Suite 2, Level 1,
33 Herbert Street,
St Leonards NSW 2065

T 02 9438 5098

Maitland Mental Health Rehabilitation Project

Flood Due Diligence Report

Prepared for: Health Infrastructure NSW

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ACOR Consultants Pty Ltd (ACN 079 306 246) (ABN 40 079 306 246)

www.acor.com.au

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Revisions

Revision	Description	Date	Prepared by	Approved by	Signature
01	For issue	13/09/24	KU	GL	
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Review Panel

Division/ office	Name
CIV/SYD (Rev 01, 02, 03, 04)	GL

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1 Standard introduction

1.1 Introduction

This Flood Due Diligence Report has been prepared by ACOR Consultants Pty Ltd (ACOR) on behalf of Health Infrastructure (HI) to assess the potential environmental impacts that could arise from infrastructure works at 51 Metford Rd, Metford NSW 2323 (the site). The project is seeking approval for a Development Without Consent (REF) application under Part 5 of the EP&A Act.

This report has been prepared to identify any flood risk on-site, describe flood behaviour in and around the site, identify possible evacuation difficulties/risks, and advise if further flood studies are required. This report accompanies a Review of Environmental Factors (REF) for the construction and operation of a new mental health services building within the Maitland Hospital campus, including:

- Site establishment;
- Site preparation including earthworks;
- Construction of internal roads and addition of at-grade car parks;
- Construction of 2 storey mental health facility;
- 20 Medium Secure Forensic beds; 24 Low Secure Forensic beds; 20 Rehabilitation and Recovery beds (including civil consumers) (64 beds total);
- Inground building services works and utility adjustments, including service diversions;
- Building foundation works;
- Tree removal;
- Associated landscaping;
- Bioretention basin.

1.2 Site description

The site is located at the Maitland Hospital Campus on Metford Road, Maitland, approximately 6.4 km from the CBD of Maitland. The project site is located within the development parcel, legally described as Lot 73 DP 1256781, as identified in Figure 1-1 below. The site is located to the east of the recently constructed Maitland Hospital.

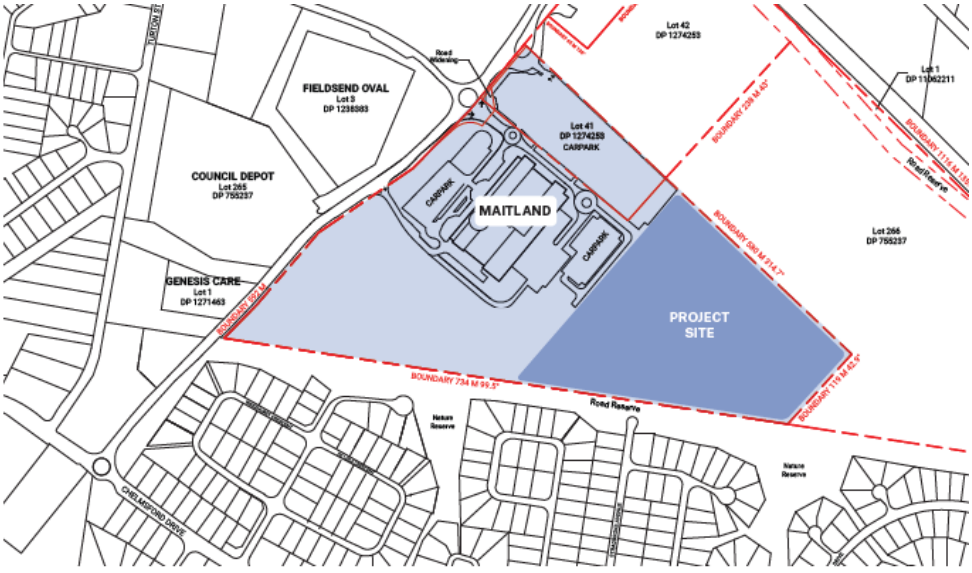

Figure 1-1 Project locational diagram (*Source: Bates Smart)*

1.3 Statement of Significance

Based on the identification of potential issues, and an assessment of the nature and extent of the impacts of the proposed development, it is determined that:

- The extent and nature of potential impacts are low and will not have significant adverse effects on the locality, community and the environment;
- Potential impacts can be appropriately mitigated or managed to ensure that there is minimal effect on the locality, community.

Refer to the Review of Environmental Factors prepared by Ethos Urban for a full description of works.

2 REF Deliverable Requirement Reporting

This Flood Due Diligence Report addresses the following relevant Review of Environmental Factors (REF) requirements from HI in relation to the proposed Mental Health Hospital set out in the table below.

Table 2-1 Review of Environmental Factors Requirements

Item	REF Requirement	Relevant Section of Report
Item 15 – Flood Risk	▪ Identify the flood planning level as set out in the relevant council LEP or SEPP and identify any: – flood risks on site having regard to adopted flood studies – the potential effects of climate change, and – any relevant provisions of the NSW Flood Risk Management Manual. ▪ Where the development is occurring on flood prone land a flood impact and risk assessment (FIRA) must be prepared having regard to the Flood Impact and Risk Assessment Guideline - LU01 (FIRA guide). When determining the scope and category of the FIRA the requirements outlined in the FIRA guide must be considered. ▪ Detail any flood risk management measures that are to be incorporated as part of the development having regard to relevant guidelines (including any design solutions, flood modification measures, property modification measures, operational procedures or Flood Emergency Response Plan).	Section 3 Flood Due Diligence

3 Flood Due Diligence

3.1 Scope

ACOR Consultants Pty Ltd (ACOR) have been commissioned by Health Infrastructure NSW to prepare this Flood Due Diligence Report for the proposed Maitland Mental Health Rehabilitation Project at 51 Metford Road, Metford, NSW 2323.

The scope of this report addresses the following for the operational phase of the development:

- Identify any flood risk on-site having regard to adopted and available flood studies and flood information, the potential effects of climate change, and relevant provisions of the *Flood risk management manual (2023)*, which replaces the *Floodplain development manual (2005)*
- Describe flood behaviour in and around the site from available flood studies and documents to understand the current regional/local evacuation infrastructure and identify possible evacuation difficulties/risks
- Present regulatory requirements and policy frameworks around flooding that are relevant to the development proposal
- Advise if further flood studies are required to support the development for a State Significant Development (SSD) pathway.

3.2 Relevant policies, standards and guidelines

The following listed policies, standards and guidelines were referred to in the preparation of this report:

- Maitland Local Environment Plan (2011)
- Maitland Development Control Plan (2011)
- Flood risk management manual (Department of Planning and Environment, 2023)
- Australian Rainfall and Runoff (Geoscience Australia, 2019).

3.3 Existing site characteristics

3.3.1 Site description

For a general introduction and site description, refer to Section 1.

Maitland Hospital, carpark areas and access roads are located on the north-west portion of the lot. The remainder of the site comprises bushland and landscaped areas. The lot to the north contains a rehabilitated quarry. A combined stormwater quality and detention basin to treat and attenuate runoff from the hospital development is to the east of the eastern carpark.

The figure below shows the latest available Nearmap image of the site and site features.

Figure 3-1 Nearmap aerial image of site (image dated 22 August 2024)

3.3.2 Topography, drainage and catchments

3.3.2.1 Site topography and drainage

The terrain on the eastern half of the lot (east of the existing hospital development) generally falls from the southern lot boundary to the northern lot boundary. The elevation near the southern boundary is approximately 26 m AHD and the elevation near the northern boundary is approximately 8 m AHD. Survey shows the existing vehicle access road on the eastern side of the eastern hospital carpark has a level ranging between 15 - 16 m AHD.

A steep highwall up to 10 m high extends along the southern portions of the site with mounded fill located at the top adjoining natural ground levels to the south. The northern portion of the site (to the east of the existing Maitland Hospital carparking areas) is the lowest part of site (8 - 9 m AHD) as shown by contour elevations in the figure below. This area is generally a broad drainage area that drains across the northern lot boundary towards the former quarry floor and sediment basins.

The figure below shows the site's topography on the eastern portion of the subject lot (produced from the survey and LiDAR) and approximate alignments of existing drainage lines identified from the survey.

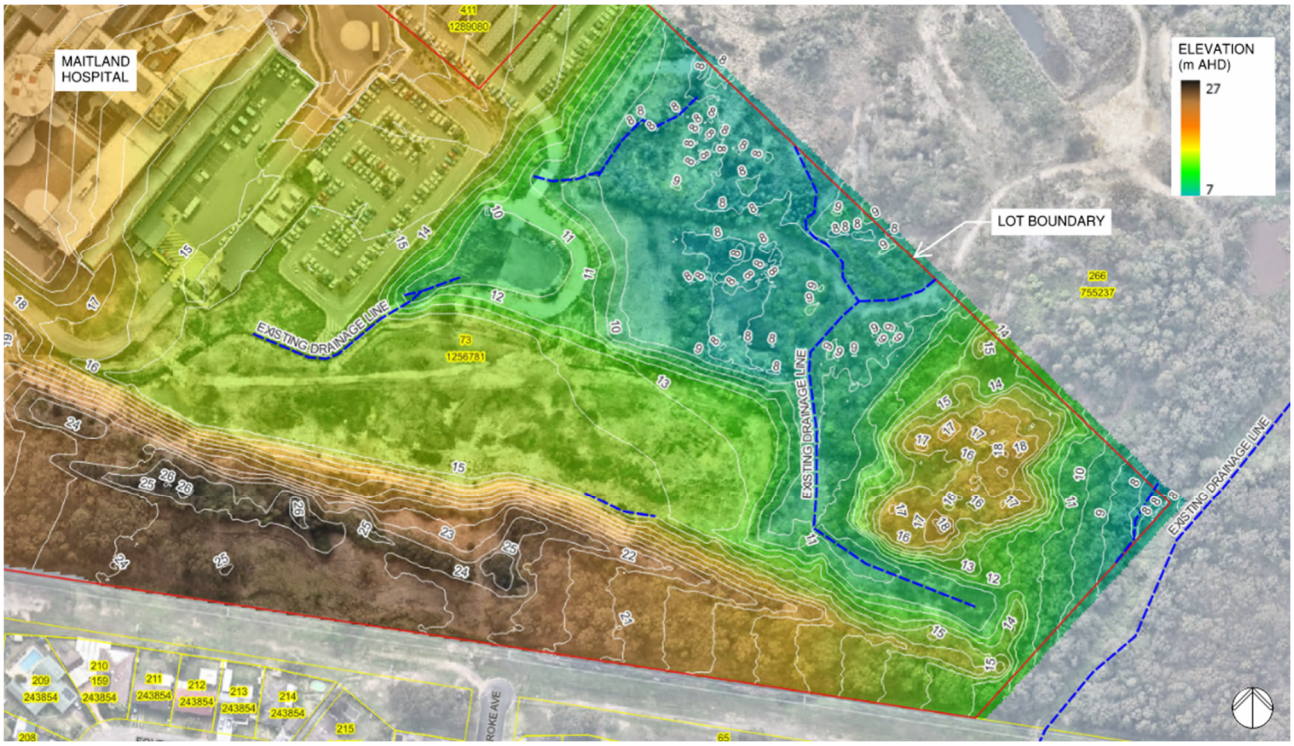

Figure 3-2 Site topography and internal drainage lines

Several culverts and stormwater pits and discharge headwalls were picked up by the survey in the vicinity of the stormwater quality and detention basin.

Refer to site survey in Appendix A for more information.

3.3.2.2 External catchments

The lot is in the Hunter River catchment. The closest watercourses are Two Mile Creek, approximately 200 m to the west of the site, and Three Mile Gully, approximately 600 m east of the site. North-east of the site is predominantly a wetland environment (Tenambit Wetlands) surrounded by open bushland (Pitt & Sherry, 2018).

An external catchment (eastern external catchment) is to the south of the lot with an area of 36.4 ha comprising primarily residential development land use. Runoff discharges to an existing drainage line to the immediate east of the lot.

An additional external catchment (western external catchment) is located to the south of the lot with an area of 8.9 ha, comprising primarily residential development and bushland land uses. Runoff discharges to an existing drainage line that conveys flow through the site to a culvert under Metford Road.

The external catchments are shown in the figure below.

Figure 3-3 External catchments to the south of the lot

3.4 Proposed development

3.4.1 Development features

The proposed schematic Maitland Mental Health building and associated features are to be located to the east of the existing Maitland Hospital development. The proposed development includes the following ancillary features that are illustrated in the figure below:

- A building comprising a lower ground floor and ground floor
- A carpark on the eastern side of the building
- Stormwater quality and detention basin on the northern side of the building
- Footpaths and vehicle access roads/driveways
- Open drainage channels to convey runoff
- Landscaping.

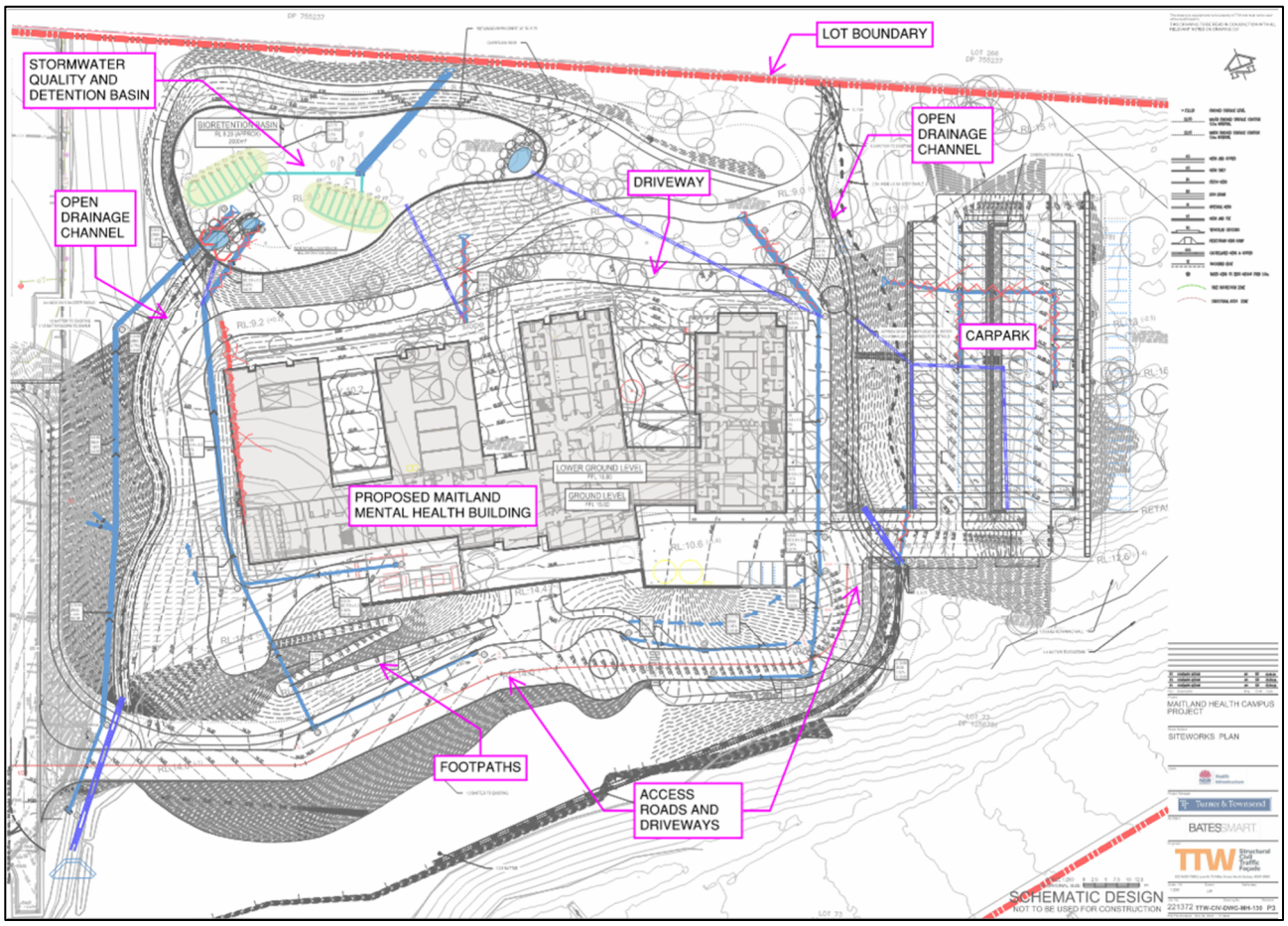

Figure 3-4 Schematic site design (design in progress at time of report)

3.4.2 Development location

The majority of the proposed development (building area) is positioned such that it covers existing terrain that is generally below 15 m AHD. Refer to the following figure that illustrates the schematic layout of the proposed development against the existing ground contour elevations.

Schematic civil engineering design by TTW has been undertaken. Refer to section 3.5.3 for an assessment of the schematic design against available flood characteristics.

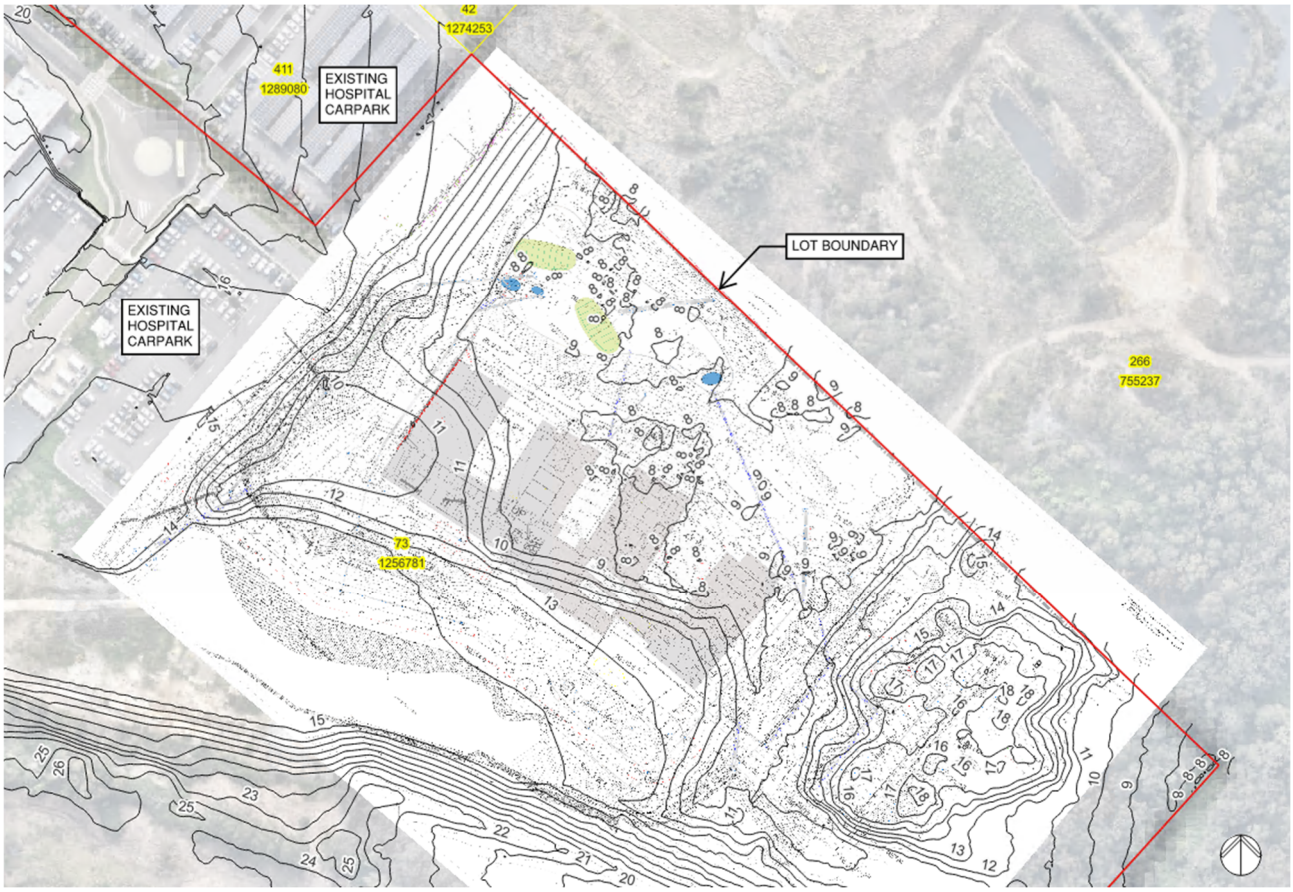

Figure 3-5 Schematic of proposed development and existing contour elevations

3.5 Flood assessment

3.5.1 Guidance documentation

3.5.1.1 Flood risk management manual (2023)

The Flood risk management manual (Department of Planning and Environment, 2023) is written principally for local and state government. The principles for flood risk management described in the manual are presented in the table below and a response provided regarding the proposed development.

Table 3-1 Assessment of the proposed development schematic design against principles for flood risk management (Department of Planning and Environment, 2023)

Principle	Assessment
Principle 1 - Establish sustainable governance arrangements	Applies to State and Local government organisations.
Principle 2 - Think and plan strategically	Applies to Local government organisations.
Principle 3 - Be consultative	Applies to State and Local government organisations.
Principle 4 - Make flood information available	Applies to State and Local government organisations.
Principle 5 - Understand flood behaviour and constraints	Refer to section 3.5.2 and 3.5.3 of this report.
Principle 6 - Understand flood risk and how it may change	Refer to section 3.5.2 of this report.
Principle 7 - Consider variability and uncertainty	Refer to section 3.5.2 and 3.5.3 of this report.
Principle 8 - Maintain natural flood functions	Refer to section 3.5.3 of this report.
Principle 9 - Manage flood risk effectively	Applies to State and Local government organisations.
Principle 10 - Continually improve management of flood risk	Applies to State and Local government organisations.

3.5.1.2 Maitland Local Environment Plan (LEP) 2011

Refer to Appendix C for flood planning clauses 5.21 and 5.22 of the Maitland Local Environmental Plan 2011. The table below assesses the schematic design of the proposed development against these clauses.

Table 3-2 Assessment of the proposed development schematic design against Maitland LEP flood planning clauses

Clause 5.21 Flood planning	Assessment
(1) (a)	It is considered the flood risk to life and property associated with the proposed development's use of the land is acceptable as the Probable Maximum Flood level will not affect the proposed development (building), carparks or roads on the site.
(b)	The proposed development is considered compatible with the flood function and behaviour on the land (even during the Probable Maximum Flood event for a Hunter River flood). Climate Change sensitivity analysis for the Probable Maximum Flood was not undertaken for the Hunter River in the Hunter River Floodplain Risk Management Study and Plan (Maitland City Council, 2015). Climate Change sensitivity analysis for the 100 year ARI event shows that the southern side of the railway embankment and the subject lot is not affected. This is most likely due to the culvert under the railway embankment not being included in the hydraulic model, therefore not allowing backwater to flow to the southern side of the railway embankment.
(c)	The proposed development incorporates a stormwater detention basin (TTW, 2024) that attenuates peak discharge rates from the site to existing conditions peak discharge rates. The stormwater detention basin is combined with a bioretention basin to treat stormwater runoff from the proposed development to required standards.
(d)	The proposed development's building floor levels and roads are flood-free in the Hunter River Probable Maximum Flood (flood level 8.71 m AHD) and safe occupation and

Clause 5.21 Flood planning	Assessment
	evacuation can occur. Evacuation from the site can be achieved to the New England Highway to the south without travelling through flood waters in all events up to and including the PMF.
(2) (a)	The proposed development is not within the Maitland City Council Flood Planning Area. The Flood Planning Level is 6.39 m AHD and does not encroach into the subject lot. The proposed development is flood-free in the PMF (Hunter River flood). The 100 year ARI local catchment flood (7.8 m AHD) will not impact the proposed buildings.
(b)	The proposed development incorporates a stormwater detention basin (TTW, 2024) that attenuates peak discharge rates from the site to existing conditions peak discharge rates. A local catchment flood study for the proposed development has not been undertaken to determine potential flood affectation of other development or properties.
(c)	The Probable Maximum Flood level (Hunter River flood) will not affect the proposed development (building), carparks or roads on the site. The proposed development is not expected to require evacuation during a Hunter River flood up to and including the Probable Maximum Flood.
(d)	The Probable Maximum Flood level (Hunter River flood) will not affect the proposed development (building), carparks or roads on the site. The proposed development is not expected to require evacuation during a Hunter River flood up to and including the Probable Maximum Flood. Regardless, evacuation from the site can be achieved to the New England Highway to the south without travelling through flood waters in all events up to and including the PMF.
(e)	Future concept and detailed design phases can demonstrate compliance with this requirement. The TTW (2024) schematic design provides information on this matter.
(3) (a)	The schematic design has not undertaken as assessment of the impact of the development on project changes to flood behaviour as a result of climate change.
(b)	In the context of flood planning, the design and scale of proposed buildings is considered appropriate.
(c)	The Probable Maximum Flood level (Hunter River flood) will not affect the proposed development (building), carparks or roads on the site. The proposed development is not expected to require evacuation during a Hunter River flood up to and including the Probable Maximum Flood. Regardless, evacuation from the site can be achieved to the New England Highway to the south without travelling through flood waters in all events up to and including the PMF.
(d)	Proposed buildings will not have the potential to be modified, relocated or removed if the surrounding area is impacted by flooding.
(4)	N/A
(5)	N/A
Clause 5.22 Special flood considerations	Not adopted therefore no assessment undertaken.

3.5.1.3 Maitland Development Control Plan (DCP) 2011 development controls

Part B Environmental Guidelines of the Maitland Development Control Plan 2011 refers to the Maitland LEP 2011, which defines the flood planning area for land to which the DCP applies. Part B does not apply to areas affected by flooding from local drainage.

The proposed development is deemed to be classed as an ancillary service to a hospital (section 2.8 of Part B Environmental Guidelines of the Maitland Development Control Plan 2011), and per Part B is unlikely to be supported on land below the Probable Maximum Flood (PMF). Refer to section 3.5.2 and 3.5.3 below for more information on the PMF.

3.5.2 Existing site flood affectation and flood characteristics

3.5.2.1 Hunter River Floodplain Risk Management Study and Plan (2015)

Flood maps produced as part of the Hunter River Floodplain Risk Management Study and Plan (Maitland City Council, 2015) available in the Maitland Citywide Development Control Plan flood maps (Maitland City Council, 2024) show the Flood Planning Level extent does not extend to the southern side of the railway embankment (refer to figure below). The flood planning level (100 year ARI plus 0.5 m) is 6.39 m AHD.

Inspection of latest available Nearmap imagery shows a transverse culvert beneath the railway embankment. LiDAR terrain data (2012) indicates this culvert may have invert levels approximately 5 m AHD.

Backwater from the flooding on the northern side of the railway embankment could be conveyed through the culvert to the southern side of the railway embankment and towards the lot. Inspection of contours from LiDAR terrain data shows the Flood Planning Level extent on the southern side of the railway embankment with level 6.39 m AHD does not encroach into the subject lot.

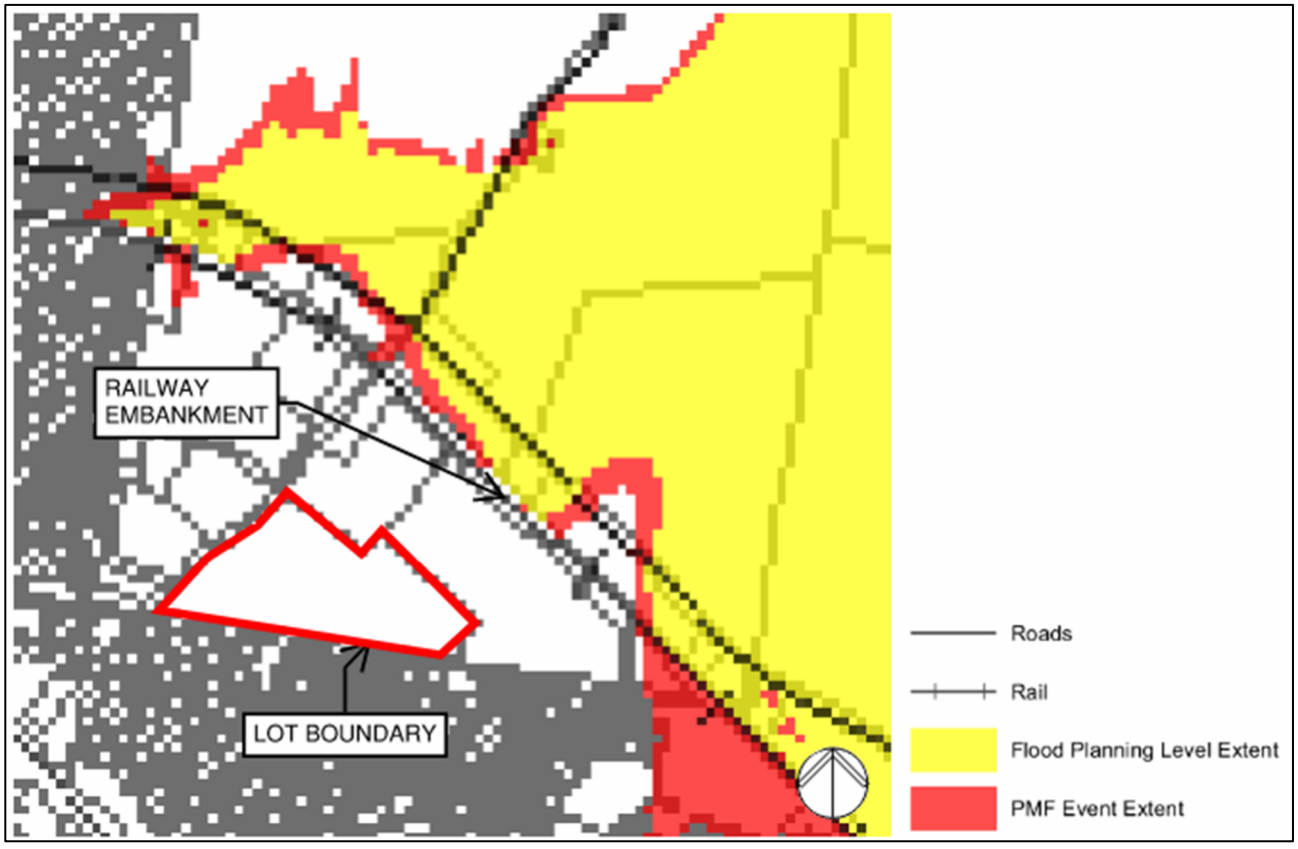

Figure 3-6 Flood Planning Level extent

The Probable Maximum Flood (PMF) flood extents from the Hunter River do not encroach south of the railway embankment, which is approximately 250 metres north-east of the lot. This is most likely due to the culvert under the railway embankment not being included in the hydraulic model, therefore not allowing backwater to flow to the southern side of the railway embankment. The flood level of the PMF at the railway embankment is 8.71 m AHD.

Backwater from the PMF on the northern side of the railway embankment could be conveyed through the culvert to the southern side of the railway embankment and towards the lot. Inspection of contours from LiDAR terrain data shows the extent of the PMF on the southern side of the railway embankment with level 8.71 m AHD encroaches into the subject lot. The figure below shows the indicative extent of the PMF with level 8.71 m AHD south of the railway embankment.

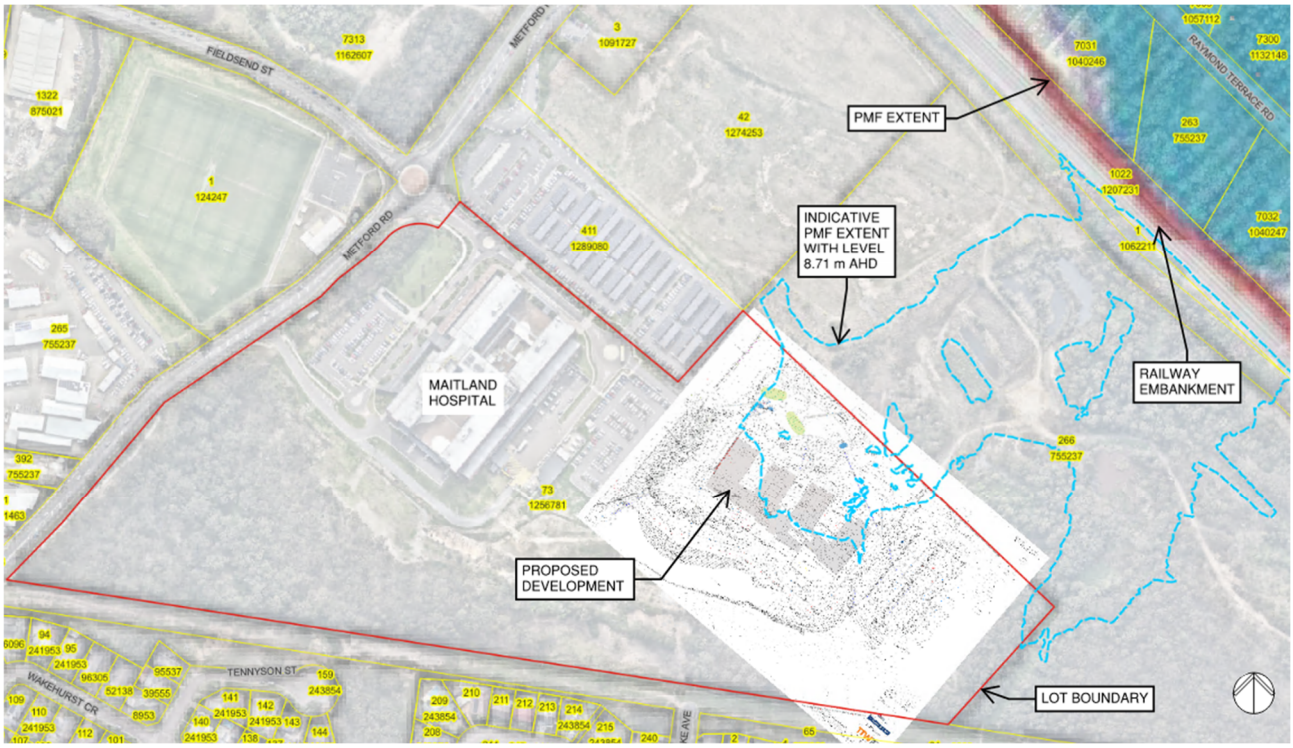

Figure 3-7 PMF extent with level 8.71 m AHD for existing conditions terrain relative to subject lot and proposed development

The hydraulic categories in the vicinity of the subject lot are presented in the figure below. The expected hydraulic categories on the southern side of the railway embankment should the PMF event pass through the railway culvert would be flood fringe. Based on the forgoing PMF level, the extent of this category would extend into the subject lot. Flood storage areas are areas where peak flood depth is greater than 1.5 m, and flood fringe areas are where peak depth is less than 1.5 m. The PMF level (8.71 m AHD) corresponds to a depth less than 1.5 m within the subject lot.

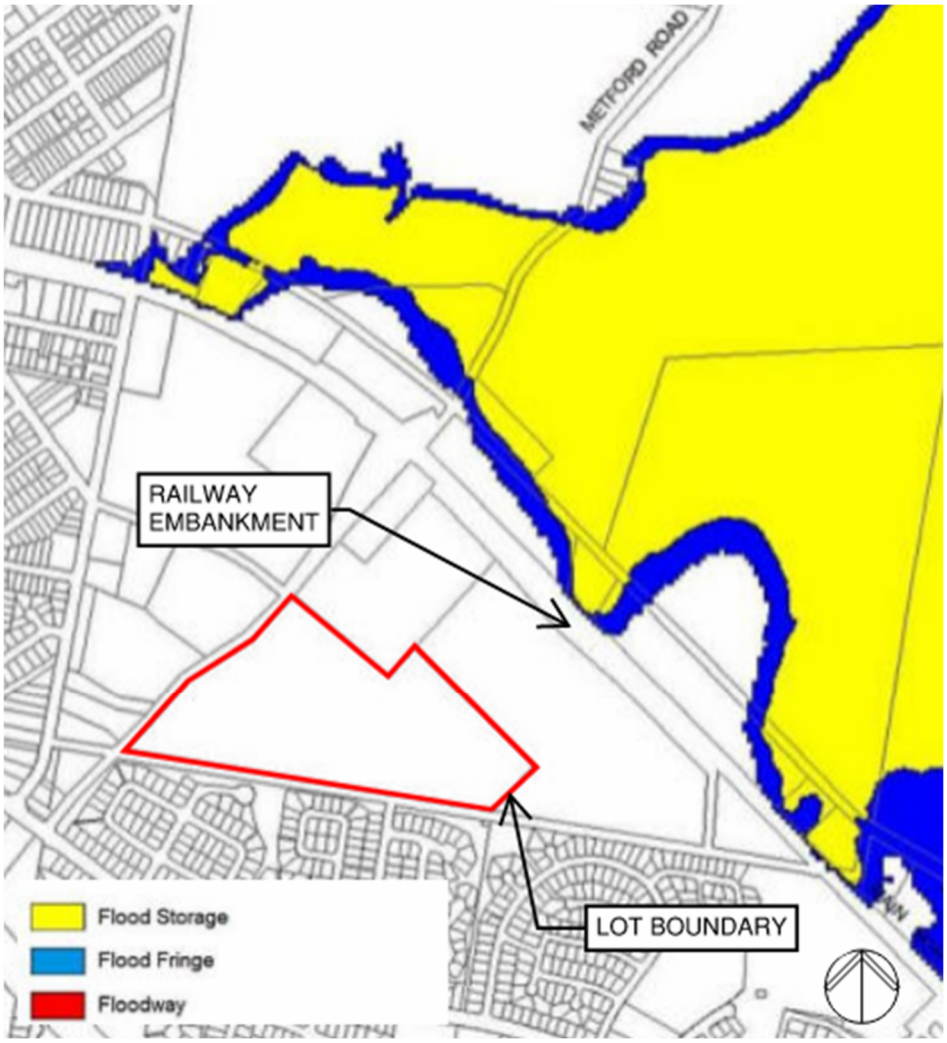

Figure 3-8 Hydraulic categories for the floodplain on the northern side of the railway embankment

3.5.2.2 Wood & Grieve Stormwater Water Management Plan (2018)

The Stormwater Water Management Plan for the existing Maitland Hospital by Wood & Grieve is Appendix D of the EIS (Pitt & Sherry, 2018) and refers to the local catchment flood analysis undertaken by Robert Bird Group in 2015 for the New Maitland Hospital. The analysis determined that the peak water level for the 100 year ARI flood on the southern side of the railway embankment is 7.8 m AHD, which adopted a tailwater level of 6.2 m AHD. The survey utilised by Robert Bird Group in the local flooding extent is representative of the latest available survey (Appendix A Site survey). It was found based on available survey at the time of the study that a flood level of 7.8 m AHD does not directly impact the development site. Refer to the Appendix D of the EIS (Pitt & Sherry, 2018) for more information on the flood study by Robert Bird Group.

Based on latest available survey, the lowest ground level along the northern boundary of the site adjacent to the proposed development is approximately 7.7 m AHD, which indicates the 100 year ARI flood level for local catchment flooding could encroach into the subject lot to a depth of approximately 0.1 metres.

3.5.2.3 TTW Civil, Flood and Integrated Water Management Plan Maitland Mental Health Rehabilitation Project (2024)

The Civil, Flood and Integrated Water Management Plan for the Maitland Mental Health Rehabilitation Project by [1]TTW (2024) referred to the Hunter River (Branxton to Green Rocks) Flood Study (2010), the Hunter River Floodplain Risk Management Study and Plan (2015), the local flood study undertaken by Robert Bird Group

(2015) and the Stormwater Management Plan by Wood & Grieve (2018). Details are provided in previous sections above.

3.5.2.4 Climate Change

Australian Rainfall and Runoff Guidelines

The Australian Rainfall and Runoff Guidelines (version 4.2) have recently been updated to incorporate the latest research on Climate Change. The key message from the update is that unadjusted historical observations are no longer a suitable basis for design flood estimation: they must be adjusted to reflect the impacts of rising global temperatures.

The major areas where climate change will impact flooding are:

- Design rainfall intensity-frequency-duration;
- Storm type, frequency, and depth;
- Rainfall spatial and temporal patterns;
- Antecedent conditions;
- Changes in sea level; and
- The joint probability of storm surge and flood producing rainfall.

To account for changes since the period represented by the IFD curves in the 2016 IFD portal, it is recommended that IFD information as well as estimates of the Probable Maximum Precipitation (PMP) should be adjusted. Chapter 6 of Book 1 of Australian Rainfall and Runoff Guidelines (version 4.2) provides the procedures to adjust design rainfall for a simple end-of-life design for temperature projections for a given emissions scenario or given global warming scenario. An equation is provided in Chapter 6 of Book 1 for adjustment of design rainfall.

The adjustment factors for Climate Change will increase the design rainfall depth for all storm events. Flood estimation peak discharge and volume will therefore increase.

Hunter River Floodplain Risk Management Study and Plan (2015)

Flood maps produced as part of the Hunter River Floodplain Risk Management Study and Plan (Maitland City Council, 2015) for the 100 year ARI event plus 30% increase in rainfall intensity show the Flood Planning Level extent does not extend to the southern side of the railway embankment (due to the culvert under the railway embankment not being included in the hydraulic model).

3.5.2.5 Summary

Site flood affectation is summarised as follows from existing flood study information presented in section 3.5.2:

- Flood maps presented in the Hunter River Floodplain Risk Management Study and Plan show the flood affectation extent of the local area (north of the railway embankment in the vicinity of the lot) due to backwater from the Hunter River is generally consistent for the 20 year ARI, 100 year ARI and PMF events.
- The PMF flood in the Hunter River:
  - may cross to the southern side of the railway embankment by backwater through the existing railway embankment culvert to a flood level of up to approximately 8.71 m AHD, depth less than 1.5 metres on the subject lot and velocity up to 0.5 m/s. The PMF flood with a level of 8.71 m AHD will encroach into the subject lot.
  - is likely to have flood fringe hydraulic category on the subject lot.
  - would be high hazard on the southern side of the railway embankment.

- The 100 year ARI flood in the Hunter River may cross to the southern side of the railway embankment by backwater through the existing railway embankment culvert to a flood level of up to 5.89 m AHD. This flood level will not encroach into the subject lot.
- The 100 year ARI flood in the local catchment by Robert Bird Group (2015):
  - was estimated to have a peak level of 7.8 m AHD, which could marginally extend into the subject lot to a depth of up to 0.1 m at the northern lot boundary.
  - was a 1d tailwater analysis and did not determine flood velocity.

No other flood characteristic information is available for the subject lot.

3.5.3 Flood assessment of proposed development

3.5.3.1 Proposed building floor levels

Schematic design drawings by [2]TTW (2024) show the proposed lower ground floor level of the Mental Health building is 10.80 m AHD and the proposed ground floor level is 14.93 m AHD.

As indicated in section 3.5.2:

- the Flood Planning Level (Hunter River flood) is approximately 6.39 m AHD and does not affect the subject lot
- the PMF level (Hunter River flood) on the subject lot is approximately 8.71 m AHD
- the 100 year ARI flood level (local catchment flood) on the subject lot is approximately 7.8 m AHD.

The proposed lower ground floor level therefore has a freeboard of approximately 2.09 metres to the PMF level for a Hunter River flood.

The proposed development would be within the flood fringe area (depths less than 1.5 m in the PMF) and not within the flood storage area, therefore would not cause a loss of flood storage during the PMF.

The 100 year ARI local catchment flood will not impact the proposed buildings.

The proposed lower ground floor level and development layout (position) is considered appropriate in the context of flood levels and characteristics.

3.5.3.2 Proposed ancillary development features

The proposed ancillary development features are assessed against the PMF level (Hunter River flood) with level 8.71 m AHD (in the absence of local catchment flooding) as follows:

- The invert (8.2 m AHD approx.) of the proposed bioretention basin ([2]TTW, 2024) will be subject to backwater inundation to a depth of up to 0.51 metres
- The downstream toe (7.8 m AHD approx.) of the proposed bioretention basin embankment will be subject to backwater inundation to a depth of up to 0.91 metres
- The downstream crest (8.7 m AHD) of the proposed bioretention basin embankment will not have freeboard to the Hunter River flood PMF level
- The proposed carpark (lowest design level 11.5 m AHD) on the eastern side of the Mental Health building will be flood-free with a freeboard of 2.29 metres
- The proposed driveway (lowest design level 9.7 m AHD) on the western and northern sides of the Mental Health building will be flood-free with a freeboard of 0.99 metres
- The proposed access road (lowest design level 10.2 m AHD) to the lower ground level on the southern side of the Mental Health building will be flood-free with a freeboard of 1.49 metres.

The proposed ancillary development features will not be affected by the 100 year ARI local catchment flood with level 7.8 m AHD. The 100 year ARI flood level for local catchment flooding could encroach into the subject lot at the northern boundary to a depth of approximately 0.1 metres and will meet the proposed downstream toe (7.8 m AHD approx.) of the proposed bioretention basin embankment. The low-level outlet pipe of the proposed bioretention basin may be subject to backwater in this event (design in progress at time of report).

The proposed ancillary development features are considered appropriate in the context of flood levels and characteristics.

3.5.3.3 Access and evacuation

The Maitland City Flood Emergency Sub Plan (NSW SES, 2022) states that the evacuation routes are readily available for the East Maitland – Tenambit sector, which is where the proposed development is located.

Previous assessment for the New Maitland Hospital (Pitt & Sherry, 2018) stated that the hospital is accessible via Chelmsford Drive and Metford Road during flooding (taken to be from New England Highway). Access to the proposed Maitland Mental Health facility on the lot is to be via the existing Maitland Hospital access road from the roundabout at Metford Road/Fieldsend Street.

The vehicular evacuation route from Maitland Hospital is via the existing Maitland Hospital access road to Metford Road. The vehicular evacuation route from the proposed Maitland Mental Health facility would be via the proposed internal access road and the existing Maitland Hospital access road to Metford Road. Evacuation from the site can be achieved to the New England Highway to the south without travelling through flood waters in all events up to and including the PMF.

The extent of the 20 year ARI Hunter River flood is shown in the Hunter River Floodplain Risk Management Study and Plan (Maitland City Council, 2015) to impact Raymond Terrace Road, which is accessed via Metford Road. Evacuation along this route may not be possible once flood water overtops the road. Evacuation from the facility must not be undertaken by driving through flood water.

4 Conclusion

This Flood Due Diligence Report has been undertaken for the proposed Maitland Mental Health Rehabilitation Project at 51 Metford Road, Metford, NSW 2323 (Lot 73 DP1256781).

From review of available flood studies and information, it was found that:

- the subject lot could be affected by inundation during the Probable Maximum Flood (PMF) of the Hunter River to a level of approximately 8.71 m AHD, however the proposed lower ground floor level of the Mental Health building of 10.80 m AHD provides a freeboard of approximately 2.09 metres to the PMF level
- the proposed development would be within the flood fringe area of the Hunter River PMF event (depths less than 1.5 m) and not within the flood storage area, therefore would not cause a loss of flood storage during the PMF
- proposed ancillary development features are assessed against the PMF level (Hunter River flood) with level 8.71 m AHD (in the absence of local catchment flooding) as follows:
  - the invert (8.2 m AHD approx.) of the proposed bioretention basin would be subject to backwater inundation to a depth of up to 0.51 metres in the Hunter River PMF event
  - the proposed carpark, driveway and access road of the Mental Health building will be flood-free in the Hunter River PMF event
- the Flood Planning Level (Hunter River flood) is 6.39 m AHD and does not affect the subject lot
- the 100 year ARI local catchment flood will not impact the proposed buildings, carpark, driveway and access road
- the proposed development incorporates a stormwater detention basin that attenuates peak discharge rates from the site to existing conditions peak discharge rates for storm events up to the 100 year ARI
- evacuation routes are readily available for the area and evacuation from the site can be achieved to the New England Highway to the south without travelling through flood waters in all events up to and including the PMF.

Based on the foregoing assessment, no further flood risk assessment is deemed necessary.

5 Mitigation measures

Review of the proposed development schematic design site layout and general arrangement drawings has not identified any mitigation measures for various project stages.

Project Stage ***Design (D)*** ***Construction (C)*** ***Operation (O)***	**Mitigation measures**	**Relevant Section of Report**
D, C, O	▪ None identified.	N/A

6 References

Ball J, Babister M, Nathan R, Weeks W, Weinmann E, Retallick M, Testoni I, (Editors). Australian Rainfall and Runoff: A Guide to Flood Estimation, © Commonwealth of Australia (Geoscience Australia), Version 4.2, 2019.

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Pitt & Sherry (2018). New Maitland Hospital Stage 1 (Concept Design and Early Works) Environmental Impact Statement. 7 June 2018. Revision 2. Prepared for Health Infrastructure.

[1]TTW (2024). Civil, Flood and Integrated Water Management Plan Maitland Mental Health Rehabilitation Project. 26 July 2024.

[2]TTW (2024). Siteworks plan by TTW (Drawing No. TTW-CIV-DWG-MH-130 Prev P3 dated 22.11.24).

Appendix A Site survey

SURVEY INFORMATION

1. DATE OF SURVEY: 28/11/2022 – 02/02/2023
2. THE SURVEY IS ON GROUND CO–ORDINATES.

   –THE ORIGIN OF CO–ORDINATES IS SSM 45994
   MGA CO–ORDINATES
   E 368921.526 N 6374350.406
   (GDA 2020) (ZONE 56)
   –SOURCE OF CO–ORDINATES: SCIMS
   –DATE 09/12/2022
3. ALL REDUCED LEVELS ARE ON AUSTRALIAN HEIGHT DATUM (A.H.D)

   –ORIGIN OF LEVELS SSM 45994, RL20.624
   –SOURCE OF REDUCED LEVELS: SCIMS
   –DATE OF REDUCED LEVELS 09/12/2022
4. CONTOUR INTERVAL IS 0.2m.
5. MGA AND ISG CO–ORDINATE SYSTEMS ARE BASED ON A MATHEMATICAL EARTH MODEL AND SUBJECT TO VARIABLE SCALE FACTORS. DISTANCES CALCULATED FROM CO–ORDINATES MAY VARY SIGNIFICANTLY FROM GROUND MEASUREMENTS. IF FURTHER CLARIFICATION IS REQUIRED CONTACT MONTEATH AND POWYS.

IMPORTANT NOTES

1. THIS SURVEY IS A PARTIAL SURVEY OF MAITLAND HOSPITAL AND SURROUNDS. SEE NOTES ON PLAN – SOME AREAS ARE SHOWN AS LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST IN THESE AREAS THAT WERE NOT LOCATED.
2. THE LEVELS AND CONTOURS SHOWN IN THE AREAS MARKED BY A CLOUD ARE BASED ON AERIAL LIDAR BY AEROMETREX FLOWN ON 22/04/2021. THE ESTIMATED VERTICAL ACCURACY IS ±0.1m AND ESTIMATED HORIZONTAL ACCURACY IS ±0.3m. THIS DATA MAY NO LONGER BE CURRENT.
3. THE BOUNDARIES SHOWN IN RED ON THIS PLAN ARE BASED ON OUR FIELD SURVEY. TO FORMALISE THESE DIMENSIONS, WE WOULD RECOMMEND THE PREPARATION OF A REDEFINITION PLAN, SUITABLE FOR LODGEMENT AND REGISTRATION WITH NSW LAND REGISTRY SERVICES.
4. THE BOUNDARIES SHOWN IN BLUE ON THIS PLAN ARE BASED ON INFORMATION DERIVED FROM NSW SPATIAL SERVICES– DIGITAL CADASTRAL DATABASE (DCDB). NO FIELD SURVEY HAS BEEN UNDERTAKEN TO DETERMINE THE ACCURACY OF THE BOUNDARIES AS SHOWN.
5. THIS PLAN SHOULD NOT BE USED FOR BUILDING WORKS CLOSE TO OR ON THE BOUNDARY, OR TO PROSCRIBED SET–BACKS WITHOUT FURTHER SURVEY INVESTIGATION.
6. CRITICAL LEVELS (E.G. FLOOR LEVELS) AND CRITICAL LOCATIONS (E.G. STRUCTURES) THAT HAVE NOT BEEN SHOWN MUST BE VERIFIED BY FURTHER SURVEY PRIOR TO FINAL DESIGN.
7. NO EXCAVATIONS HAVE BEEN MADE TO DETERMINE THE EXTENT TO WHICH ANY SUBJECT WALLS, FOUNDATIONS OR FOOTINGS MAY ENCROACH UPON ADJOINING LAND.
8. NO EXCAVATIONS HAVE BEEN MADE TO DETERMINE THE EXTENT TO WHICH ANY ADJOINING WALLS, FOUNDATIONS OR FOOTINGS MAY ENCROACH UPON SUBJECT LAND.
9. CONTOURS SHOWN DEPICT THE TOPOGRAPHY. CONTOURS DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT, EXCEPT AT SPOT LEVELS SHOWN.
10. THIS PLAN MUST REMAIN UNALTERED AS ISSUED BY MONTEATH & POWYS. ALTERING ANY PART OF THIS PLAN DESTROYS THE INTEGRITY OF THE PLAN. ANY REVISIONS REQUESTED MUST BE ISSUED BY MONTEATH & POWYS.
11. THESE NOTES ARE AN INTEGRAL PART OF THIS PLAN. REPRODUCTION OF THIS PLAN OR OF ANY PART OF THIS PLAN, WITHOUT THESE NOTES BEING INCLUDED IN FULL, WILL RENDER THE INFORMATION SHOWN ON SUCH REPRODUCTION INVALID AND NOT SUITABLE FOR USE.

LEGEND

225ø PVC	PIPE DIAMETER & PVC PIPE TYPE
300ø RCP	PIPE DIAMETER & REINFORCED CONCRETE PIPE TYPE
300ø CONC	PIPE DIAMETER & CONCRETE PIPE TYPE
X.XX	DEPTH FROM SURFACE LEVEL SERVICE
X.XX	LEVEL ON OVERHEAD POWERLINES
X.XX	LIDAR POINT RL
UTL	UNABLE TO LIFT
CU	CONTINUATION UNKNOWN

LINE TYPES

- DRAIN PIPE
- DISH DRAIN
- OVERHEAD ELECTRICITY CABLE
- FENCING
- RETAINING WALL
- EDGE OF CONCRETE
- TOP OF BANK
- TOE OF BANK
- CENTRELINE OF BITUMEN
- EDGE OF BITUMEN
- EDGE OF GRAVEL
- SUBJECT CADASTRAL BOUNDARY
- DCDB CADASTRAL BOUNDARY (NOT ACCURATE)
- EXTENT OF LIDAR DATA (LIMITED ACCURACY)
- ARROW STRAIGHT AND LEFT
- ARROW STRAIGHT AND RIGHT
- ARROW LEFT TURN
- ARROW RIGHT TURN
- ARROW STRAIGHT AHEAD
- ROAD SEPARATION LINE
- PEDESTRIAN CROSSING ZIG ZAG
- PEDESTRIAN CROSSING SIGNALS
- LANE DIVIDER
- GIVEAWAY TURN MARKING
- DRAGON TEETH MARKINGS
- CENTRE LINE MARKING
- DOUBLE BARRIER MARKING
- CONTINUITY LINE
- CLEAR WAY
- CHEVRON MARKING
- BARRIER AND SEPARATION MARKING
- PEDESTRIAN CROSSING MARKING

SERVICES LINE TYPES

- DRAINAGE LINE CLASS A
- DRAINAGE LINE CLASS B
- DRAINAGE LINE CLASS C
- DRAINAGE LINE CLASS D
- UNDERGROUND ELECTRICAL CABLE CLASS A
- UNDERGROUND ELECTRICAL CABLE CLASS B
- UNDERGROUND ELECTRICAL CABLE CLASS C
- UNDERGROUND ELECTRICAL CABLE CLASS D
- UNDERGROUND TELECOMMUNICATIONS CABLE CLASS A
- UNDERGROUND TELECOMMUNICATIONS CABLE CLASS B
- UNDERGROUND TELECOMMUNICATIONS CABLE CLASS C
- UNDERGROUND TELECOMMUNICATIONS CABLE CLASS D
- FIBRE OPTIC CABLE CLASS A
- FIBRE OPTIC CABLE CLASS B
- FIBRE OPTIC CABLE CLASS C
- FIBRE OPTIC CABLE CLASS D
- GAS MAIN CLASS A
- GAS MAIN CLASS B
- GAS MAIN CLASS C
- GAS MAIN CLASS D
- SEWER MAIN CLASS A
- SEWER MAIN CLASS B
- SEWER MAIN CLASS C
- SEWER MAIN CLASS D
- WATER MAIN CLASS A
- WATER MAIN CLASS B
- WATER MAIN CLASS C
- WATER MAIN CLASS D
- WATER MAIN – FIRE SERVICE CLASS A
- WATER MAIN – FIRE SERVICE CLASS B
- WATER MAIN – FIRE SERVICE CLASS C
- WATER MAIN – FIRE SERVICE CLASS D

SYMBOLOGY

- INV–/OBVERT LEVEL
- STORM WATER MAN HOLE
- DRAINAGE PIT
- ELECTRICAL PIT
- ELECTRICAL POWER POLE W/LIGHT
- LIGHT POLE
- ELECTRICAL CABLE MARKER
- ELECTRICAL PILLAR
- STAY POLE
- WATER METER
- WATER HYDRANT
- STOP VALVE
- WATER TAP
- WATER PIT
- TELSTRA PIT
- COMMUNICATION CABLE MARKER
- COMMUNICATION PIT
- COMMUNICATION PILLAR
- SECURITY CAMERA
- SEWER MAN HOLE
- SEWER PIT
- SEWER INSPECTION POINT
- SEWER VENT
- GAS METER
- GAS PIPE MARKER
- GAS PIT
- DOWN PIPE
- COLUMN
- MAIL BOX
- FLOOR LEVEL
- ROAD SIGN
- TRAFFIC LIGHT
- TRAFFIC LIGHT CONTROL BOX
- BOLLARD
- CLOTHES LINE
- DISABLED LINE MARKING
- BIKE LANE MARKING

IMPORTANT SERVICE NOTES

1. THE EXTENT OF THE SERVICES LOCATING SCOPE IS LIMITED AND DOES NOT COVER THE FULL SITE. SERVICES INTERNAL TO THE BUILDING HAVE NOT BEEN LOCATED IN THIS SURVEY.
2. THE POSITION OF SERVICES LOCATED BY ACCREDITED SERVICES CONTRACTOR USING CONDUCTIVE TRACING TECHNIQUES ARE RECORDED ON THIS PLAN. IN THE CAD MODEL INFORMATION BY THE SERVICE LOCATOR IS FOUND ON LAYER NAMES WITH THE PREFIX "SERVICES". MONTEATH & POWYS ARE UNABLE TO VERIFY THE ACCURACY OF THESE LOCATIONS AND ADVISE THE REQUIREMENT FOR POSITIVE IDENTIFICATION PRIOR TO EXCAVATION OR CONSTRUCTION IN THEIR VICINITY.
3. THIS PLAN SHOWS A REPRESENTATION OF THE DWG MODEL. THIS MODEL SHOULD BE VIEWED IN A CAD ENVIRONMENT TO INTERPRET THE INFORMATION.
4. THIS PLAN HAS BEEN DRAWN TO SCALE, AND ANY REPRODUCTION OF THIS PLAN MUST BE DRAWN IN COLOUR AND AT THIS SCALE TO ENSURE THAT ALL RELEVANT NOTES AND ENHANCEMENTS ARE SHOWN.
5. THE SERVICES SHOWN IN THIS PLAN HAVE POINT CROSSES WITH ATTRIBUTES. THE ATTRIBUTES CONTAIN INFORMATION RELATED TO THE SERVICE BEING LOCATED. IF USING AUTOCAD, THESE ATTRIBUTES CAN BE TURNED ON OR OFF USING THE ATTDISP COMMAND. ALSO CLICKING ON THE POINT CROSS AND VIEWING THE PROPERTIES OF THAT POINT CROSS WILL LIST THE ATTRIBUTES.
6. SUBTERRANEAN UTILITIES SHOWN ON THIS PLAN ARE CURRENT AT THE TIME OF SURVEY ONLY.
7. NOT ALL SERVICE INFORMATION MAY BE SHOWN DUE TO UNAVAILABILITY OF SERVICE PLANS OR CURRENT INFORMATION.
8. UNLESS OTHERWISE NOTED, DEPTHS INDICATED FOR SERVICES LOCATED BY GPR METHODS ARE TO TOP OF SERVICE. FOR SERVICES LOCATED BY ELECTROMAGNETIC METHOD DEPTHS ARE TO CENTRE OF SERVICES. EXCEPTIONS TO THIS ARE SEWER AND STORMWATER WHICH DEPTHS ARE TO INVERT OF SERVICE. ANY DEPTHS OF SERVICES FROM INDUCTIVE TRACING WHICH ARE INDICATED ON THIS PLAN ARE INDICATIVE ONLY AND SHOULD BE VERIFIED BY POTHOLING IF CRITICAL TO DESIGN. SEE "SERVICES INFORMATION" NOTES ABOUT CLASS LABELLING
9. ADDITIONAL SUBTERRANEAN UTILITIES MAY EXIST WHICH WERE UNABLE TO BE IDENTIFIED AND/OR TRACED AT THE TIME OF SURVEY. REDUNDANT UTILITIES MAY BE PRESENT ON SITE WHICH ARE UNABLE TO BE TRACED. POSITIVE IDENTIFICATION IS REQUIRED PRIOR TO ANY EXCAVATION OR DESIGN.
10. PVC AND POLYPIPES MAY EXIST. IF TRACE WIRES ARE NOT PRESENT THESE UTILITIES ARE UNABLE TO BE TRACED.
11. WATER MAIN AND FIRE WATER SERVICES UTILITIES WERE UNABLE TO BE TRACED THE FULL EXTENT. EXTERNAL WAE DATA HAS BEEN USED TO INDICATE THE PRESENCE OF THESE UTILITIES. MONTEATH & POWYS ARE UNABLE TO VERIFY THE ACCURACY OF THESE LOCATIONS. THESE UTILITIES ARE SHOWN AS CLASS D QUALITY – SEE "SERVICES INFORMATION" NOTES ABOUT CLASS LABELLING.
12. THIS PLAN SHOULD NOT BE USED FOR EXCAVATION PURPOSES.
13. INDEPENDENT ENQUIRIES FOR UP–TO–DATE SERVICE LOCATIONS THROUGH THE RELEVANT AUTHORITIES MUST BE UNDERTAKEN PRIOR TO COMMENCEMENT OF ANY WORKS/EXCAVATION. EXACT SERVICE POSITIONS SHOULD BE ESTABLISHED BY APPROPRIATE MEANS. WE RECOMMEND PROFESSIONAL SERVICE LOCATORS.

SERVICES INFORMATION

SUBSURFACE UTILITY INFORMATION (SUI) AS5488. CLASS LABELLING OF UTILITY INFORMATION IS BASED ON A CLASSIFICATION CODE WHICH ALLOWS THE USER OF THIS INFORMATION TO UNDERSTAND CLEARLY HOW THE INFORMATION WAS COLLECTED AND THEN PLACE AN APPROPRIATE AMOUNT OF RELIANCE ON IT. PROJECT RISKS RELATED TO UNDERGROUND UTILITIES CAN THEN BE PROPERLY MANAGED.

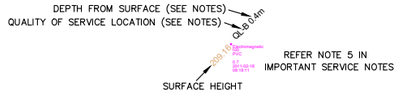
QL–A: INFORMATION IS THE HIGHEST POSSIBLE LEVEL OF ACCURACY AND IS OBTAINED BY EXPOSING THE UNDERGROUND UTILITY USING A NON–DESTRUCTIVE EXCAVATION (POT HOLING) TECHNIQUE. THE VERTICAL INFORMATION FOR THIS LOCATING METHOD IS TO THE TOP OR SHALLOWEST PART OF THE LOCATED SERVICE. THE 3D LOCATION IS RECORDED BY SURVEY AS AN X, Y, Z COORDINATE.

QL–B: INFORMATION IS COLLECTED BY DESIGNATING THE HORIZONTAL AND VERTICAL LOCATION OF UNDERGROUND UTILITIES BY USING ELECTROMAGNETIC PIPE AND CABLE LOCATORS, SONDES OR FLEXI–TRACE, GROUND PENETRATING RADAR AND ACOUSTIC PULSE EQUIPMENT. THIS IS THE MOST COMMON FORM OF UTILITY LOCATING AND ALTHOUGH AN X, Y AND Z AXIS CAN BE ESTABLISHED IT IS NOT ALWAYS ENTIRELY ACCURATE DUE TO DIFFERING ELECTROMAGNETIC FIELDS, SOIL CONDITIONS AND MULTIPLE BANKS OF CABLES AFFECTING THE LOCATING SIGNAL.

QL–C: INFORMATION IS COLLECTED BY CORRELATING THE SURVEY OF VISIBLE UTILITY SURFACE FEATURES SUCH AS MARKER PLATES OR WATER HYDRANTS AND ACQUIRED BEFORE–YOU–DIG–AUSTRALIA PLANS TO "DRAW" A STRING WHICH SHOWS THE APPROXIMATE POSITION OF SERVICES. THIS METHOD DOES NOT USUALLY SHOW MULTIPLE BANKS OF CABLES AND DOES NOT ALWAYS SHOW THREE DIMENSIONAL INFORMATION. ELECTRONICALLY TRACED LOCATE MARKS WITH POOR SCRATCHY SIGNALS ARE REPRESENTED AS QL–C.

QL–D: INFORMATION IS THE MOST BASIC LEVEL OF UTILITY LOCATIONS USING ONLY INFORMATION BASED ON EXISTING BEFORE–YOU–DIG–AUSTRALIA PLANS AND BY MEASURING BOUNDARY OFFSETS ETC. THIS METHOD OF UTILITY LOCATIONS SHOULD ALWAYS BE TREATED AS AN INDICATION OF THE PRESENCE OF A SERVICE ONLY AND SHOULD NOT BE USED FOR DESIGN. GPR SCANS ARE ALSO REPRESENTED AS QL–D AS THE GPR IMAGE CANNOT BE CONFIRMED TO IT'S ORIGIN POINT. DEPTHS ON GPR SCAN MUST BE TREATED AS INDICATIVE ONLY.

TYPICAL SERVICE LOCATED POINT



REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

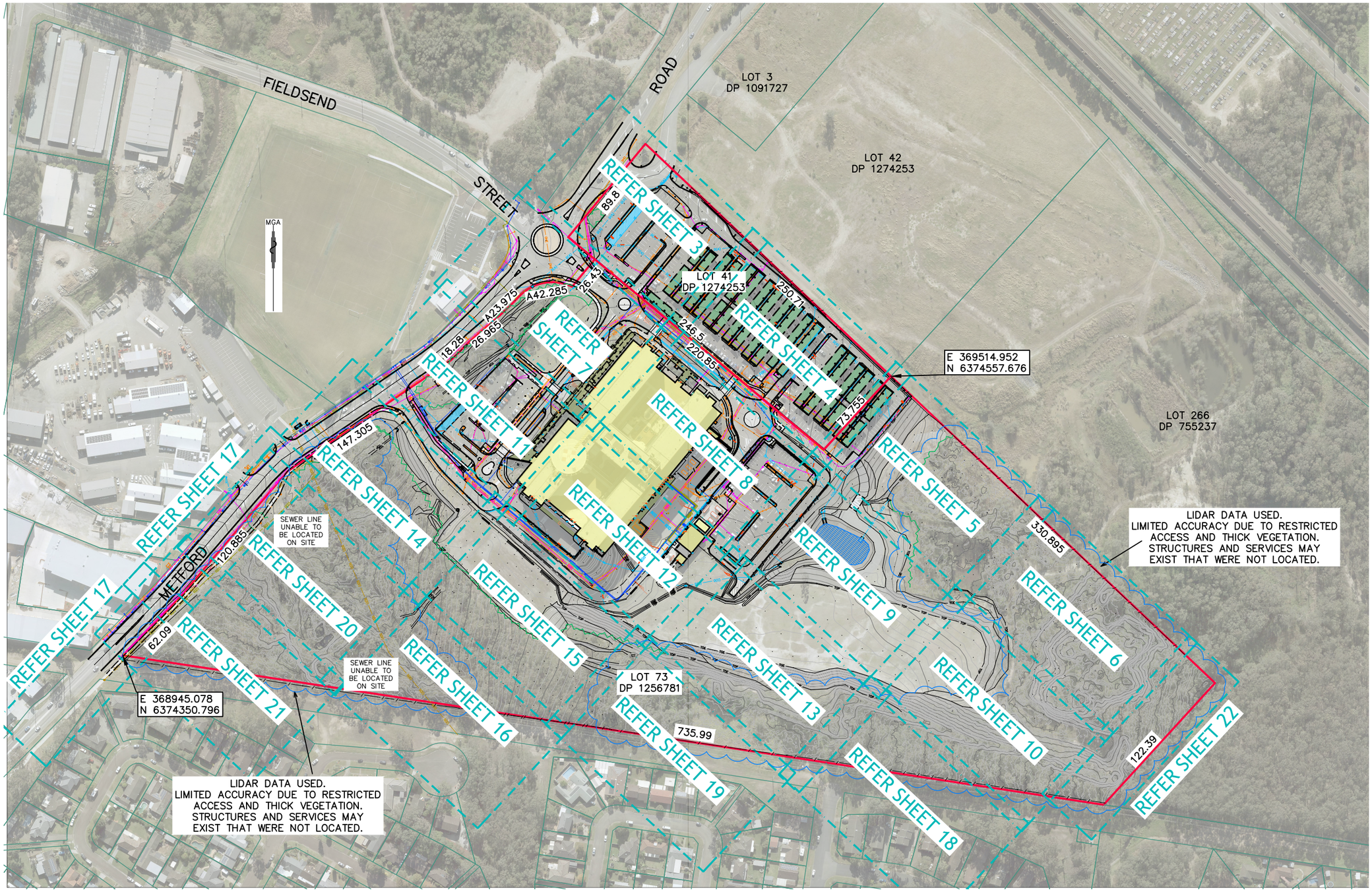
REGISTERED SURVEYOR
@A1 : N.T.S.
@A3 : N.T.S.
DO NOT SCALE
Original Size A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

Sheet No. 1/22
Revision 3



BEFORE YOU DIG www.byda.com.au

0 20 40 60 80 100m
REDUCTION RATIO – 1:1500 (A1)
REDUCTION RATIO – 1:3000 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
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M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:1500 @A3 : 1:3000	Original Size
DO NOT SCALE	A1

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Sheet No. 2 /22

Revision 3

0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

(CU) DENOTES CONTINUATION UNKNOWN

M&P

LOT 42
DP 1274253

LOT 41
DP 1274253

METFORD ROAD

UNDERGROUND STORMWATER CHAMBER

NO SUI INSIDE FENCED AREA

REFER SHEET 7

REFER SHEET 4

MGA

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
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1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200 @A3 : 1:400	Original Size
DO NOT SCALE	A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

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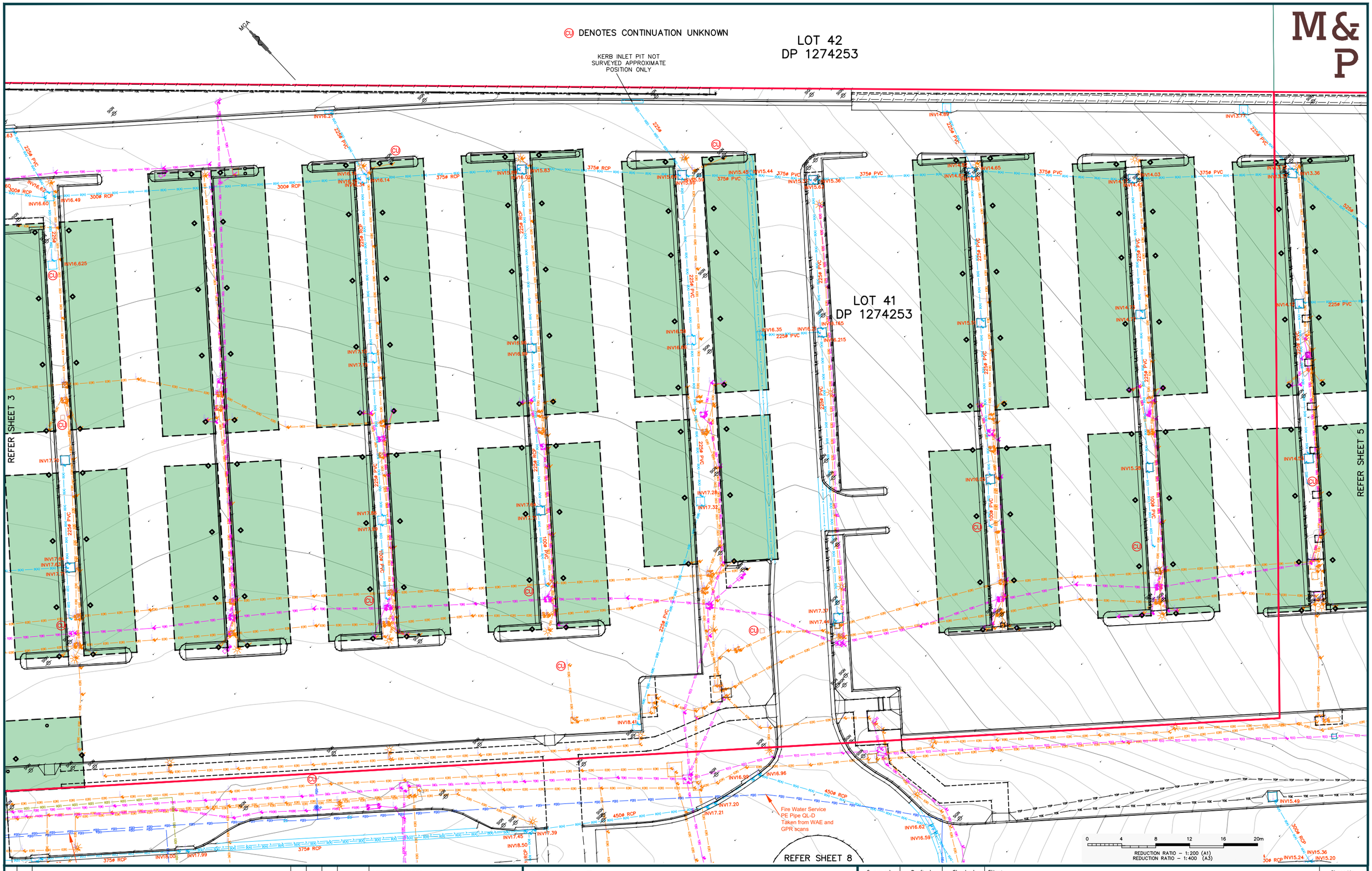
Sheet No. 3 /22

Revision 3



REVISIONS						
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No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size A1

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Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
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Sheet No. 4 /22

Revision 3

CU DENOTES CONTINUATION UNKNOWN

LOT 266
DP 755237

LOT 73
DP 1256781

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

REFER SHEET 4

REFER SHEET 6

REFER SHEET 9

0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
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No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size: A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
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CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

Sheet No. 5 /22

Revision 3

LOT 266
DP 755237

MGA

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

LOT 73
DP 1256781

REFER SHEET 5

REFER SHEET 22

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

REFER SHEET 10

0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS

No	REVISION	SVY	DFT	CHK	DATE
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ISO 14001 Environmental Management EMS 709938
ISO 45001 Occupational Health and Safety Management OHS 709944

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

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METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

Sheet No. 6 /22

Revision 3

M&P

REFER SHEET 3

ROAD

METFORD

LOT 73
DP 1256781

GRASS AREA

DRAINAGE PIT NOT SURVEYED APPROXIMATE POSITION ONLY

NO SUI INSIDE FENCED AREA

Fire Water Service PE Pipe QL-D Taken from WAE and GPR scans

Fire Water Service PE Pipe QL-D Taken from WAE and GPR scans

Fire Water Service PE Pipe QL-D Taken from WAE and GPR scans

REFER SHEET 11

REFER SHEET 8

CU DENOTES CONTINUATION UNKNOWN

0 4 8 12 16 20m
REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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ISO 45001 Occupational Health and Safety Management OHS 709944
NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

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Revision 3

REFER SHEET 4

REFER SHEET 7

REFER SHEET 9

REFER SHEET 12

LOT 73
DP 1256781

CU DENOTES CONTINUATION UNKNOWN

Fire Water Service
PE Pipe QL-D
Taken from WAE and
GPR scans

Gas Main
QL-D

SUBSTATION

SUBSTATION

SUBSTATION

NO SUI INSIDE FENCED AREA FENCED – UNKNOWN SERVICE STRUCTURES

NO SUI INSIDE FENCED AREA

UNABLE TO LIFT

MGA

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size
A1

Client
CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title
DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

Sheet No.
8 /22

Revision
3

REFER SHEET 5

REFER SHEET 8

REFER SHEET 10

REFER SHEET 13

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

MGA

LOT 73
DP 1256781

CU DENOTES CONTINUATION UNKNOWN

UNABLE TO LIFT

Unable to lift pit

0 4 8 12 16 20m
REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200 @A3 : 1:400	Original Size
DO NOT SCALE	A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

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Revision 3

REFER SHEET 6

REFER SHEET 9

REFER SHEET 22

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

MGA

LOT 73
DP 1256781

(C) DENOTES CONTINUATION UNKNOWN

ADJOINING POWERLINES
NOT LOCATED

REFER SHEET 18

0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS

No	REVISION	SVY	DFT	CHK	DATE
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23

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NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size: A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

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Revision 3

M&P

MGA

0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

CU DENOTES CONTINUATION UNKNOWN

REFER SHEET 7

REFER SHEET 12

REFER SHEET 14

ROAD

METFORD

BIKE STORAGE

LOT 73
DP 1256781

DRAINAGE PIT NOT SURVEYED APPROXIMATE POSITION ONLY

Fire Water Service
PE Pipe QL-D
Taken from WAE and GPR scans

Fire Water Service
PE Pipe QL-D
Taken from WAE and GPR scans

QL-C in this small segment

Underground Storm Water chamber

Water Main
PE Pipe QL-D
Taken from WAE and GPR

INV15.55
INV15.50
INV15.74
INV15.38
INV15.32
INV14.12
INV14.15
INV14.08
INV14.25
INV14.00
INV13.27
INV13.20
INV13.25
INV14.49
INV18.09
INV17.81
INV17.74
INV16.95
INV18.31
INV16.96
INV18.61
INV18.64
INV16.59
INV16.61
INV18.16
INV18.24
INV14.30
INV18.10
INV18.52
FFL20.31
FFL20.28
FFL20.29
FFL20.27

375ø RCP
100ø PVC
600ø RCP
900ø RCP
300ø RCP
300ø PVC
150ø PVC
225ø PVC

REVISIONS

No	REVISION	SVY	DFT	CHK	DATE
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
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METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

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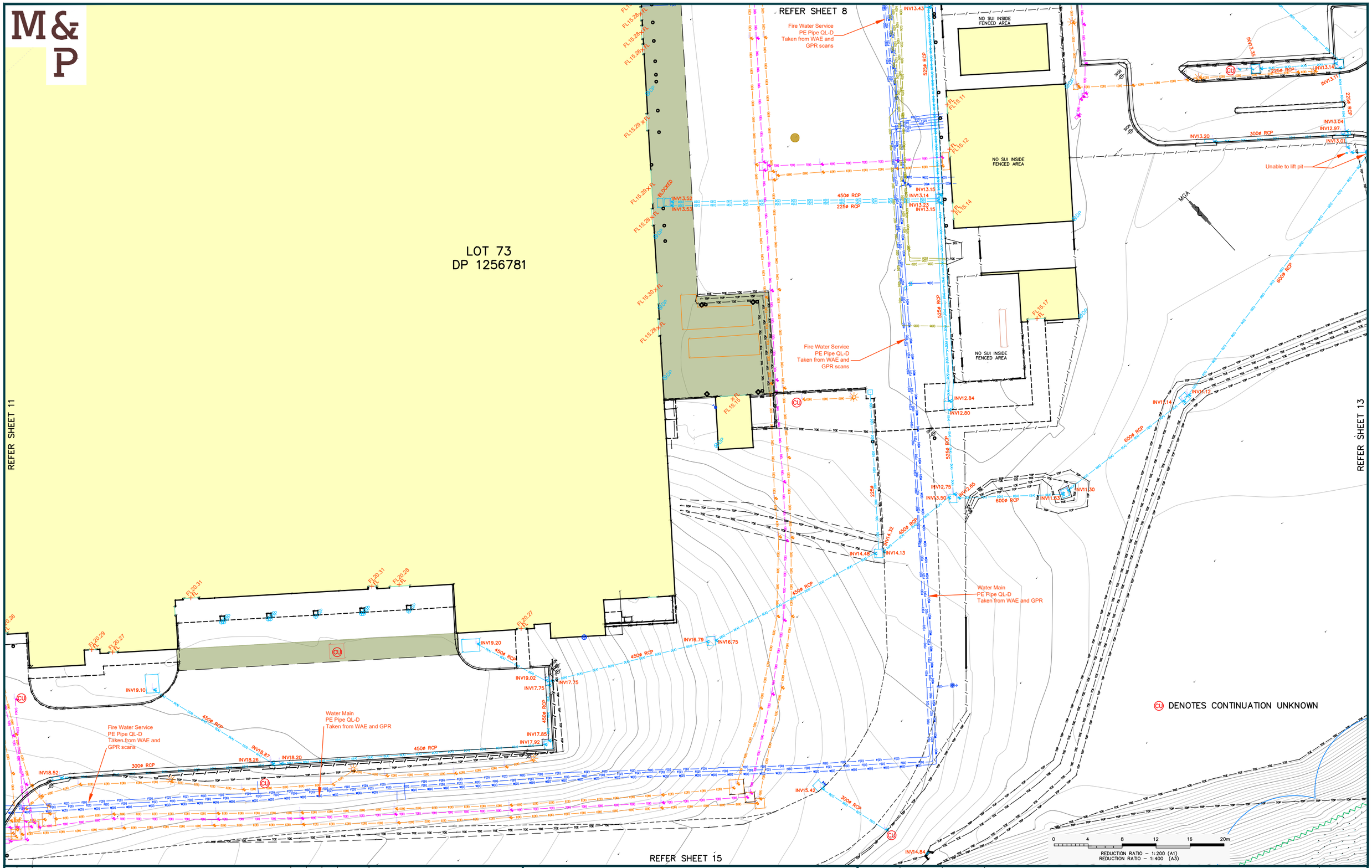
Revision 3



REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
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No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size: A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

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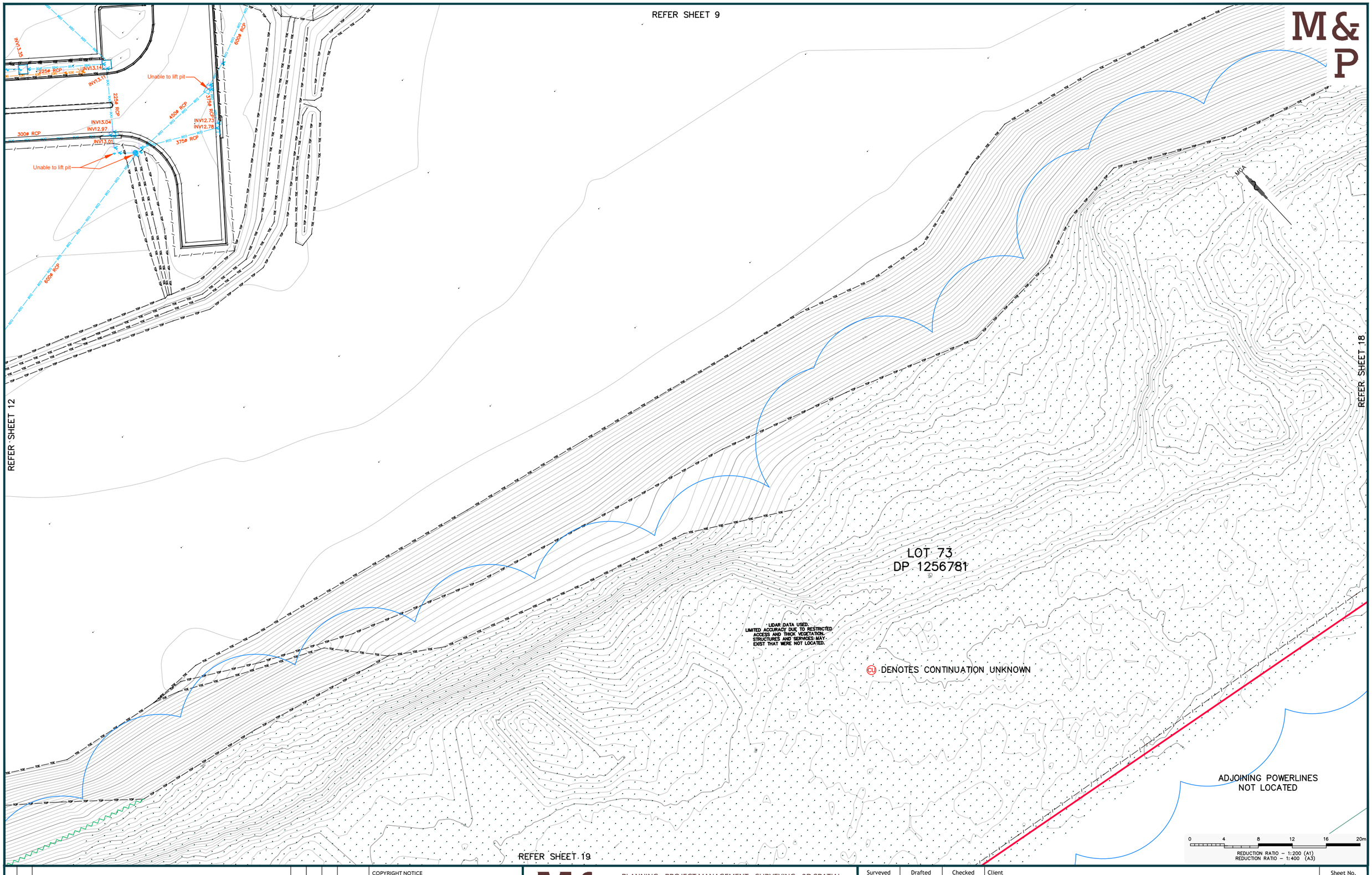

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
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No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200 @A3 : 1:400	Original Size
DO NOT SCALE	A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

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Revision 3

M&P

REFER SHEET 11

ROAD

METFORD

Water Main
PE Pipe OLD
Taken from WAE and GPR

UNIDENTIFIED PIT

LOT 73
DP 1256781

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

SEWER LINE UNABLE TO BE LOCATED ON SITE.

CU DENOTES CONTINUATION UNKNOWN

REFER SHEET 15

REFER SHEET 17

REFER SHEET 20

0 4 8 12 16 20m
REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS	No	REVISION	SVY	DFT	CHK	DATE
	3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
	2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
	1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200 @A3 : 1:400	Original Size
DO NOT SCALE	A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

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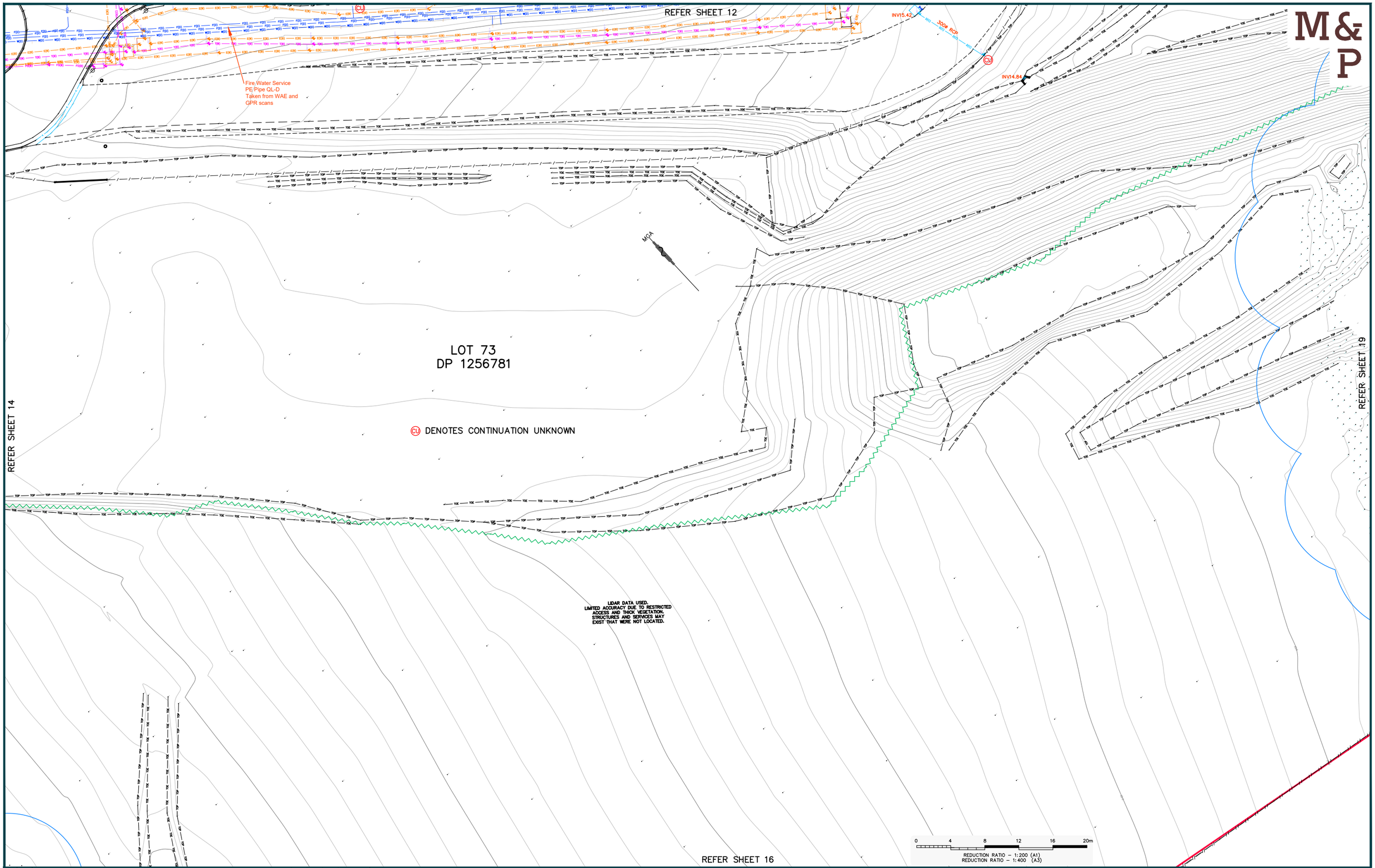
Revision 3



REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200 @A3 : 1:400	Original Size
DO NOT SCALE	A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

Sheet No. 15 /22

Revision 3

REFER SHEET 15

REFER SHEET 20

LOT 73
DP 1256781

SEWER LINE UNABLE TO BE LOCATED ON SITE

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

(DU) DENOTES CONTINUATION UNKNOWN

ADJOINING POWERLINES NOT LOCATED

MGA

LOT 159
DP 243854

TENNYSON STREET

REFER SHEET 21

0 4 8 12 16 20m
REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

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Revision 3

LOT 1
DP 1271463

LOT 265
DP 755237

MGA

SUBSTATION

225dia PVC

INV14.51

METFORD ROAD

REFER BELOW

REFER SHEET 14

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

LOT 73
DP 1256781

REFER SHEET 20

CU DENOTES CONTINUATION UNKNOWN

MGA

LOT 1
DP 1271463

METFORD ROAD

REFER ABOVE

ADJOINING POWERLINES
NOT LOCATED

LOT 73
DP 1256781

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION. STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

REFER SHEET 21

0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
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1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size
A1

Client
CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title
DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

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Sheet No.
17 /22

Revision
3

REFER SHEET 10

REFER SHEET 13

LOT 73
DP 1256781

MGA

MGA

LIDAR DATA USED.
LIMITED ACCURACY, DUE TO RESTRICTED ACCESS AND THICK VEGETATION, STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

ADJOINING POWERLINES
NOT LOCATED

STRADBROKE AVENUE

0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
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1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size
A1

Client
CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title
DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

Sheet No.
18 /22

Revision
3

REFER SHEET 13

LOT 73
DP 1256781

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION, STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

ADJOINING POWERLINES
NOT LOCATED

MGA

FOVEAUX CRESCENT

REFER SHEET 15

REFER SHEET 16

0 4 8 12 16 20m
REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
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No	REVISION	SVY	DFT	CHK	DATE

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NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size
A1

Client
CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title
DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

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Sheet No.
19 /22

Revision
3

REFER SHEET 14

Fire Water Service
PE Pipe QL-D
Taken from WAE and
GPR scans

MGA

REFER SHEET 17

ROAD

LOT 73
DP 1256781

C4 DENOTES CONTINUATION UNKNOWN

LIDAR DATA USED.
LIMITED ACCURACY DUE TO RESTRICTED ACCESS AND THICK VEGETATION.
STRUCTURES AND SERVICES MAY EXIST THAT WERE NOT LOCATED.

REFER SHEET 16

REFER SHEET 21

0 4 8 12 16 20m
REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

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NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
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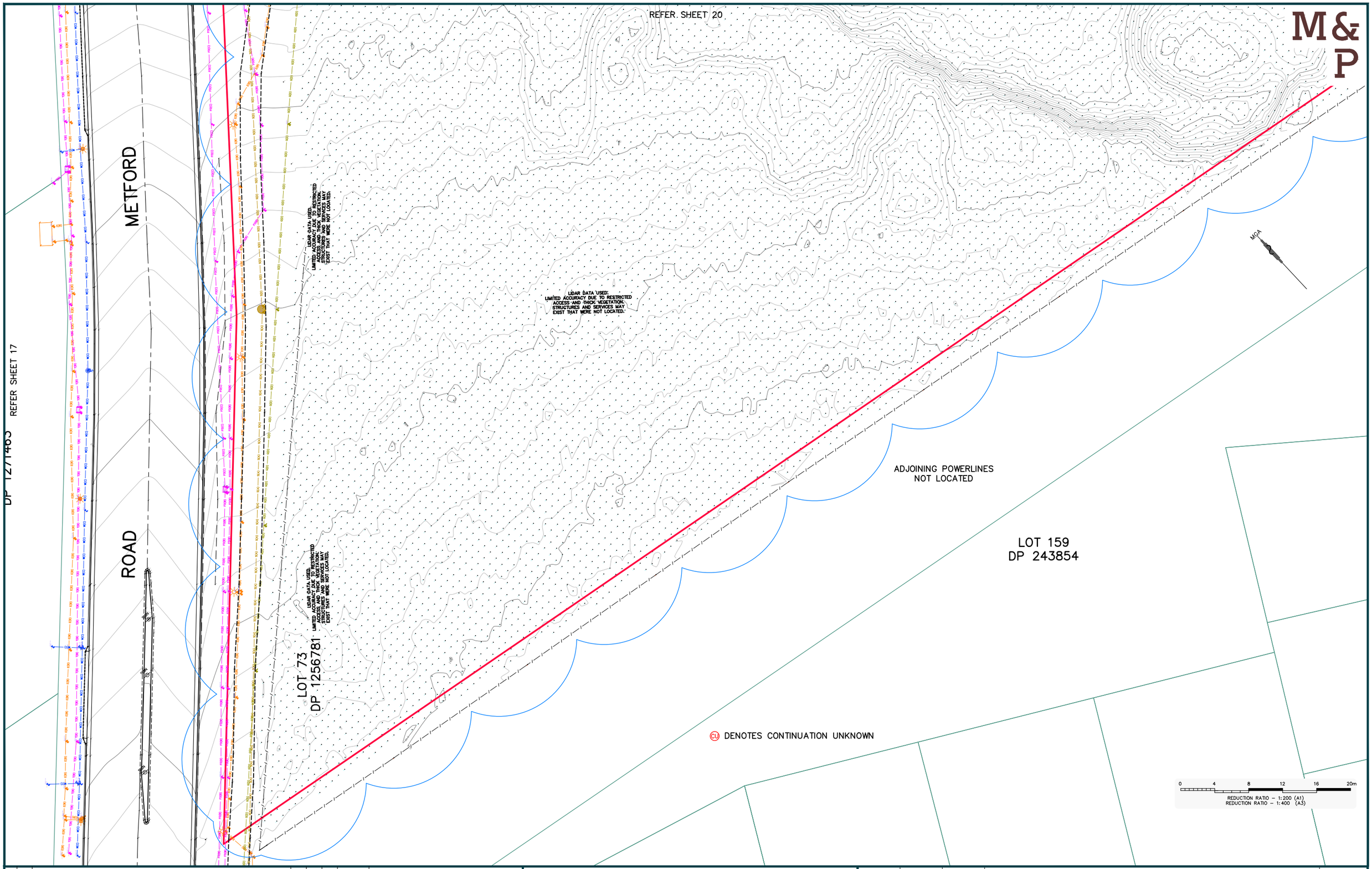
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

Sheet No. 20 /22

Revision 3



REVISIONS

No	REVISION	SVY	DFT	CHK	DATE
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23

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NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200 @A3 : 1:400	Original Size
DO NOT SCALE	A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

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METFORD ROAD, METFORD

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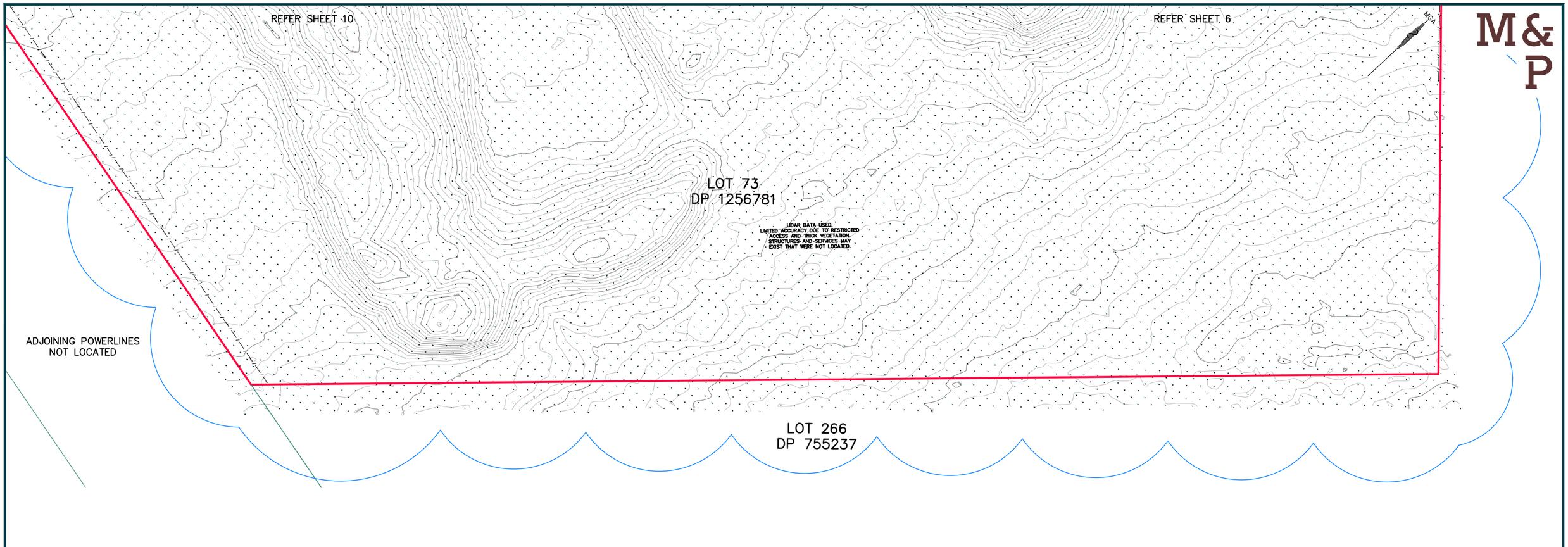
Sheet No. 21/22

Revision 3



0 4 8 12 16 20m

REDUCTION RATIO – 1:200 (A1)
REDUCTION RATIO – 1:400 (A3)

REVISIONS						
3	AMENDMENTS MADE TO THE DRAINAGE SERVICES	M&P	CK	MR	20/04/23
2	ADDITIONAL DETAIL ADDED	M&P	MAK	BJB	04/04/23
1	ISSUE TO CLIENT	M&P	MAK	BJB	21/02/23
No	REVISION	SVY	DFT	CHK	DATE

Monteath & Powys

PLANNING PROJECT MANAGEMENT SURVEYING 3D SPATIAL

monteathpowys.com.au
P (02) 4926 1388

NEWCASTLE SYDNEY GUNNEDAH MUSWELLBROOK

ISO 9001 Quality Management NEWCASTLE FS 559134
ISO 14001 Environmental Management EMS 709938
ISO 45001 Occupational Health and Safety Management OHS 709944

Surveyed	Drafted	Checked
M&P	MAK	MR

REGISTERED SURVEYOR

@A1 : 1:200
@A3 : 1:400

DO NOT SCALE

Original Size: A1

Client: CBRE - MAITLAND MENTAL & COMMUNITY HEALTH

Title: DETAIL SURVEY OF LOT 73 DP 1256781 & LOT 41 DP 1274253
MAITLAND HOSPITAL & SURROUNDS
METFORD ROAD, METFORD

CAD File: 220347B_03 | Ref No: 22/0347 | Date: 09/01/2023

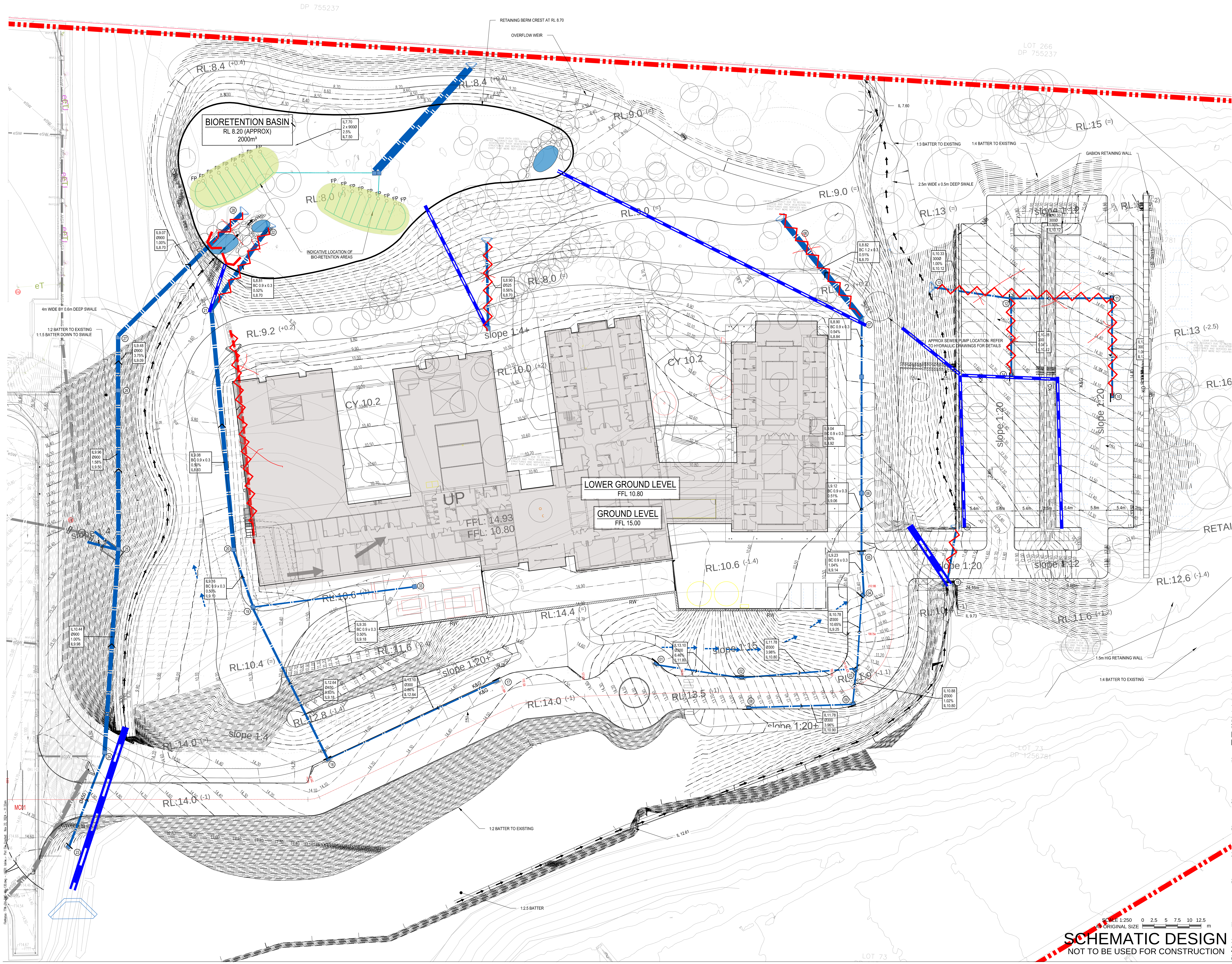
Sheet No. 22 /22

Revision 3

Appendix B Proposed development schematic design

- Siteworks plan by TTW (Drawing No. TTW-CIV-DWG-MH-130 Prev P3 dated 22.11.24).

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT NOTES ON DRAWING C01



× F22.20	FINISHED SURFACE LEVEL
22.50	MAJOR FINISHED SURFACE CONTOUR 0.5m INTERVAL
22.10	MINOR FINISHED SURFACE CONTOUR 0.1m INTERVAL
KG	KERB AND GUTTER
KO	KERB ONLY
FK	FLUSH KERB
DD	DISH DRAIN
IK	INTEGRAL KERB
KT	KERB AND TOE
VC	VEHICULAR CROSSING
	PEDESTRIAN KERB RAMP
CKG	CASTELLATED KERB & GUTTER
TE	THICKENED EDGE
	TAPER KERB TO ZERO HEIGHT OVER 1.0m
	TREE PROTECTION ZONE
	STRUCTURAL ROOT ZONE

SCALE 1:250 0 2.5 5 7.5 10 12.5 m
@ ORIGINAL SIZE

SCHEMATIC DESIGN
NOT TO BE USED FOR CONSTRUCTION

Rev	Description	Eng	Draft	Date
P3	SCHEMATIC DESIGN	AH	LW	22.11.24
P2	SCHEMATIC DESIGN	AH	LW	30.08.24
P1	SCHEMATIC DESIGN	AH	LW	07.06.24

Project
MAITLAND HEALTH CAMPUS PROJECT

Sheet Subject
SITEWORKS PLAN

Client
NSW Government Health Infrastructure

Project Manager
Turner & Townsend

Architect
BATESSMART

Engineer
TTW Structural Civil Traffic Façade
612 9439 7288 | Level 6, 73 Miller Street, North Sydney, NSW 2060

Scale : A0	Drawn	Authorised
1:250	LW	

Job No	Drawing No	Revision
221372	TTW-CIV-DWG-MH-130	P3

Plot File Created: Nov 22, 2024 - 11:32am

Appendix C Maitland LEP 2011 Flood planning clauses

5.21 Flood planning

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

(a) to minimise the flood risk to life and property associated with the use of land,

(b) to allow development on land that is compatible with the flood function and behaviour on the land, taking into account projected changes as a result of climate change,

(c) to avoid adverse or cumulative impacts on flood behaviour and the environment,

(d) to enable the safe occupation and efficient evacuation of people in the event of a flood.

(2) Development consent must not be granted to development on land the consent authority considers to be within the flood planning area unless the consent authority is satisfied the development—

(a) is compatible with the flood function and behaviour on the land, and

(b) will not adversely affect flood behaviour in a way that results in detrimental increases in the potential flood affectation of other development or properties, and

(c) will not adversely affect the safe occupation and efficient evacuation of people or exceed the capacity of existing evacuation routes for the surrounding area in the event of a flood, and

(d) incorporates appropriate measures to manage risk to life in the event of a flood, and

(e) will not adversely affect the environment or cause avoidable erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.

(3) In deciding whether to grant development consent on land to which this clause applies, the consent authority must consider the following matters—

(a) the impact of the development on projected changes to flood behaviour as a result of climate change,

(b) the intended design and scale of buildings resulting from the development,

(c) whether the development incorporates measures to minimise the risk to life and ensure the safe evacuation of people in the event of a flood,

(d) the potential to modify, relocate or remove buildings resulting from development if the surrounding area is impacted by flooding or coastal erosion.

(4) A word or expression used in this clause has the same meaning as it has in the Considering Flooding in Land Use Planning Guideline unless it is otherwise defined in this clause.

(5) In this clause—

Considering Flooding in Land Use Planning Guideline means the *Considering Flooding in Land Use Planning Guideline* published on the Department's website on 14 July 2021.

flood planning area has the same meaning as it has in the Flood Risk Management Manual.

Flood Risk Management Manual means the *Flood Risk Management Manual*, ISBN 978-1-923076-17-4, published by the NSW Government in June 2023.

5.22 Special flood considerations

[Not adopted]