will be enforced by the site manager and complaints are to be made and handled as per the complaint management procedures.

4.3.4. Odour

The on-site sewage treatment plant and treated effluent disposal system is specifically designed to minimise odour. All processing tanks are completely closed and the inflow ports are screened to prevent atmospheric dispersion of odours, droplets or particulates. All sewer reticulation and sewage collection pits connected to the treatment plant are closed and covered. Sludge generated from the sewage treatment process may periodically be removed by VAC truck and will not be managed on site.

Odours from the kitchen or temporary on-site waste collection bins is unlikely to impact any neighbouring properties. The bins will be fitted with a lid and waste will be collected from site at least once a week.

4.4. Waste Management

Bins for general waste are provided in each room. There are also 10, 60L garbage bins provided in dining and communal areas as well as at various points on the facility grounds for residents to dispose of trash. The *Ulan Village Green* rules and regulations document specifically stipulates that all litter is to be placed in the bins provided. Bins will be emptied daily by the on-site cleaner.

A contractor, currently JR Richards & Sons, has been appointed for the collection of waste from the site. The contractor has provided a 3000L mixed general waste collection bin with lid into which all waste collected on site, as well as kitchen and food waste, is deposited. Although there is currently only one collection bin required on site, the waste collection bin storage area was designed to accommodate two 3000L collection bins. The bin is fitted with a lid to minimise odours and prevent attracting insects and vermin.

The waste collection bin is currently to be emptied once a week by the appointed contractor and the waste is removed from site for disposal. It is accepted that the appointed waste management contracted disposes of the collected waste at a in a responsible manner at a facility licensed to accept mixed general waste.

Once operational the quantity of waste generated from the accommodation and associated facilities may exceed the current collection capacity and removal frequency. The principle is that waste collection bin must not be allowed to overflow. It is the responsibility of the facility manager to increase the collection frequency, or to add an additional waste collection bin should the need arise.

4.5. Facilities Maintenance

4.5.1. Potable Water

Potable water is supplied to the *Ulan Village Green* facility by tanker truck and is received in two (2) x 50,000L tanks from where it is distributed to the rest of the facility via a pressurised supply system. The water delivered is of potable quality and is treated prior to delivery in accordance with drinking water quality standards. Laboratory test results for the water is available from the supplier.

The volume of potable water in the tank will be monitored by the facility manager who has the responsibility to ensure that the water level is maintained above 50%. The water level is read from a gauge located on the outlet side of the tank. When the water level is approaching 50%, the facility manager is to order a delivery of water from the supplier.

In accordance with Condition 67 of the current Development Consent, truck movements associated with the supply of potable water to the *Ulan Village Green* facility are allowed only during normal business hours and no more than two deliveries per day is allowed. Any water delivery required must be planned to not exceed these restrictions.

In accordance with the NSW Private Water Supply Guidelines, private water suppliers must develop a Quality Assurance program (QAP) to manage the quality of supplied drinking water. The QAP developed for water supply at the *Ulan Village Green* facility is attached as Appendix C. In accordance with the QAP the aesthetic quality (taste, odour) of the water supplied to the facility will be evaluated by the facility manager on a daily basis.

The facility manager will further perform checks to ensure that in line UV sterilisation of the distributed water is operational and that the distribution system, in general, is operational. Any defects will be reported to an appointed contractor for repairs. Periodic microbial and chemical quality testing of the potable water is the responsibility of a duly qualified consultant, currently Barnson Pty Ltd, who will perform these actions on behalf of the camp management.

4.5.2. General Maintenance

Maintenance required at the *Ulan Village Green* facilities will be performed by a contractor appointed by management. With regard to maintenance, the *Ulan Village Green* rules and regulations document stipulates:

- Any defect and malfunction of *Ulan Village Green* equipment or facilities of a dangerous or urgent nature must be reported immediately.
- Residents must report defects and malfunction of equipment/facility on a Maintenance Request Form.
- Maintenance Request Forms are located in each room or can be obtained from the village management office.
- Village maintenance will be carried out during normal working hours.

4.5.3. Maintenance of Gardens and Landscaping

In accordance with condition 14 of the Development Consent, landscaping was installed in general accordance with the approved landscaping plan for the site. The specific species planted, or placement of larger plants and shrubs may require slight variation due to constraints with soil quality and water, as well as overhead cables or

placement of site infrastructure such as sewer, potable water or stormwater reticulation. These variations will be applied as required.

The gardens and landscaping are irrigated with an automatic sprinkler system and will be maintained, for the life of the development, by a contractor appointed by management.

4.6. Protection of Soil, Groundwater and Surface Water

Measures and controls in place at *Ulan Village Green* for the protection of soil, groundwater and surface water include:

- Closed pipe sewage reticulation, collection and on-site treatment.
- Stormwater collection from parking lot and roads and closed pipe reticulation to on-site stormwater detention basin to prevent contaminated water entering the Goulburn River.
- Roof water collection tank for recycling of collected water to sanitation system.
- Sewage effluent irrigation area designed to prevent potential stormwater run on by means of an upslope diversion drain.
- Periodic monitoring of groundwater and surface water quality at the site to detect any impact from effluent irrigation and stormwater management.
- Regular monitoring of treated sewage effluent quality.
- Collection of waste (both putrescible and non-putrescible) in closed containers and regular removal from site for landfill disposal.
- Direct removal of sewage sludge solid residue from the sewage treatment plant and transport off site for appropriate disposal.

The measures implemented to prevent impacts to groundwater from the on-site sewage treatment and effluent irrigation activities is documented in Groundwater Quality Management Plan (attached as Appendix D). Monitoring the operational parameters of the Sewage Treatment Plant is the responsibility of a maintenance engineering contractor appointed by the owners of the *Ulan Village Green* facility.

Monitoring and reporting of the treated effluent and groundwater quality is the responsibility of a duly qualified consultant, currently Barnson Pty Ltd, appointed by the owners of the *Ulan Village Green* facility to perform these tasks. Monitoring is to be performed monthly for the first 12 months of operation, where after it is reduced to quarterly for the duration of the operation of the sewage treatment and irrigation facilities.

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APPENDIX A

Ulan Village Green rules and regulations document

Accommodation

Village Rules and Regulation

Updated October 2022

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1. Introduction

1.1 Telephone/Internet services

Ulan Village Green has Telstra mobile service. Complimentary wi-fi is provided for guests. You will find your wi-fi password on your rom key tag.

1.2 Ulan Township

Ulan is a small town consisting of less than 100 people. Ulan is located 312km NW of Sydney, 198km N of Orange, 41km N of Mudgee and 25km NW of Gulgong.
Facilities include, but are not limited to:

- Post Office
- Hotel
- Furney's Building & Plumbing Supplies
- GB Auto Group Pty Ltd

1.3 Compliance with Village Regulations

Each occupant shall at all times observe and comply with these village rules and regulations. These regulations are designed for the comfort, convenience and safety of all occupants of the village.

Ulan Village Green retains the right at any time to change or update these rules for the benefit of Ulan Village Green and its occupants. Rules for the use of Ulan Village Green's recreational facilities are to be strictly adhered to.

1.4 Breach of rules and misconduct

Any breach of rules or misconduct by any occupant may lead to immediate withdrawal of accommodation and expulsion from site.
Ulan Village Green has a Zero tolerance policy regarding misconduct and serious misconduct will result in immediate expulsion from camp. If misconduct results in a written warning only, the

guest's employer will be notified. Any further offences will result in immediate expulsion from camp.

1.5 Own Risk

Each occupant expressly accepts that their occupancy and use of the village is at their own risk. Ulan Village Green shall have no responsibility or liability for any loss, damage or injury suffered by an occupant, whether to the occupant's person or property.

1.6 Emergency

The nearest hospital facilities are at Gulgong District Hospital which is 25.5 km from site or 20 mins by car.

2. Village Hours

Our site office hours are Monday to Friday; 9:00am to 5.00pm.

Please note that site office hours are subject to change and may not be staffed.
In this case, please call the afterhours contact.

2.1 Contact

Site manager	1300 270 774
After hours contact	1300 270 774
Site address	Ulan Village Green 94 Main Street Ulan NSW 2850

3. Accommodation-Ulan Village Green

Entitlement to accommodation at Ulan Village Green is only available via prior agreement.

3.1 Occupancy per Room

Rooms are for the occupancy of one person only. Guests are not permitted unless authorised by management.

3.2 Allocation

Rooms are allocated by the site manager and cannot be changed without permission.

3.3 Check In

Where possible all new arrivals should check in at the site office. In the case of after-hours arrivals, please collect key and complete sign in from the Kitchen or from office.

3.4 Check Out

A single key will be given on arrival and will be returned on leaving the village for break or permanently to either village management or in the case of after-hours, to the drop off box located in the kitchen. If keys are not returned, you will be considered still on camp and charged accordingly.

Rooms must be fully vacated of all personal belongings (unless designated permanent room).

If key is lost, a replacement will be given for a fee of $20. Management will keep a second key for all rooms in the office as well as a master keys for own use.

Check in: 2.00pm
Check out: 10.00am

3.5 Provisions

Each room will be stocked with the following:

Pillow case	2	Pillows	2
Single bed sheet	2	Doona	1
Mattress protector	1	Doona cover	1
Bath Towels	2	Bin	1
Bath mat	1		
Shower curtain	1		

94 Main Street Ulan NSW 2850 ☎ 1300 270 774 www.ulanvillagegreen.com.au

If on arrival, any discrepancies should be reported to the village management in person or by phone within 24 hours. Any discrepancies on termination will be charged to the account of the person involved.

3.6 Servicing

Rooms will be serviced completely once a week or on a shift change basis.
Each occupant is responsible for keeping their rooms in a clean, tidy and hygienic manner between regular services.
If rooms are left in an unacceptable manner, an excess cleaning fee of $60 will be applied to the cost of your stay and room will not be able to be serviced.

Missing towels are charges at $30 each.

Rooms may be accessed by Ulan Village Green staff for the purposes of cleaning and general maintenance and repairs or any other reason Ulan Village Green staff deem necessary.

3.7 Unauthorised persons

Identification should be carried with guests at all times. Ulan Village Green retains the right to ask for proof of identification at any time.

Unauthorised persons including family or friends are not permitted to stay in village. Sharing accommodation with unauthorised persons is strictly prohibited. No unauthorised visitors are allowed in dining room, unless via prior arrangement

Pets
No pets are to be kept anywhere in the village.

3.8 Wilful Damage

Wilful damage to Village property will result in accommodation being withdrawn and the cost of repairs will be charged to the account of the person involved.

Misconduct in any other of the village facilities included, but not limited to the dining room, recreational areas, gymnasium, or abuse to Ulan Village Green staff will not be tolerated and may result in withdrawal of accommodation and expulsion from the village.

3.9 Vehicles

Vehicles are to be parked in the designated parking area only. Village speed limits are to be strictly adhered to.

3.10 Smoking

Rooms are strictly non-smoking. Smoking is not permitted within 3m of any door.

3.11 Cooking

Cooking/cooking equipment is not permitted in rooms.

3.12 Infectious Disease

Any persons infected with acute infectious disease must leave camp immediately and notify camp management by phone. **Ulan Village Green does not cater for self isolating guests.** This includes Covid 19, influenza and gastro. On departure guests must turn off all lights, TV and air conditioning and leave windows open. Door should be left shut and key returned to the locked key box.

3.13 Evacuation

Should an issue arise whereby an evacuation of the village is required, Ulan Village Green staff will initiate the evacuation alarm. On hearing alarm, all personnel are to evacuate to the central muster point as per emergency evacuation procedure provided in your room.

4. Dining Room and Meals

4.1 Meal Times

Kitchen hours (daily)

Breakfast	4:30am to 8:00am
Dinner	4:30pm to 8:30pm

Meals will be provided in the dining room during the published times. Meal service will NOT be provided outside published times unless village management has approved prior arrangements.

For clarity; desserts and items from the hot Bain Marie are not to taken from the dining room to be consumed at a later time. Takeaway meals are not provided. This is to ensure all items removed from the dining room are of an appropriate type and temperature to comply with Australian Food Safe standards. Removal of Hot Food from the dining room is against NSW Health Regulations.

4.2 Hygiene

All residents must wash their hands prior to attending food service points, sinks, hand wash, and sanitizer and hand towels are available at the entrance to the dining room.
Minimum dress requirements for ALL residents in the dining room MUST be adhered to and include a sleeved shirt or T shirt, shorts, sandals, or thongs of reasonable cleanliness.

Work clothing including work boots may be worn in the dining room however they must be in a reasonable and clean condition – heavily soiled clothing / work boots are not permitted.

4.3 Dining Room Items

Crockery, cutlery, utensils and items or materials of any kind are not to be removed from the dining room. Any damage or theft of dining room items will be charged to the account of the person involved.

4.4 Alcohol

Alcohol is not to be taken into or consumed in the dining room. The kitchen / dining room area is also a “no smoking” area. Guests are permitted to consume alcohol at Ulan Village Green in their rooms or on verandas.
Intoxication at Ulan Village Green is not permitted.
Ulan Village Green has a ZERO TOLERANCE policy is relation to intoxication and/or behaviour associated with intoxication.

4.5 Complaints

Any complaints as to the quantity, quality or variety food served are to be directed to the site manager, not to the catering staff.

5. Gym and recreational area

All users of the gym must be proficient in equipment use and do so at their own risk. This is an alcohol-free area. Gym equipment is not to be removed from the gym room at any time. Any faulty equipment must not be used and reported to Management immediately

6. General

6.1 Litter

Please place litter in the bins provided.

6.2 Laundry

Washing of heavily soiled clothing or use of washing facilities that may cause damage is strictly prohibited and damage sustained will be at the person's own expense.

6.3 Fire Fighting Equipment

Firefighting equipment is supplied and placed throughout site and occupants are expected to take every precaution against the possible outbreak of fire.

Any person found interfering with or irresponsibly discharging firefighting equipment or smoke alarms shall have their accommodation withdrawn.

6.4 Illegal Activities

Consumption of illegal substances conducted on site are strictly prohibited and will result in instant dismissal and expulsion from village.

6.5 Abusive behaviour

Ulan Village Green does not tolerate aggression in any form, be it physical, verbal or psychological. Any aggression will result in instant dismissal and expulsion from village and if appropriate will be reported to the appropriate authorities.

6.6 Curfew

No excessive noise or disturbance is to be made on site after the hours of 9:30pm. Please be aware that Ulan Village Green caters for shift workers and excessive noise in village, especially in rooms, is not permitted at any time.

Breaking of Curfew will result in a written warning and second offences will result in expulsion from camp.

6.7 Maintenance

Residents must report defects and malfunction of equipment / facility on a Maintenance Request Form that can be located in your room and the village management office. Any defect

of a dangerous or urgent matter must be reported immediately. Village maintenance will be carried out during normal working hours.

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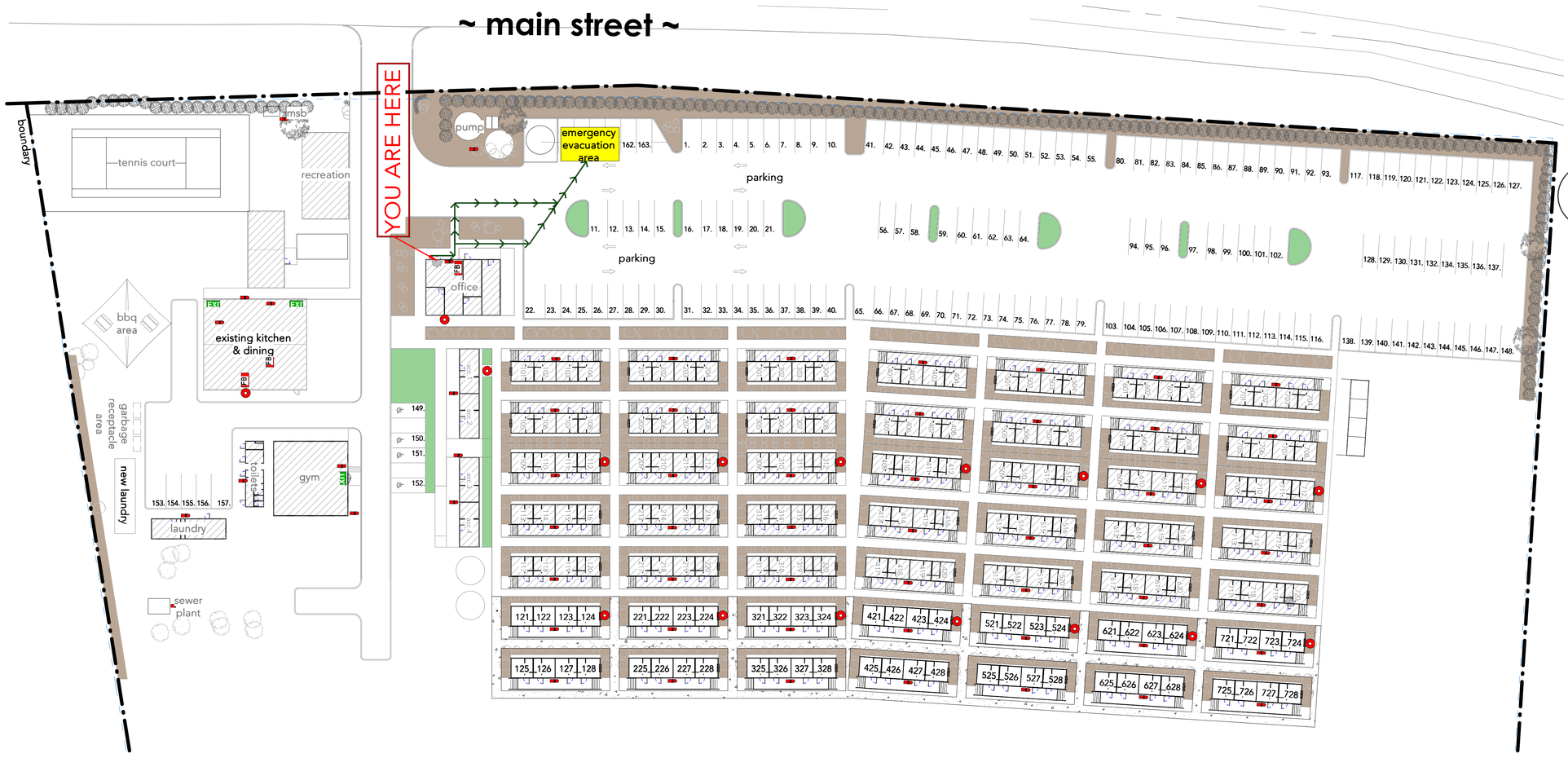
APPENDIX B

Ulan Village Green Emergency Evacuation Plans



N

02 FIRE EVAC. PLAN - OFFICE

Scale 1 : 400 @ A1

0 4000 8000 16000 40000

EVACUATION DIAGRAM FOR ULAN VILLAGE GREEN ACCOMMODATION

LEGEND:

FIRE HOSE REEL

FIRE EXTINGUISHER

EXIT ALLOCATED EXIT DOORS

FB FIRE BLANKET

EVACUATION PROCEDURES ON BEING INSTRUCTED TO EVACUATE:

1. EVACUATE THE BUILDING VIA THE NEAREST EXIT AND PROCEED IN AN ORDERLY MANNER TO THE ASSEMBLY AREA
2. DO NOT RE-ENTER THE BUILDING UNLESS ADVISED TO DO SO BY AN AUTHORIZED PERSON FROM THE RESPONDING EMERGENCY SERVICE

CALL '0/000' IN AN EMERGENCY

ASK FOR THE RELEVANT SERVICE OPERATOR (FIRE, POLICE OR AMBULANCE) AND PASS ON THE FOLLOWING DETAILS:

- THE TYPE OF EMERGENCY
- STREET NAME & NUMBER AND NEAREST CROSS STREET
- SUBURB
- STREET DIRECTORY REFERENCE (IF KNOWN)
- AND ANY OTHER INFORMATION REQUESTED BY THE OPERATOR

IN CASE OF FIRE:

RESCUE	PEOPLE FROM IMMEDIATE DANGER
ALERT	OTHER OCCUPANTS
CONTAIN	CLOSE WINDOWS AND DOORS
EXTINGUISH	IF TRAINED

ULAN VILLAGE GREEN

ISSUE DATE: MAY 2023

VERSION 1

VALIDATION DATE: 2023

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APPENDIX C

Ulan Village Green Water Supply Quality Assurance Program

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Water Supply Quality Assurance Program

Client: Long Necks Developments Pty Ltd
Site Address: 94 Main Street, Ulan NSW 2850

28 April 2023

Our Reference : 17239-ER05_B

DISCLAIMER

This report has been prepared solely for Long Necks Developments Pty Ltd (the Client) in accordance with the scope provided and for the purpose(s) as outlined throughout this report. Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

Project Name:	Water Supply Quality Assurance Program Ulan Village Green, 94 Main Street, Ulan NSW 2850
Client:	Long Necks Developments Pty Ltd
Project Number:	17239
Report Reference:	17239 ER05_B
Date:	5/05/2023

Prepared by:	Reviewed by:
[redacted]	[redacted]
Nardus Potgieter **MSc(Chem) BSc(Hons)(Env.Tech.)** Senior Environmental Scientist	**Luke Morris** **B.E. MIEAust CPEng (NPER)** Director

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1. INTRODUCTION

1.1. Overview

The Temporary Workers' Accommodation facility at No. 94 Main Street, Ulan (referred to as Ulan Village Green) is proposed to be expanded to comprise 200 accommodation units, a kitchen, dining room, laundry and recreation facility, all located on a site of approximately 4 hectares.

A Development Application for the Ulan Village Green was first approved in 2012 (DA0135/2012), along with subsequent modifications and is currently being modified again to allow extension of the capacity of the facility to be increased by 56 rooms from 144 to 200 rooms, and addition of a laundry building.

Potable water is supplied to the Ulan Village Green accommodation facility by tanker truck and is received in a 50,000L tank from where it is distributed to the rest of the facility via a pressurised supply system. The water delivered is of potable quality and is treated prior to delivery in accordance with drinking water quality standards.

The Public Health Act 2010 and Public Health Regulation 2012 require that all suppliers of drinking water establish and adhere to a Quality Assurance Program (QAP). This QAP was developed by customising the template provided by NSW Health Private Water Supply Guidelines to ensure its relevance to the water supply system for the Ulan Village Green accommodation facility. This QAP addresses the Framework for Management of Drinking Water Quality set out in the Australian Drinking Water Guidelines (ADWG 2011), in a way that is appropriate to the water supply to the Ulan Village Green accommodation facility. The NSW Health Private Water Supply Guidelines were also used to develop this QAP.

1.2. Water Supply Quality Assurance Program

A water supply system includes everything from the collection of the source water through to the point of use. In developing this QAP for the Ulan Village Green accommodation facility water supply system the following questions were addressed:

- What problems could occur between the water source and the point of use?
- How can they be prevented or fixed?
- How do you know that the problem has been prevented or fixed?

The answers to these questions helped to determine how to:

- assess and protect the quality of the source water
- make sure treatment processes are appropriate, maintained and working properly
- regularly test the water quality
- make the water supply safe if contamination has occurred
- make sure that water users are warned and/or provided with safe drinking water if the normal supply is found to be unsatisfactory or the quality cannot be guaranteed.

Keeping the water supply system safe involves:

- identifying who is responsible for the system and who will respond to issues
- understanding hazards to your water sources

- making sure the water is stored and distributed safely
- treating the water to remove or control any contamination
- monitoring the quality of the water and the integrity of the water supply system
- planning on how to respond to problems in the water supply system.

This QAP reflects the type of water supply system managed by the Ulan Village Green accommodation facility, especially the water source and its end uses. While NSW Health recommends that water supplies be monitored regularly, operators may choose not to monitor water quality.

1.3. What to do with the QAP

A copy of this completed QAP has been provided to the Public Health Unit for review.

This QAP should be a living document that is reviewed regularly. Any changes that occur to the water supply system or any new hazards that are identified from observations, equipment checks, incidents or monitoring should be added to the relevant section of the program.

This QAP should be kept in a central place that is easily accessible to staff and others who may need to view it, such as officers of NSW Food Authority, your local Council and NSW Health.

2. BASIC INFORMATION

2.1. Private Water Supplier's Details

Property/business name	Ulan Village Green
Owner/occupier name	Long Necks Developments Pty Ltd
Owner /occupier contact details	Phone: 1300 227 676 Mobile Phone: 0409 228 993 Email: luke@barnson.com.au Address: 94 Main Street, Ulan, NSW.
Business after-hours / emergency contact	Name: Luke Morris Phone: 1300 227 676 Mobile Phone: 0409 228 993 Email: luke@barnson.com.au Address: c/ Barnson, 110 Market Street, Mudgee.

2.2. Water Supply System Monitoring and Maintenance Personnel Details

	Roles and responsibilities
Name and phone number of main person responsible	Name: Luke Morris Phone: 1300 227 676 Mobile Phone: 0409 228 993 Email: luke@barnson.com.au Role: Camp Co-ordinator
Name and phone number of any other people responsible	Name: Mr Sam Turnbull Phone: 02 8415 9899 Mobile Phone: 0428 241 168 Email: sam@tobco.com.au Role: Camp Construction Manager

2.3. Description of the Water Supply System

Tick	Component	Description
Water Sources		
✘	Groundwater (bore)	Not available
✓	Carted water	All potable water be transported via water tanker from Ulan Water Ulan Water Pty Ltd ACN 122 924 716. Ulan Water is an approved drinking water supplier and carter with the NSW Department of Primary Industries Food Authority (Food Authority Accreditation/Licence No. 93896). Water is delivered to two (2) 50,000L above ground tanks located on the Ulan Village Green premises.
Treatment		
✓	Prior to arrival	Ulan Water pre-treats the water to drinking water quality, in accordance with the conditions of their license, prior to the water being delivered.
✓	UV disinfection	UV treatment tube installed on outlet side of Ulan Village Green water supply tank.
Distribution		
✓	Storage/header tank	2 x 50,000L water storage tank receiving water from Ulan Water tanker truck.
✓	Pipes	Reticulated pipe network to camp from water storage tank fitted with non-return valve. See attached plan.
✓	Pumps	1 x Distribution pressure pump Grundfos Hydro MPC-E 2 CRIE 10-3 U1 F-A-A-AG unit, set to 3.5 bar
Uses		
✓	Drinking	Accommodation units and staff up to 200 people
✓	Food preparation (including washing of produce and cleaning of utensils and equipment) Is the food business notified to NSW Food Authority?	Water used for food preparation and for washing and cleaning of utensils and equipment.
✓	Personal hygiene (showers, toilets etc.)	Potable water used for showers and hand washing. Harvested rainwater used for toilets.
✓	Clothes washing	Harvested rainwater used for washing machine.
✓	Other	Harvested water used for landscaping

3. DIAGRAMS OF THE WATER SUPPLY SYSTEM

Diagram 1 shows the potable water reticulation system for the 144 room camp with one laundry unit installed. Diagram 2 shows the additional potable water reticulation with the addition of 56 rooms and second laundry room added.

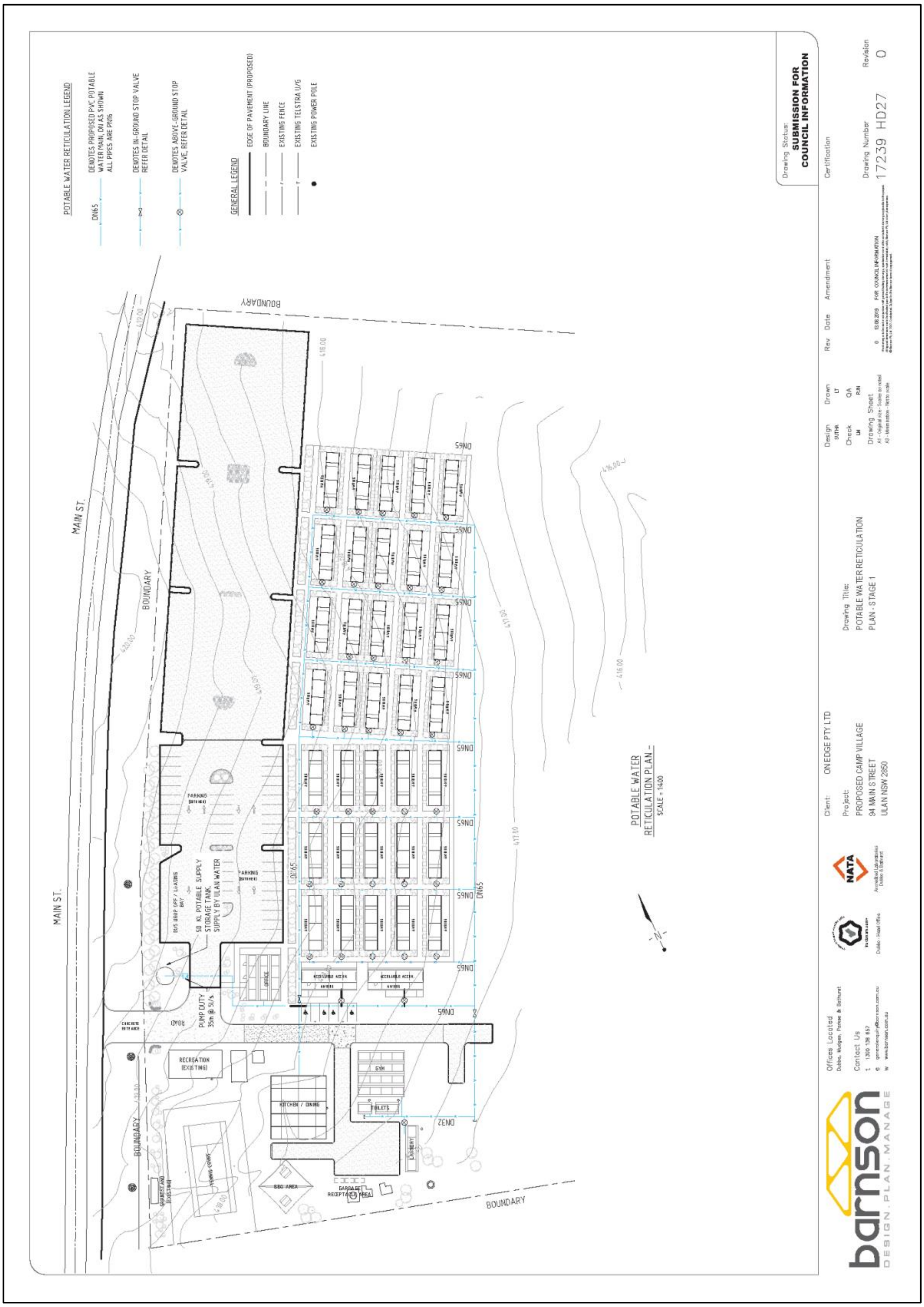
POTABLE WATER RETICULATION LEGEND
GENERAL LEGEND
MAIN ST.
BOUNDARY
POTABLE WATER RETICULATION PLAN
SCALE 1:1400
Drawing Status:
SUBMISSION FOR COUNCIL INFORMATION
Client: ON EDGE PTY LTD
Project: PROPOSED CAMP VILLAGE
94 MAIN STREET
ULAN NSW 2850
Drawing Title: POTABLE WATER RETICULATION PLAN - STAGE 1
Drawing Number
17239 HD27
Revision
0

Diagram 1

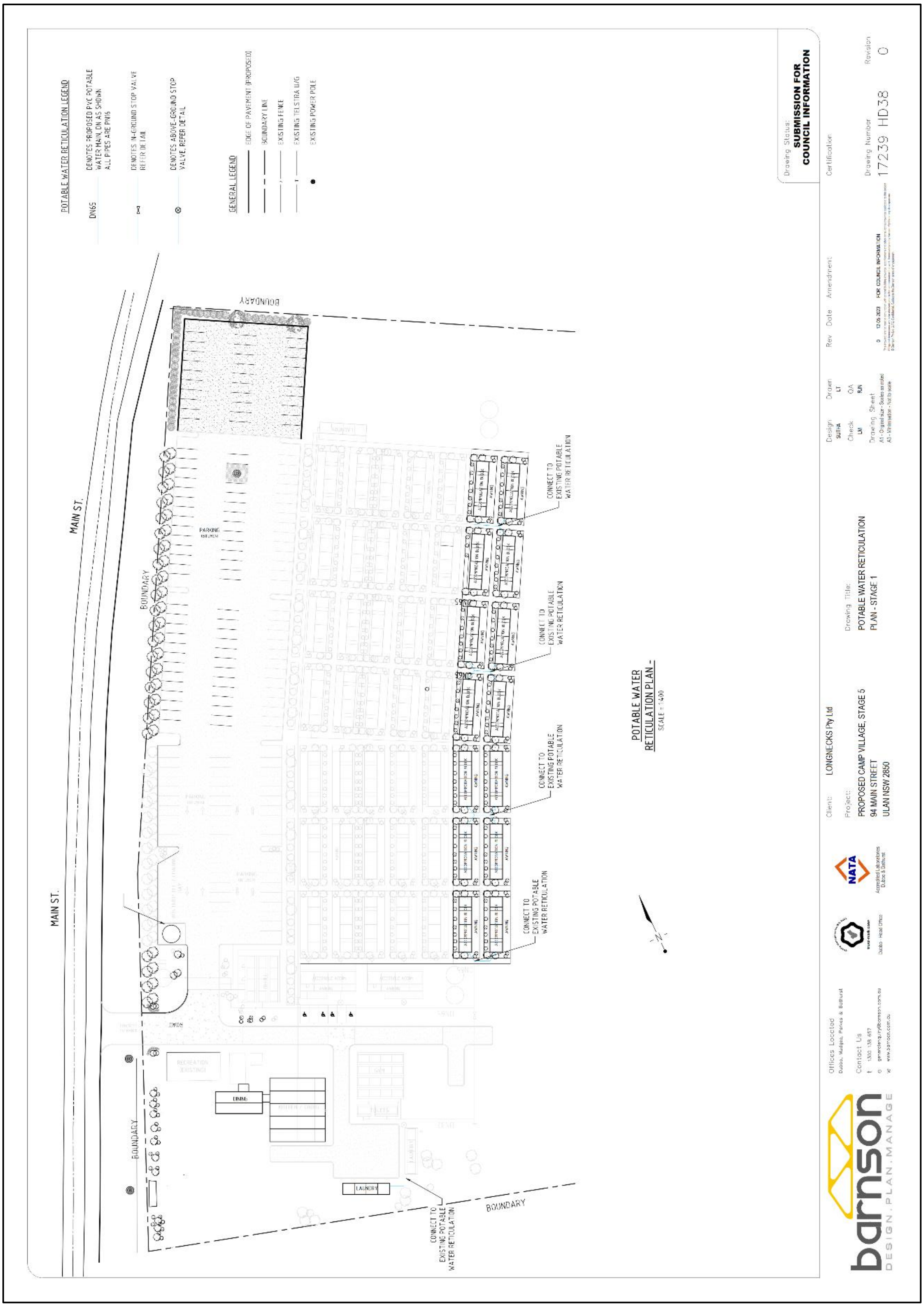
POTABLE WATER RETICULATION LEGEND
DENOTES PROPOSED PVC POTABLE WATER MAIN, DN AS SHOWN. ALL PIPES ARE PN16
DENOTES IN-GROUND STOP VALVE REFER DETAIL
DENOTES ABOVE-GROUND STOP VALVE, REFER DETAIL
GENERAL LEGEND
EDGE OF PAVEMENT (PROPOSED)
BOUNDARY LINE
EXISTING FENCE
EXISTING TELSTRA U/G
EXISTING POWER POLE
MAIN ST.
BOUNDARY
CONNECT TO EXISTING POTABLE WATER RETICULATION
LAUNDRY
POTABLE WATER RETICULATION PLAN
SUBMISSION FOR COUNCIL INFORMATION
LONGNECKS Pty Ltd
PROPOSED CAMP VILLAGE, STAGE 5
94 MAIN STREET
ULAN NSW 2850
POTABLE WATER RETICULATION PLAN - STAGE 1
17239 HD38
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Diagram 2

4. RISK ASSESSMENT OF THE WATER SUPPLY SYSTEM

Step 1: Identify particular hazards in your water supply in the risk assessment template. The table in Appendix B gives some examples of some hazards and is provided to assist you to complete the "Hazard" column of the Risk Assessment.

Step 2: Assign risk rankings. Once you have listed all possible hazards, assign a risk ranking to each hazard as low, medium or high in the risk assessment template. Consider the likelihood of the hazard occurring and, if it does, the severity of the consequence. The table in Appendix C may assist in ranking risks.

Step 3: Identify controls. Decide whether the hazards identified in your system have controls in place and describe these controls in the risk assessment template. Controls are the ways that risks will be managed, for example excluding animals from dams used for human drinking water, regular inspection and maintenance programs or water treatment. The table in Appendix B gives some more examples of possible controls for various hazards.

Step 4: Monitoring of controls is important to ensure they are working effectively. Describe in the risk assessment template how, when and where monitoring will occur, who is responsible, how and where records will be kept and by whom. Consult the Private Water Supply Guidelines for information on monitoring.

Step 5: If any hazards are not controlled, identify what could be done to improve safety and reduce the risk of those hazards. List any shortcomings in your water supply system and its management and identify what improvements should be made. Document these improvements in your risk assessment template.

Step 6: Prioritise actions that need to be taken to protect the water supply and give them a priority number or time frame in the risk assessment template.

Risk Assessment

Step 1 Hazard	Step 2 Risk Rank	Step 3		Step 4 How is this control monitored?	Step 5 If not controlled what could be done to improve safety?	Step 6 Timeframe for action
		Hazard Controlled	Control, if any?			
Contaminated couplings of pipe (connection from water tanker to potable water tank pipe)	Low	Yes	Ulan Water procedures for washdown and disinfect of coupling In-line UV system	Routine inspection of the water treatment system Routine maintenance and replacement of UV lamps Monthly microbe testing (total coliforms screening) Records of UV servicing kept		

Step 1 Hazard	Step 2 Risk Rank	Step 3		Step 4 How is this control monitored?	Step 5 If not controlled what could be done to improve safety?	Step 6 Timeframe for action
		Hazard Controlled	Control, if any?			
Contaminates entering tan via internal reticulated pipework	Low	Yes	Approved non-return valve at outlet.	At installation. No further monitoring		
Contaminates entering tan via lid	Low	Yes	Lid sealed after refilling in accordance with Ulan Water procedures for tank refill. In-line UV system			
Tank materials (e.g. pH of water in concrete tanks, high metals from metallic tanks)	Low	Yes	Polymer tank designed for potable Water storage	At installation. No further monitoring		
Build-up of sludge in tank, dirt in inlet strainers or insect screens	Low	Yes	Screen on tank inlet	Screens cleaned every 2 weeks. Tank drained and cleaned every 2 years		

5. MANAGEMENT ACTIONS AND RECORD KEEPING

Document all activities required to manage the water supply including inspections, maintenance, signage, monitoring, and incident management.

Keep records of:

- system inspections
- all results of microbial and chemical testing, and chlorine levels (where applicable)

maintenance to the water system such as tank cleaning, filter change, chlorination

incidents and corrective actions e.g. dead animal in tank, storms, treatment breakdown

deliveries of carted water, including date and name of supplier

- the placement of warning signs.

5.1. Planned water supply system inspection and maintenance program

Planned inspection and maintenance program

Item inspected / maintained	Frequency or dates	Who by	Equipment or procedures
UV system inspection	Daily	Facility Manager	Visually inspect if UV light is operating
Replace UV light source	When required	Facility Manager by notifying Contractor	Equipment manuals
Inspect screens on tank	During every delivery of water	Water supplier	Visual inspection. Report defects to facilities manager.
Clean screens on tank	When needed	Facility Manager	Clean screens and look for defects in tank structure
Check for mosquito larvae/access	During every delivery of water	Water supplier	Visual inspection. Report defects to facilities manager.
System (pump, piping, valves) is fully operational and maintained	Annually	Contractor	Equipment manuals
Drain tank to remove sludge build-up	Every 2 years, if required	Contractor	

5.2. Water supply system inspection and maintenance records

Water supply system inspection and maintenance record (planned and additional).

Date	What was inspected	Notes	Actions to be taken	Person responsible
	UV system inspection			
	Replace UV light source			
	Inspect screens on tank			
	Clean screens on tank			
	Check for mosquito larvae/access			
	System (pump, piping, valves) is fully operational and maintained			
	Drain tank to remove sludge build-up			

5.3. Equipment details

Equipment records (procedures for operation and maintenance including history)

Part / Equipment	Manufacturer	Supplier/Repairer Contact Details
Water Pump	Grundfos Hydro	Grundfos Pumps Pty. Ltd, 1300 337 733
UV system	UltraZViolet	FloodQuip Australia, (02) 4735 5054
Laboratory	ALS Environmental	Mudgee, (02) 6372 6735

5.4. Sign posting

Signs

Sign location	Sign wording	Permanent or temporary	Inspection date	Action taken
At taps	Water Not Suitable for Drinking	Temporary, if water contamination detected and/or UV system is not operational.	n/a	n/a
No non-potable water taps – no need for signs	n/a	n/a	n/a	n/a

5.5. Water quality monitoring program

Water quality monitoring

What is to be monitored	How often are tests to be taken (frequency or dates)	Location of Tests/sampling	Who should perform the test	Equipment needed and procedures for performing the test
Aesthetic water quality	Daily	Kitchen tap	Facilities Manager	Taste & odour Visual inspection
Microbiology	Quarterly or if daily aesthetic quality test indicates a potential issue	Kitchen tap	Appointed consultant	Laboratory sampling procedure
Water Chemistry	Annually, or if daily aesthetic quality test indicates a potential issue	Kitchen tap	Appointed consultant	Laboratory sampling procedure

5.6. Water quality monitoring results

Water testing results – visual inspection and taste

Date	Water Colour Clear yes/no	Taste acceptable yes/no	Odours yes/no

Water testing results – Microbiology and Chemistry

Date	Reason for test Scheduled/Complaint	Test conducted	Results reported and filed/Action taken

5.7. Records of water purchased from a water carter

Purchased water

Date	Volume of water purchased	Name of water carter if not Ulan Water Pty Ltd

5.8. Incident records

Issue / Incident / Emergency Record (including customer complaints)

Date	Incident	Actions taken	Persons involved

6. CONTINGENCY AND EMERGENCY PLANNING

6.1. Contingency plan

Issue	Likely actions that could be taken
Dirty or smelly water	• Flush lines • Check water quality in tank and tank integrity • Check and confirm UV operation • Use bottled water for drinking, food preparation • Consult with water carter/supplier • Drain and clean tank
Unpleasant taste to water	• Flush lines • Check water quality in tank and tank integrity • Check filters and confirm UV operation • Use bottled water for drinking, food preparation • Consult with water carter/supplier • Drain and clean tank
Microbial quality test results exceed health based Australian Drinking Water Guideline values	• Contact Public Health Unit for advice • Sign post all outlets that water supply is contaminated and not to be used for drinking, food preparation or consumed when cleaning teeth • Use bottled water for drinking, food preparation, cleaning teeth • Re test water microbial quality at kitchen and in tank • Check tank integrity • Consult with water carter/supplier • Check filters and confirm UV operation • Consider chlorinating tank

6.2. Emergency contacts

Keep details of who to contact in an emergency, who to call for advice and important local contractors. Keep these details in an easily accessible place.

Contact	Name	Contact
Public Health Unit	Dubbo PHU	6089 8979
Local Council	Mid Western Regional Council	02 6378 2850
Pollution Incident Hotline	NSW Environment Protection Authority	131 555
Plumber*	Rapid Plumbing	0407 006 062
Tank Cleaner	Mudgee Water Tank Cleaning	0475 893 272
Water Carter	Ulan Water Pty Ltd	0427 260 575
Chlorine Supplier	Ulan Water Pty Ltd	0427 260 575
Water Testing	ALS Environmental, Mudgee	02 6372 6735
Electrician*	Sam Lynch Electrical	0412 978 014

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APPENDIX D

Ulan Village Green Groundwater Quality Management Plan

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Groundwater Quality Management Plan

Client: Long Necks Developments Pty Ltd
Site Address: 94 Main Street, Ulan NSW 2850

28 April 2023

Our Reference : 17239-ER04_B

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Project Name:	Groundwater Quality Management Plan Ulan Village Green, 94 Main Street, Ulan NSW 2850
Client:	Long Necks Developments Pty Ltd
Project Number:	17239
Report Reference:	17239 ER04_B
Date:	5/05/2023

Prepared by:	Reviewed by:
[redacted]	[redacted]
Nardus Potgieter **MSc(Chem) BSc(Hons)(Env.Tech.)** Senior Environmental Scientist	**Luke Morris** **B.E. MIEAust CPEng (NPER)** Director

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Appendices

APPENDIX A – DPIE Water Memorandum

1. INTRODUCTION

1.1. Overview

The Temporary Workers' Accommodation facility at No. 94 Main Street, Ulan (referred to as Ulan Village Green) is proposed to be expanded to comprise 200 accommodation units, a kitchen, dining room, laundry buildings and gymnasium, all located on a site of approximately 4 hectares.

A Development Application for the Ulan Village Green was first submitted in 2012 (DA0135/2012), and subsequently modified and is currently being further modified to allow expansion of the capacity of the facility from 144 to 200 accommodation rooms. It is also proposed to add a laundry building.

The Ulan Village Green development involves the operation of an on-site sewage treatment plant (STP). The technology used for sewage treatment is an Ozzi Kleen modular treatment plant, designed with a capacity to treat 20 000 L of sewage effluent per day. The treated effluent from the STP will be disposed of on-site through spray irrigation.

As part of the Development Application process for the Ulan Village Green the details of the sewage treatment and effluent management design was referred to the NSW Department of Planning, Industry and Environment (DPIE). The DPIE responded with a memorandum (attached as Appendix A) providing an evaluation of the potential risks posed by the STP and effluent disposal, and recommendations for the management and mitigation of these risks.

The purpose of this Monitoring Program report is to present an interpretation of the DPIE recommendations and propose a monitoring programme for protection of the water resources.

2. IDENTIFIED RISKS & RECOMMENDATIONS

The DPIE Memorandum (dated 12 August 2019) considers a number of registered bores located in the vicinity of the proposed *Ulan Village Green* development and discusses those bores which could potentially be influenced by the STP and effluent irrigation. Figure 2.1 presents a map indicating the identified boreholes relative to the proposed Development.

Of the bores identified, only the GW200870 borehole is described as potentially influenced as a result of the drawdown created by pumping from the bore at the maximum authorised rate, every day for a year. According to a numeric drawdown assessment undertaken by the DPIE, an imaginary plume of contamination extending from the STP could potentially be drawn to the GW200870 borehole under the extreme use conditions.

However, according to the DPIE Memorandum, lithological records for the site indicate that there is a layer of clay at a depth of 3 m to 5 m below surface, which is positioned between the surface soils and the deeper weathered layers of rock where the aquifer accessed by the GW200870 bore is located. The memorandum states that this intervening clay layer would be largely impermeable and is expected to significantly limit any contamination resulting from the above ground STP or from the effluent irrigation area. Consequently, the DPIE memorandum indicates the risk of contamination to the GW200870 bore is negligible.

Figure 2.1 Location of registered boreholes near the proposed Ulan Village Green Development.

The DPIE recommends that the conditions of consent for the Development stipulate that regular quality monitoring of local private use boreholes be undertaken to firstly establish current quality and to ensure that water quality remains suitable for use over time.

The recommendation goes on to say that either regular monitoring during operation of the *Ulan Village Green* facility, or single samples from the private bores after the operations has come to an end could be performed to detect any potential contamination of groundwater.

3. MANAGEMENT AND MITIGATION MEASURES

3.1. Issues Influencing Feasibility

Of all the bores identified in the DPIE Memorandum, the private bore closest to the Development (GW200870, see Figure 2.1) is the only one that could conceivably be influenced by the proposed STP and effluent irrigation. The GW200870 bore is registered for industrial use and is owned by a company that, among other services, is a commercial supplier of potable drinking water. Water from the GW200870 bore is pumped out to holding tanks, treated and distributed to clients by road tanker from. The owner of this company was approached to arrange access to the GW200870 bore for the collection of a raw groundwater sample, to establish the current water quality. Unfortunately, the owner refused to allow samples of untreated groundwater to be collected from his site and is unwilling to share any of the raw water quality data available for the borehole.

An alternative to obtaining a sample from the GW200870 bore would be to install a new monitoring borehole on the Ulan Village Green site between the STP and the boundary of the property where the GW200870 bore is located. The problem with this option is that the installation of a borehole in this location may actually increase the risk of contamination to the groundwater.

As noted earlier, an intervening clay layer present in the lithology of the site would be largely impermeable and is expected to significantly limit any contamination resulting from the above ground STP or from the effluent irrigation area, provided that the clay layer is not breached. Installing a monitoring borehole adjacent to the STP could potentially represent such a breach. Even if the borehole itself is cased or lined to prevent contaminated water from the surface soils entering the hole and migrating down to the deeper weathered aquifer, installation of the bore may locally disturb the intervening clay layer resulting in increased potential for downward migration.

3.2. Proposed Management Measures

3.2.1. Establishing Current Conditions

In order to establish the current or baseline quality of water, the use of water samples collected from two other boreholes will be used.

The GW080350 borehole is registered for domestic use and is located topographically up-gradient of the GW200870 bore at a distance of approximately 300m. Since the GW273091 borehole is actively pumped, the GW080350 borehole falls within its area of drawdown and the quality of water from this borehole can consequently be considered to be similar to that of the water entering the GW200870 bore, and therefore represent a reasonable indication of baseline quality.

The GW080350 borehole is unlikely to be affected by the STP and effluent irrigation activities at the Ulan Village Green. Any plume of contamination resulting from these activities would likely move topographically down gradient towards the Goulburn River.

The GW273091 monitoring borehole, is located between the STP and effluent irrigation area and the Goulburn River and is drilled to a depth of 17.5 m and therefore intersects the deeper fractured aquifer at the site. By collecting samples from the GW273091 borehole before commissioning of the STP, the baseline quality of water in the aquifer downgradient of the potential sources of contamination can be established.

3.2.2. Contamination Source Management

With the STP and effluent irrigation area identified as the potential sources of groundwater contamination, it is reasonable to expect that by implementing preventative management measures at these activities, the contamination of groundwater can be avoided.

The STP is a self-contained, closed system consisting of a series of treatment tanks housed inside a closed steel structure resembling a shipping container. Any leaks or ruptures to the treatment tanks would firstly be contained within the steel structure but would also result in the STP becoming inoperable and automatic error notification being sent to a maintenance engineer. Leaks or ruptures to the system would therefore not go unnoticed and it is unlikely that any such event would occur for any significant period of time. If any spillage or unintentional release of sewage or treated effluent occur from the STP, immediate clean-up of the spill should significantly reduce the potential for impacts to groundwater.

With regard to the disposal of the treated effluent, the chemical and microbiological quality of the effluent is directly related to the potential for groundwater contamination from the effluent irrigation area. The STP has a set of specifications according to which it is operated and is capable of producing effluent of specified quality, depending on the of composition of the input to the plant.

The method of effluent disposal through irrigation has been designed in accordance with the accepted practice of determining the capability of the surface soil layers to absorption nutrients, namely phosphorus and nitrogen compounds, without leaching these to underlaying lithologies. This nutrient absorption capacity of the soil was used to determine the size of the area to be used for the irrigation, based on an assumed effluent quality. Consequently, the potential for the effluent disposal activity to result in groundwater contamination can be reduced by ensuring efficient operation of the STP and periodic monitoring of the effluent quality.

3.2.3. Groundwater Quality Monitoring

In order to detect potential impact to water quality from the STP and effluent irrigation, samples of groundwater from the GW273091 monitoring borehole, located on the Ulan Village Green property, will be collected. The GW273091 is located topographically down gradient from the STP and effluent irrigation activities, and any contamination plume potentially generated from these activities will most likely migrate down gradient towards this monitoring point.

Water quality parameters measured in the samples from the GW273091 monitoring borehole can be compared to the baseline quality measurements collected at this location prior to commissioning of the STP as well as to monitoring values collected from the domestic use borehole located up gradient of the site (GW080350).

4. SUMMARY AND REPORTING

Table 4.1 presents a summary of the measures proposed in relation to the recommendations from the DPIE, for the management and mitigation of potential impacts to groundwater from the *Ulan Village Green* development.

Table 4.1: Summary

DPIE Recommendation/Goal	Management/Mitigation Measure	Frequency/Note
Establish current conditions (baseline groundwater quality)	Collect and analyse samples of groundwater from GW080350 and GW273091.	Samples to be collected and analysed six (6) monthly. Responsibility: Appointed Consultant
Undertake regular groundwater monitoring	Collect and analyse samples of groundwater from GW080350 and GW273091.	Samples to be collected and analysed every six (6) months, thereafter quarterly for a period of 6 months after decommissioning of the facility. Analytical results to be compared to baseline groundwater quality values. Results to be recorded in monitoring report. Responsibility: Appointed Consultant
Implement active management and mitigation measures.	Attend to any spillage or overflow of the STP immediately to prevent environmental contamination.	Report any spillage from the STP to the maintenance contractor and arrange for immediate clean-up of the spillage. Responsibility: Ulan Village Green Manager
	Report all operational issues or maintenance errors of the STP and note how these were addressed.	Keep a record of all operational issues at the STP. Responsibility: Appointed maintenance contractor
	Monitor STP treated effluent quality	Samples of STP treated effluent to be collected monthly for a period of 6 months following commissioning of the plant (thereafter quarterly until decommissioning of the plant) and analysed for water quality and STP treatment efficiency parameters. Analytical results to be compared to parameters used for design of the effluent irrigation area. Results to be recorded in quarterly monitoring report. Responsibility: Appointed Consultant

Reports detailing the monitoring results, recorded operational issues at the STP as well as findings of a general site inspection will be undertaken quarterly by the consultant appointed by Long Necks Developments Pty Ltd. The reports and monitoring are to be undertaken by suitably qualified individuals and the reports provided to the relevant authorities as per agreement with these authorities.

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APPENDIX A

DPIE Water Memorandum

Planning, Industry & Environment

Memorandum

TO	Josh Baker, Manager of Health & Building, Mid-Western Regional Council
FROM	Llyle Sawyer, Contract Hydrogeologist, DPIE - Water
DATE	12 August 2019
SUBJECT	**Registered bores proximal to STP for temporary workers accommodation at Ulan**

Department of Planning Industry and Environment – Water Assessment (DPIE-Water) understand Santos is installing a temporary workers camp at 94 Main S, Ulan. Mid-Western Regional Council requested comment on what risk there is to a nearby existing groundwater bore.

Details forwarded from Mid-Western Regional Council are:

- The bore is a bit more than 150 m away
- Development is for a 144 person camp
- Initially planning effluent reinjection, amended to on-site treatment with off-site disposal.
- Development does not trigger the distance condition with the river relative to controlled activities - NRAR have confirmed and the camp location was moved to accommodate.

Local registered bore details shown in the Table 1 and shown on Figure 1.

Table 1: Local registered bores

Bore Number	Owner	Purpose	Depth m	screen	Standing Water Level
GW049542	NSW	Monitoring	31	open below 14.6m	1 June 2006: 0.68m
GW080350	Private	Domestic	unknown	unknown	unknown
GW200870	Private	Industrial	16.5	unknown	7m
GW273091	NSW	Monitoring	17.5	3 - 5 m: alluvium	16 Aug 2011: 2.93m
GW065950	Private	Irrigation	81	open below 27m	unknown

Figure 1: Local registered bores located relative to development, white shaded area.

Bore GW273091 is a NSW monitoring bore used for alluvial aquifer groundwater monitoring purposes. This bore must not be disturbed or interfered with by any development. This bore is drilled to17.5 m depth in weathered sandstone and screened in overlying shallow alluvium. A two meter thick clay unit overlies the alluvium and the 1m thick top soil.

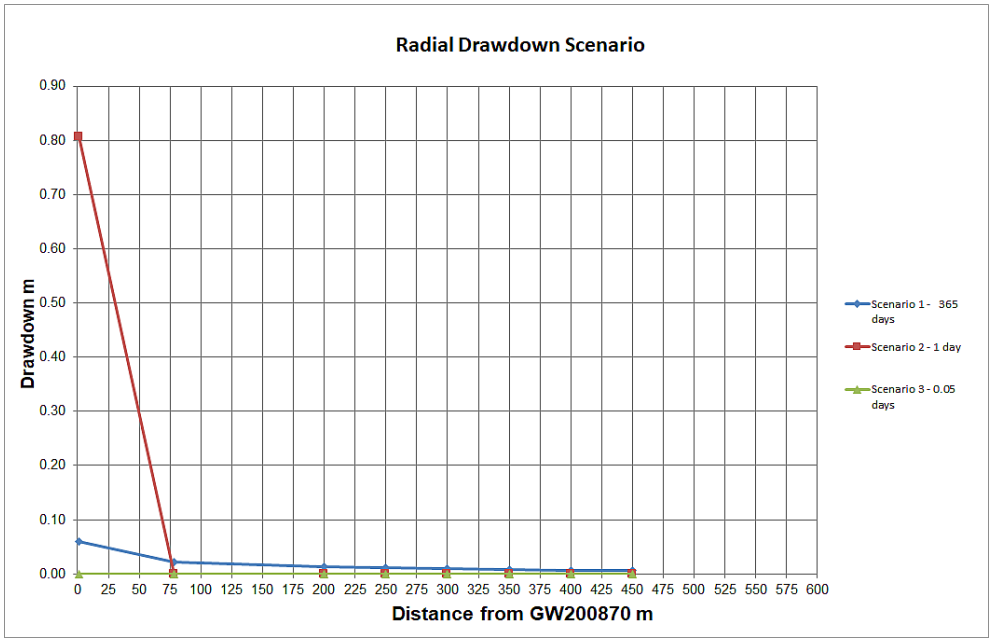
Potential impact to this bore by the irrigation activities associated with the on-site operation of sewage treatment plant (STP), or potential overflow of the STP, is considered minimal.

GW080350 lies outside of the 250 m distance rules of the relevant water sharing plan. This private basic landholder rights bore domestic has little recorded detail however is considered by DPIE-Water unlikely to be impacted by contamination from irrigation activities associated with the on-site operation of sewerage treatment plant (STP), or potential overflow of the STP.

The closest private bore to the development is GW200870. The location of the proposed STP and related irrigation areas are within 250 m distance rule for contamination plumes of the bore. GW200870 is registered for industrial purposes, has a final depth of 16.5 m, a standing water level of 7 m and a yield of 1.5 L/s from Upper Goulburn River Water Source, Hunter Unregulated and Alluvial Water Sources 2009.

To understand the potential for GW200870 to mobilise potential contaminant, an algorithmic radial drawdown assessment based on the licenced volume for GW200870 and assumed screening in alluvium, with continuation of that alluvium to the site of the STP, plus contaminant plume to depth of 16.5 m from surface was undertaken. This assessment indicated that there could potentially be 0.02 m of draw on the contamination plume from this bore if pumped every day all year, Figure 2.

Figure 2: Radial drawdown algorithmic assessment for GW200870



Lithological records for bore GW273091 are listed in **Error! Reference source not found.**. This indicates an intervening clay layer between the surface and alluvial material, this layer if not breached would be largely impermeable and assist in significantly limiting the downward migration of any potential contamination plume from the above ground STP propose.

Table 2: lithology records for GW273091, screened interval highlighted.

From (m)	To (m)	Thickness	Drillers description	Geological material
0	1	1	TOPSOIL	Topsoil
1	3	2	CLAY	Clay
3	5	2	CLAY BOUND GRAVEL	Clay Loam
5	15	10	WEATHERED SANDSTONE	Sandstone
15	17	2	SANDSTONE	Sandstone

In addition, this intervening clay layer would be expected to reduce downward migration pathways of any rupture to or spill from the above ground STP or small scale irrigation activities associated the STP.

The risk of contamination to GW200870 is considered negligible.

As a minimum active management and mitigation measures are recommended to be conditioned on the development such that the owners of the development undertake regular water quality monitoring of local private bores to ensure water quality remains suitable for purpose over time or monitoring is in place around the STP.

To elevate any concerns, current conditions could be established in the private bores and either regular sampling or sampling at the end of the camp facilities to detect any potential contamination. Should this be not able to be achieved the private bore holders should be advised to undertake regular water quality monitoring.

Should monitoring indicate that water from the private bores is not suitable for the intended purpose and this is demonstrated to be from the STP on the workers accommodation site, then the workers accommodation site owners are required to implement make good provisions; water treatment to match use requirements or supply of alternative water of equal volume.

Any STP involving reinjection below the groundwater level is not supported.

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DESIGN . PLAN . MANAGE

Site Decommissioning

Client: Long Necks Developments Pty Ltd
Site Address: 94 Main Street, Ulan NSW 2850

28 April 2023

Our Reference : 17239-ER03_E

DISCLAIMER

This report has been prepared solely for Long Necks Developments Pty Ltd (the Client) in accordance with the scope provided and for the purpose(s) as outlined throughout this report. Barnson Pty Ltd accepts no liability or responsibility for or in respect of any use or reliance upon this report and its supporting material by anyone other than the client.

Project Name:	Site Decommissioning - Ulan Village Green, 94 Main Street, Ulan NSW 2850
Client:	Long Necks Developments Pty Ltd
Project Number:	17239
Report Reference:	17239 ER03_E
Date:	5/05/2023

Prepared by:	Reviewed by:
[redacted]	[redacted]
Jim Sarantzouklis **MAIBS MEHA RPIA** Director	**Luke Morris** **B.E. MIEAust CPEng (NPER)** Director

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1. INTRODUCTION

1.1. Overview

The Temporary Workers' Accommodation facility at No. 94 Main Street, Ulan (referred to as Ulan Village Green) is proposed to expand to 200 accommodation units, with kitchen, dining room, laundry and recreation facility, all located on a site of approximately 4 hectares. The current Crown lease for the site is 25 years, to 2037, with further options to extend 2 x 10 years out to 2057.

A Development Application for the Ulan Village Green was first approved in 2012 (DA0135/2012), with several modified approvals and is currently being modified again to allow expansion of the capacity of the facility from 144 to 200 accommodation rooms, plus an additional laundry building.

The *Ulan Village Green* is proposed as an ongoing sustainable venture, with no plans to discontinue these activities on the site prior to the end of the lease period plus options. However, to manage and provide for uncertainty, a Decommissioning and Rehabilitation Plan is developed for the site, to detail procedures and methods to use, should they be required.

At the end of the lease period should the *Ulan Village Green* project be stopped at some time before the end of this period, a two staged approach to decommissioning is proposed. Stage 1 would involve the decommissioning of the site via a care and maintenance program, so that use of the facilities by *Ulan Village Green* can continue, or could be offered to other users on a lease or sale basis. If this approach was not successful, a Stage 2 removal, demolition and rehabilitation will be employed.

The sections below outline the decommissioning and rehabilitation planning in relation to the Stage 2 removal, demolition and rehabilitation of the *Ulan Village Green*. It is expected that a Stage 1 care and maintenance scenario would have limited duration as a decision on going forward or completely decommissioning the facility would likely have been made by the time the current consent is nearing an end.

A risk assessment was initially completed to identify the key environmental risks associated with the closing of the *Ulan Village Green* site. The risk assessment identified surface water quality, groundwater resources and final landform stability as the main risks associated with the operation and closure of the facility.

The decommissioning and rehabilitation plan, by nature, is an evolving plan that will be updated as new information on the site becomes available. It is proposed that the document be updated quinquennially during the operational period of the *Ulan Village Green*.

1.2. Closure and Rehabilitation Commitments

The following commitments are made in respect of the project closure and rehabilitation schedule:

- Update the Decommissioning and Rehabilitation Plan on a quinquennial basis to accommodate for changes in the *Ulan Village Green* site plan and operation.
- Commence site rehabilitation immediately following cessation of operations.

1.3. Closure Objectives

The overall objectives of *Ulan Village Green* closure are as follows:

- Remove all infrastructure (aside from that required for long term monitoring and access);
- Rehabilitate the site and roads to achieve stable landforms; and
- Provide for self-sustaining site conditions that returns the site to a status fit for the intended long-term land use.

2. GENERAL REHABILITATION STRATEGY

Assuming extension of either the Consent or land lease is not possible or *Long Necks Developments* management elects to abandon the project before the expiry of either term, the site closure and rehabilitation strategy, in general, is as follows:

Pre-closure

- Engage and consult with authorities (i.e. Mid-Western Regional Council) throughout operation life of the facility, such that the final closure plan has agreed final land uses, thereby allowing closure designs to be refined;
- Update as required and submit updated Decommissioning and Rehabilitation Plan to Council six months prior to known date of closure; and
- Complete a detailed engineering and tendering phase for closure.

Post-closure

- Clean-up of site including removal of all rubbish, recyclable materials and chemicals
- Decommission, demolish and remove all infrastructure
- Water management and erosion control works
- Reshape and stabilise final landforms
- Ripping of hardstand areas and revegetation with topsoil and seeding
- Establish weed and pest control programmes
- Post-closure monitoring and maintenance for six months post closure and
- Submission of post-closure performance assessment reports (as required).

3. LAND SUITABILITY AND POST-CLOSURE LAND USE

The pre-development site was characterized by cleared grass land and an open woodland vegetative system at the perimeter of the site. The cleared grassland included a rough cricket pitch. The *Ulan Village Green* is primarily developed on the cleared grassland.

There is a range of potential post-closure land uses, depending on the circumstances causing the closure of the *Ulan Village Green*, and the available options for rehabilitation. Closure due to changed market conditions may permit the facilities to be adapted for another purpose for example a training facility or school. A complete study of the adaptive use of the facilities would be required, and a new business case would need to be established.

Should a suitable alternative use of the facility not be forthcoming, the preference will be to return as much of the land as practicable to natural conditions. The final land use would depend on the potential for stable land-vegetation, water systems, and may include either open grassland or open woodland vegetative systems. Natural re-colonisation by native species would be encouraged in these circumstances.

4. CONTAMINATED MATERIALS MANAGEMENT

There is not expected to be a significant volume of contaminated materials remaining at the completion of operations. The major area at risk of contamination is the car park and on-site sewage treatment plant area. Minor areas where soil contamination is found during the post-closure phase (during site decommissioning) will be excavated and either treated in stockpiles (pending determination of the type and level of contamination) or removed and deposited in an offsite landfill under the appropriate licences.

5. DECOMMISSIONING AND REHABILITATION WORKS

5.1. Rehabilitation Objectives and Success Criteria

The key objective for post-closure is to ensure that landforms are stable and self-sustaining as well as suitable to support post-closure land uses. Specific rehabilitation outcomes will be developed in consultation with authorities.

Performance criteria will be set based on the post-closure land uses that are determined for the site and will be formulated to gauge successive achievement of the rehabilitation objectives.

For transition, the general rehabilitation goals and success indicators are outlined in Table 5.1.

Table 5.1: Rehabilitation Goals and Criteria

Objectives	Success Criteria
Post-closure landforms are: • stable, self-regulating soil vegetation environments • safe to humans and wildlife	A risk assessment to be conducted of the remaining and rehabilitated landforms by a suitably qualified and experienced professional to determine if the site is safe, and suitable for the proposed post-closure land use. All disturbed areas are vegetated and stabilised, achieving a minimum vegetation cover of 70% of adjacent 'undisturbed' vegetation cover, and exhibit sustained growth and development. Organic and nutrient rich residues have been removed from sewer line trenches, sewage and treated water collection wells and the treatment plant and/or any soil contaminated with these residues where this infrastructure was installed on site. All channels and excavations on site are backfilled, levelled and stabilised to be non-eroding. Site infrastructure is removed, decommissioned and rehabilitated as required for post-closure land uses, and as defined in agreements with authorities.

5.2. Decommissioning

Decommissioning of the Project will involve the following key processes:

- Management of water:
  - On site detention pond, potable water tank and rainwater collection tank to be emptied following routine confirmation of water quality procedures.
  - Natural drainage will be achieved by returning ponds, channels and infrastructure site to a natural land formation.
  - Sewer lines (including kitchen traps and drains, sewage collection well and treated effluent collection structures will be emptied by VAC truck and the wastewater disposed to suitable treatment facility.
- Removal and/or stabilisation of structures:
  - The existing community hall located near the south-western corner of the site, which was renovated as part of the Ulan Village Green development, will not be removed and responsibility for the building will transfer to Crown or the subsequent lease holder/owner of the site.

- All distributed power will be isolated and decommissioned.
- All rooms, stores and facilities to be decommissioned will be emptied and the products disposed of according to value and hazard.
- Concrete ground slabs and other hardstand areas will be remediated by burying, ripping or otherwise covering.
- Mobile sewage treatment plant(s) will be transported offsite for sale.
- Temporary buildings and equipment assets will be packaged and along with other readily disconnected items having sufficient re-sale value, such as pumps, tanks, power generators, or switchgear, will be trucked offsite for sale.
- Items without resale value (plant and equipment) will be taken of site and recovered, reused or recycled, wherever practicable.

5.3. Rehabilitation

This Decommissioning and Rehabilitation Plan is developed to include management and mitigation of the key risks likely to be present in terms of rehabilitating the site. For general areas of the site this will include:

Roads and Services: Although the paved driveway between the street and main entrance to the site would likely be retained unaltered to provide access, the roads, kerbs and associated drainage works will be removed, unless otherwise agreed with authorities.

Revegetation: this will aim to return as much of the site as is eventually cleared of the development infrastructure to at least the pre-development environmental condition. A Revegetation Plan will be prepared, including species and community types to be replanted / encouraged, and a Weed Management Plan will be prepared, based on the Weed Management Plan prepared for the site construction and operational activities.

Throughout the works noted above, control measures similar to those utilised during construction will be adopted, particularly in relation to Erosion and Sediment Control and contouring, as well as Measures for managing noise, dust, oils and fuels, hazardous substances, spills and leaks as part of closure works.

6. POST CLOSURE MONITORING

A checklist will be prepared that identifies all rehabilitated areas that require inspection, and the individual items that should be considered as part of the inspection. The general inspection will be undertaken monthly for a period of 6 months after closure activities cease. The post-closure monitoring will identify the following:

- Maintenance requirements (for example remedial earthworks).
- Presence of weeds or pests.
- General observations regarding the success of vegetation reestablishment.
- General observations in relation to presence of erosion and landform stability issues.

Post closure monitoring is outlined in Table 6.1.

Table 6.1: Post-closure Monitoring

Area	Parameter	Monitoring
Remediated areas	Revegetation	Planting survival / success rate (as per agreement with revegetation contractor). Weed invasion. Develop photographic record.
	Drainage	Visual assessment for erosion.
Surface water quality	Parameters as identified in the operational monitoring programme for surface water.	Monitoring at identified locations as per operational monitoring programme.
Groundwater quality	Parameters as identified in the operational monitoring programme for groundwater.	Monitoring at identified locations as per operational monitoring programme.

7. REPORTING

Reports detailing the monitoring results and site inspection outcomes will be undertaken monthly for 6-month period post-closure. The reports and monitoring are to be undertaken by suitably qualified individuals and the reports provided to the relevant authorities as per agreement with these authorities.

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APPENDIX G

Noise Agreement

ULAN COAL MINES LIMITED
MINING IMPACTS AGREEMENT

Date of agreement:

PARTIES

Long Necks Developments Pty Limited ACN 630 670 683 ("***Lessee***").

The State of New South Wales ("**Owner**")

Ulan Coal Mines Limited (ABN 80 000 189 248), as manager for and on behalf of the Ulan Coal Mine Joint Venture, of 4505 Ulan Road, Ulan NSW 2850 (together with its successors in title and assigns) ("***Company***").

RECITALS

A. The Company is the owner of the Ulan Coal Mine located off Ulan Road, Ulan, New South Wales ("***Mine***").

B. The Company holds a project approval for the "Ulan Continued Operations Project", being Application Number 08_0184 pursuant to Part 3A of the *Environmental Planning and Assessment Act 1979* ("***Project Approval***").

C. The Owner is the registered proprietor of the land described as Lot 32 D.P 750773, located at 94 Main Street Ulan NSW 2850 ("***Land***").

D. The Lessee is the holder of a lease over the Land, being the assignee of the lease registered AH129615P with a term of 25 years commencing on 26 June 2012. (***"Lease"***).

E. DA0135/2012 Ulan Temporary Workers Accommodation 94 Main Street Ulan consented to by Mid-Western Regional Council applies to the Land ***("DA0135/2012")***.

F. The Lessee, being the trustee of a unit trust entitled The Long Necks Unit Trust ABN 60 687 425 036 intends to construct and fix a demountable workers' accommodation village ("***Village***") to the Land.

G. Operations at and ancillary to the Mine may cause impacts to the Land and the Village, including ,but not limited to, noise, dust, blasting vibration, light and overpressure impacts ("***Mining Impacts***").

H. The Lessee, the Owner and the Company have agreed upon an arrangement in respect of the Mining Impacts and this document sets out their agreement.

OPERATIVE PROVISIONS

1. Term of this agreement

(a) This agreement commences on the date which the last party executes this document.

(b) This agreement ends on the date it is terminated by the Company or on the surrender or expiry of DA0135/2012 and modifications thereof.

2. Object of this agreement

(a) The parties agree that this document constitutes an agreement between the parties for the purposes of:

(i) condition 49 of DA0135/2012 (as amended on 27 May 2019);

(b) Without limiting anything else in this agreement, the parties agree that the rights and obligations of the Owner and Lessee under this agreement continue to apply:

(i) for the duration of any extensions to the term of the Lease; and

(ii) notwithstanding any expiry or invalidity of the Lease.

3. Compensation

The Company, Owner and Lessee enter into this agreement in consideration for the mutual promises, obligations and warranties contained hereunder.

4. Owner and Lessee to cooperate

(a) The Lessee agrees not to lodge any claim, objection or complaint, or commence or participate in any legal proceedings, of any kind in relation to the Mining Impacts or the construction or operation of the Mine (or any modification of it) with any public authority or third party and will use its best endeavours to ensure that no other person residing at or visiting the Land does so.

(b) The Owner agrees not to lodge any claim, objection, complaint or commence or participate in any legal proceedings of any kind in relation to noise criteria that may be exceeded in condition 2 of Schedule 3 of the Project Approval.

(c) The Lessee must not do anything, or procure any third party to do anything, which could frustrate or delay the Company's procurement of any statutory approval or permit which is applied for by the Company for the construction or operation of the Mine or any modification of it.

(d) The Lessee agrees that it will make requirements of the "Moolarben Dam Evacuation Plan" known to all persons entering onto the Land, including guests of the Village.

(e) The Lessee will procure that, prior to entry, all personnel and guests entering onto the Land sign a declaration acknowledging that they:

(i) are aware of the potential Mining Impacts;

(ii) accept the consequences of any potential Mining Impacts; and

(iii) will not make any complaints in relation to any Mining Impacts.

5. Waiver of rights

(a) The parties agree that this is a written agreement for the purpose of condition 2 of Schedule 3 of the Project Approval and therefore the noise criteria in that condition do not apply in respect of the Land.

(b) The Owner and Lessee each agree to waive their rights (to the extent any exist, and to the maximum extent possible) under each of the following conditions of the Project Approval:

(i) condition 3, Schedule 3;

(ii) condition 4, Schedule 3;

(iii) condition 5, Schedule 3;

(iv) condition 6, Schedule 3;

[redacted]

(v) condition 10, Schedule 3

(vi) condition 13, Schedule 3

(vii) condition 14, Schedule 3;

(viii) condition 19, Schedule 3;

(ix) condition 20, Schedule 3; and

(x) condition 30, Schedule 3.

(c) The Owner and Lessee each agree to waive their rights (to the extent any exist, and to the maximum extent possible) under any of the conditions in Schedule 4.

6. Indemnity

The Lessee must indemnify the Company against all damage, expense (including lawyers' fees and expenses on a solicitor/client basis), loss (including financial loss) or liability of any nature suffered or incurred by the Company arising out of any claim, objection or complaint in relation to:

(a) the Mining Impacts; and

(b) any breach by the Lessee of clauses 4 and 9(a) of this agreement.

7. Confidentiality of this Agreement

The Owner and Lessee each agree not to disclose the fact or the terms of this agreement to any third party, other than:

(a) to his/her/its professional advisors;

(b) as required or compelled by law; or

(c) with the written consent of the Company.

8. Termination

Notwithstanding any other provision of this agreement, the Company may at its sole discretion, terminate this agreement by giving 28 days' notice to the Owner and the Lessee.

9. Assignments, Novations and related matters

(a) The Lessee must ensure that, if it transfers its interest (or any part thereof) in the Lease to another person, its rights and obligations under this agreement are to be assigned or novated (as the case may be) in full to any such assignee or novatee prior to that assignment or novation taking effect.

(b) The Owner must ensure that, if it transfers its interest (or any part thereof) in the Land to another person, its rights and obligations under this agreement are to be assigned or novated (as the case may be) in full to any such assignee or novatee prior to that assignment or novation taking effect.

(c) If the Owner enters into a lease with an entity other than the Lessee in relation to the Land (**"Future Lessee"**), the Owner must procure that (as a condition of entry into such lease) the Future Lessee enters into an agreement with the Company in relation to the subject matter of this agreement.

Executed as an agreement.

Signed by [redacted]
presence of:

[redacted]

Signature of witness

[redacted]

Signature of Lessee

...[redacted]

Full name (block letters)

[redacted]

Executed by the **Department of Planning, Industry & Environment – Crown Lands Division** on behalf of the Minister administering the *Crown Land Management Act 2016*)
in the presence of:
TAFE - K Block - Allingham St Armidale NSW 2350

[redacted]

Signature of Witness

[redacted]

Signature of [*delegate*]

[redacted]

Name of Witness

[redacted]

Name of Signatory

Signed on behalf of Ulan Coal Mines Limited by its authorised representative in the presence of:

[redacted]

Signature of witness

[redacted]

Signature of authorised representative

[redacted]

Full name (block letters)

[redacted]

Name of authorised representative

barnson.

APPENDIX H

Access Performance Solution

Access Report

Date of Report:	21 May 2012
Amendment A:	23 May 2012
Re:	Proposed Camp Village – 94 Main Street Ulan
For:	Barnson Pty Ltd
Assessment:	Plans by Barnson Pty Ltd – Drawing numbers 17239-A01 (Rev E dated 16/05/12), 17239-A02 (Rev C dated 18/10/11) Building Code of Australia Report by Barnson Ptd Ltd dated 12/04/12

This Access Report is an assessment of the proposed development to determine if access for people with a disability is provided in accordance with legislative requirements.

The following comments are based on access requirements of the Building Code of Australia 2011 (BCA), Disability (Access to Premises – Buildings) Standards 2010 (Premises Standards) (including Amendment No. 1), Australian Standards (AS) and Disability Discrimination Act (DDA).

This report contains comments regarding issues of non-compliance, or identifying where insufficient information has been provided for an assessment to be made. Recommendations may also be made to enhance accessibility and minimise the risk of action under the Disability Discrimination Act (DDA).

Unless otherwise specified, all Australian Standards references are from the following:

AS 1428.1-2009
AS 1428.4.1-2009
AS 2890.6-2009

1. Introduction

1.1 The proposed development is a 144 bed camp village for the accommodation of employees in the mining industry. The development will include:

a) Accommodation units with ensuite facilities.
b) A commercial style kitchen serving a dining room.
c) Recreational facilities (gym, recreation room and external barbecue area).
d) A common laundry.
e) Common sanitary facilities near common buildings.
f) An office for the management of the site.
g) Car parking.

2. Access requirements

2.1 The BCA Report by Barnson Pty Ltd identifies the various building classifications for this development. The BCA specifies the following requirements regarding access for people with a disability for the relevant building classifications:

a) The BCA requires that for Class 1b dwellings located on the one allotment and used for short-term holiday accommodation, where there is more than 100 dwellings, 5 dwellings are to be accessible plus 1 additional accessible dwelling for each additional 30 dwellings or part thereof in excess of 100 dwellings. *BCA Table D3.1*

b) The BCA requires Class 5 and 6 buildings to be accessible to and within all areas normally used by the occupants. *BCA Table D3.1*

3. Proposed exemption

3.1 It is proposed that the specific use of this village be considered in determining the accessibility requirements applicable. The BCA acknowledges that the intended use of a building may vary accessibility requirements and permits an exemption which does not require access for people with a disability to be provided to: *BCA D3.4*

a) An area where access would be inappropriate because of the particular purpose for which the area is used;

b) An area that would pose a health or safety risk for people with a disability.

3.2 In this situation, the accommodation will house mining employees who are required to pass relevant health and mobility checks to ascertain their suitability to fulfill their role as per their employer's policies and procedures. The roles of mining employees in this area require them to undertake duties of a physical nature in underground mine sites. Mining employees are also required to be capable of escaping in an emergency situation. Therefore, people with a disability will generally not be employed to work in mining roles due the health and safety risks involved and it is unlikely that people with a disability will seek accommodation at the village.

3.3 However, there remains a need for access for people with a disability in the following circumstances:

a) Staff will be employed in administration and management roles at the camp village. It is unlawful to discriminate against people with a disability in employment so work areas and sanitary facilities for these staff members are to be accessible. It is anticipated that these staff members will reside in the local area and not be accommodated within the village.

b) Employees and/or contractors in management and consultant roles often seek short term accommodation in this area. People in such roles will generally be accommodated in motel style lodging closer to the town centre but some accessible accommodation will be offered at the camp village.

c) Mining employees may sustain an injury and may need to be accommodated at the camp village until they are able to relocate to their usual residence.

d) Visitors may spend time with family or friends at the camp village so public spaces and sanitary facilities for visitors are to be accessible.

4. Proposed access

4.1 Access for people with a disability complying with AS 1428.1 is proposed to and within:

a) Four accommodation units – These will be available in the unlikely event that someone with a disability applies to stay at the village. They will also serve any mining employees who may be injured and unable to leave the site immediately.

b) The ensuites associated with accessible accommodation units – Left and right handed facilities are to be distributed evenly.

c) The office – Access will be provided for administration/management staff and the public.

d) The dining room – Access will be provided for staff, occupants and visitors.

e) One unisex accessible WC – This will be for the use of staff, visitors and for the convenience of occupants not wanting to return to private facilities. It is proposed that this be located near the office instead of with the common male and female sanitary facilities. This is considered a more prominent location and will avoid construction of an additional ramp as it will make use of the access ramp approaching the offices. *BCA F2.4 Table F2.4a*

f) One male and one female WC in the common sanitary facilities will be suitable for the use of people with an ambulant disability – These will serve staff, visitors and occupants. *BCA F2.4 c*

g) Car parking – One accessible car park complying with AS 2890.6 will be provided for each accessible accommodation unit. A further two accessible car parks are to be provided to serve village staff and visitors. *BCA Table D3.5*

h) Pedestrian links – Accessible paths of travel complying with AS 1428.1 are to connect accessible buildings and car parking areas. *BCA D3.2 a*

4.2 It is not considered necessary to provide access to and within the commercial kitchen due to the physical nature of duties undertaken by people in that area. *BCA D3.4*

4.3 The BCA requires at least one of each type of common space be accessible for Class 1b buildings including a gymnasium, games room, laundry, or the like. In this situation, given that the intended occupants will be mining employees with health and mobility clearance, I am of the opinion that access to the gym, recreation room, laundry and barbecue area is not considered to be essential. However, it is recommended that accessibility to these areas be reviewed by management on an ongoing basis and that access be upgraded to meet the needs of the occupants if and as their needs change. It remains unlawful to discriminate against people with a disability in relation to access to premises, and it is the responsibility of the village owner/manager to ensure they meet their DDA obligations. *BCA Table D3.1*

Conclusion:

Generally, the plans assessed show that compliance with requirements for access for people with a disability is achievable subject to assessment of specific details at Construction Certificate stage. Although compliance with the BCA and Australian Standards may minimise the risk of an action under the Disability Discrimination Act, it does not necessarily eliminate the possibility.

Aja Goddard
Access Consultant • ACAA Accredited Member 243

Reasonable care and skill have been exercised in the assessment of the building and the preparation of this report. However, this report shall not be construed as relieving any other party of their responsibilities or obligations.

barnson.

APPENDIX I

Traffic and Parking Study

Ulan Village Green - Carpark vs Occupancy Survey

Date	Time	Camp Occupancy	# Vehicle	% vehicle v occupancy
Wednesday, 8 March 2023	5:45 AM	89	19	21.3%
	7:45 PM		27	30.3%
Thursday, 9 March 2023	5:45 AM	99	31	31.3%
	7:45 PM		36	36.4%
Friday, 10 March 2023	5:45 AM	91	41	45.1%
	7:45 PM		36	39.6%
Saturday, 11 March 2023	5:45 AM	88	36	40.9%
	7:45 PM		35	39.8%
Sunday, 12 March 2023	5:45 AM	86	27	31.4%
	7:45 PM		29	33.7%
Monday, 13 March 2023	5:45 AM	80	28	35.0%
	7:45 PM		32	40.0%
Tuesday, 14 March 2023	5:45 AM	105	46	43.8%
	7:45 PM		56	53.3%
Wednesday, 15 March 2023	5:45 AM	92	47	51.1%
	7:45 PM		44	47.8%
Thursday, 16 March 2023	5:45 AM	93	45	48.4%
	7:45 PM		39	41.9%
Friday, 17 March 2023	5:45 AM	98	34	34.7%
	7:45 PM		30	30.6%
Saturday, 18 March 2023	5:45 AM	100	33	33.0%
	7:45 PM		40	40.0%
Sunday, 19 March 2023	5:45 AM	94	35	37.2%
	7:45 PM		34	36.2%
Monday, 20 March 2023	5:45 AM	94	36	38.3%
	7:45 PM		60	63.8%
Tuesday, 21 March 2023	5:45 AM	112	46	41.1%
	7:45 PM		43	38.4%
Wednesday, 22 March 2023	5:45 AM	94	44	46.8%
	7:45 PM		37	39.4%
Thursday, 23 March 2023	5:45 AM	95	49	51.6%
	7:45 PM		-	-
Friday, 24 March 2023	5:45 AM	97	27	27.8%
	7:45 PM		47	48.5%
Saturday, 25 March 2023	5:45 AM	98	22	22.4%
	7:45 PM		37	37.8%
Sunday, 26 March 2023	5:45 AM	97	25	25.8%
	7:45 PM		33	34.0%
Monday, 27 March 2023	5:45 AM	92	34	37.0%
	7:45 PM		48	52.2%
Tuesday, 28 March 2023	5:45 AM	104	37	35.6%
	7:45 PM		56	53.8%
Wednesday, 29 March 2023	5:45 AM	96	46	47.9%
	7:45 PM		42	43.8%
Thursday, 30 March 2023	5:45 AM	108	43	39.8%
	7:45 PM			

Avg % vehicle v occupancy	**28.7%**	
Highest % vehicle occupancy	63.8%	Monday 20 March - PM
	57.0%	Tuesday 7 March - PM
	53.3%	Tuesday 14 March - PM
Lowest % vehicle occupancy	21.3%	Wedensday 7 March - AM
	22.4%	Saturday 25 March - AM
	25.8%	Sunday 26 March - AM

Notes for consideration:

Carpark could be better utilized with the addition of marked lines.

There are atleast 2 x shuttle buses parked that take persons back and forth to mines on a twice daily basis

Staff vehicles included in total as well as guests

Times chosen to do survey are during peak carpark use times