

Stormwater Management Report

Proposed Commercial Development

125 Myall Road
Cooroy

For: Fabcot Pty Ltd

22 May 2024

Ref: S23-142



A QUALITY ASSURED COMPANY

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This report has been prepared for Fabcot Pty Ltd for the purpose of accompanying a Development Application to Noosa Shire. This report must only be used by Fabcot Pty Ltd for this purpose and must not be used or relied upon by any other person for any other purpose.

The assessment, conclusions or recommendations in this report are based on conditions encountered and information received at the time of preparing the report and may not be relied upon as site conditions or operations vary over time.

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1 INTRODUCTION

Westera Partners Pty Ltd has been commissioned by Fabcot Pty Ltd to prepare a Stormwater Management Report to accompany a development application for a proposed commercial development.

The proposal involves a one into three lot subdivision and the construction of commercial buildings on two of the three lots. On one lot, a shopping centre, food and drink outlet, indoor sport and recreation, and health services will be located, and on the other lot will be a residential aged care facility. The proposed development also includes shared driveways and ground-level features. A second residential aged care facility is currently proposed over the third lot, however will be subject to further MCU application. The proposed development will have two shared access points and it is proposed to construct a new round about to achieve access from Myall Street with a second access point proposed from Ferrells Road.

This report documents how stormwater runoff will be managed on site in accordance with Noosa Shire Council's (NSC's) requirements.

2 SITE DESCRIPTION

2.1 Location and Land Use

The proposed development site is located at 125 Myall St, Cooroy, also known as Lot 4 on SP248479. The site area is approximately 6.659Ha and the proposed development footprint will occur over approximately 4.429Ha. The site is currently vacant, predominantly cleared with denser vegetation along then north and east boundaries. The site currently falls from the southwest corner and western boundary towards the eastern boundary of the site at a grade of approximately 5.1%.

The site is bound by Myall St to the north, Cooroy Connection Rd to the east, the Bruce Highway to the south and Ferrells Rd to the west, with urban residential development beyond Ferrells Rd. Also to note is that along the eastern and northern boundary is an Environmental Management and Conservative Zone where substantive development is not proposed (an access driveway to Myall Street is located in part of this zone). Refer to Figure 1 for an indicative site location and Appendix C for detailed site survey information.



Figure 1 – Indicative site location (Nearmap, 2024)

2.2 Existing Infrastructure

There is currently no stormwater infrastructure within the proposed development site. It is noted that located on the eastern boundary of the site is an open channel, which is within the Environmental Management and Conservative Zone. This channel collects stormwater from the site plus upstream catchment areas located on the southern side of the Bruce Highway and to the west. The channel and surrounding areas are then graded towards existing infrastructure, which crosses Myall St and discharges to a vegetated grassed area.

2.3 Lawful Point of Discharge

Stormwater drainage for the proposed development shall ensure no adverse impact on upstream, downstream, or adjoining properties. The existing site currently discharges stormwater to the open channel. The proposed lawful point of discharge for the development shall continue to be the open channel located within the zoned area with stormwater to continue to discharge to existing infrastructure as per current site conditions. The extent and profile of the channel located within the Environmental Management and Conservative Zone shall remain undisturbed as part of the development works.

2.4 Upstream Drainage Connection

The site does not have any upslope properties that would require a piped stormwater drainage connection through the subject site to achieve a lawful point of discharge. It is noted that nuisance overland flow currently reaches the development site from the verge of Ferrels Rd, and portions of overland flow reach the north boundary from Myall St. This nuisance flow shall be managed through the construction of cut-off drains and shall be directed to the channel on the eastern boundary respectively.

2.5 Flooding

As the site is impacted by flooding, Westera Partners Pty Ltd has prepared a separate Flood Impact Assessment Report for further information on how the extent of flooding will be managed on-site.

3 STORMWATER QUANTITY MANAGEMENT

The provision of stormwater detention for this development has been reviewed and in this instance it is not considered to be required. As noted previously the channel through the east portion of the site carries stormwater runoff from the external catchments to the west and south from the existing culverts under the Bruce Highway north to the existing culvert under Myall Street. Providing stormwater detention to offset the increase in peak flow off site to the existing Myall Street culvert would also result in the peak flow more closely coinciding with the peak flow from the surrounding catchment. This is considered to have an adverse impact on this culvert and would have potential to impact the passage of water north through the site which isn't considered to be an acceptable outcome with the proximity of the Bruce Highway. Refer to the engineering drawings contained in Appendix C for further information on proposed stormwater works for the development.

4 WATER QUALITY MANAGEMENT

4.1 Operational Phase

The proposed development must address the State Planning Policy (SPP 2017) as the development site area exceeds 2500m². The development shall ensure that environmental values of receiving waters downstream of the development are maintained or enhanced during the construction and operation of the development in accordance with State Legislation and Local Government requirements. The

development site falls would ordinarily be required to meet the SPP requirement for South-East Queensland (SEQ) pollutant load reduction objectives, however as the site falls into a mapped resource catchment the higher SEQ Water Development Guidelines pollutant load reduction (AO8.3) must be met. The required treatment thresholds are as follows:

- ≥ 85 % reduction in total suspended solids load (TSS)
- ≥ 65 % reduction in total phosphorus load (TP)
- ≥ 45 % reduction in total nitrogen load (TN)
- ≥ 95 % reduction in gross pollutant load

Pollutants typically generated during the operational phase of the development include:

- Litter/gross pollutants;
- Sediment;
- Nutrients (N & P);
- Hydrocarbons (oils and grease); and
- Heavy metals.

Stormwater treatment measures are shown on the attached stormwater management drawings and include:

- A bioretention basin is proposed to be constructed in each lot to treat stormwater prior to discharge
- ATLAN Stormsack 200 micron filter baskets – gross pollutant filter baskets shall be installed within field inlets on site to act as a primary treatment device for the removal of TSS, nutrients and hydrocarbons.

Stormwater modelling has been carried out using MUSIC modelling software to determine the required infrastructure needed to meet the Water Quality Objectives (WQO's) above.

4.2 MUSIC Model

MUSIC modelling for this development has been carried out using MUSIC Version 6.3 and rainfall data obtained from the pluviograph tool on the eWATER website for Cooroy Composite. The developed site catchment and treatment measure details included in the MUSIC model are outlined in Table 1.

As the development proposal is for one into three, each lot has been separated into individual catchments, with each proposed lot being treated via an on-site bioretention basin. As the residential aged care proposed for Lot 3 does not form part of this development application, no modelling has been undertaken. The Environmental Management and Conservative Zone, where no works are proposed, has also been excluded from the model as this area will generally remain unchanged by the proposal.

Table 1 – MUSIC model parameters

Description	Specification
Proposed Lot 1 - Supermarket, Carpark & Access Road from Ferrels Rd	
Assumed road catchment to all treatment	1.199 Ha (100% impervious)
Assumed roof catchment to bioretention basin	0.693 Ha (100% impervious)

Description	Specification
Assumed ground catchment to bioretention basin	0.347 Ha (38% impervious)
Number of modelled north ATLAN Stormsacks	10
Area of bioretention basin	120.0m ²
Area of Environmental and Conservative Zone not modelled	1.773 (100% pervious)
Proposed Lot 2 - Retirement Age Care Facility	
Assumed road catchment to all treatment	0.163 Ha (100% impervious)
Assumed roof catchment to bioretention basin	0.311 Ha (100% impervious)
Assumed ground catchment to bioretention basin	0.365 Ha (4% impervious)
Number of modelled north ATLAN Stormsacks	5
Area of bioretention basin	63.2m ²
Area of Environmental and Conservative Zone not modelled	0.345 Ha (100% pervious)
Proposed Lot 3 – excluded from modelling – 1.363 Ha	
Environmental Management and Conservation Zone – excluded from modelling – 2.237 Ha	

The MUSIC model layout is shown in Figure 5.

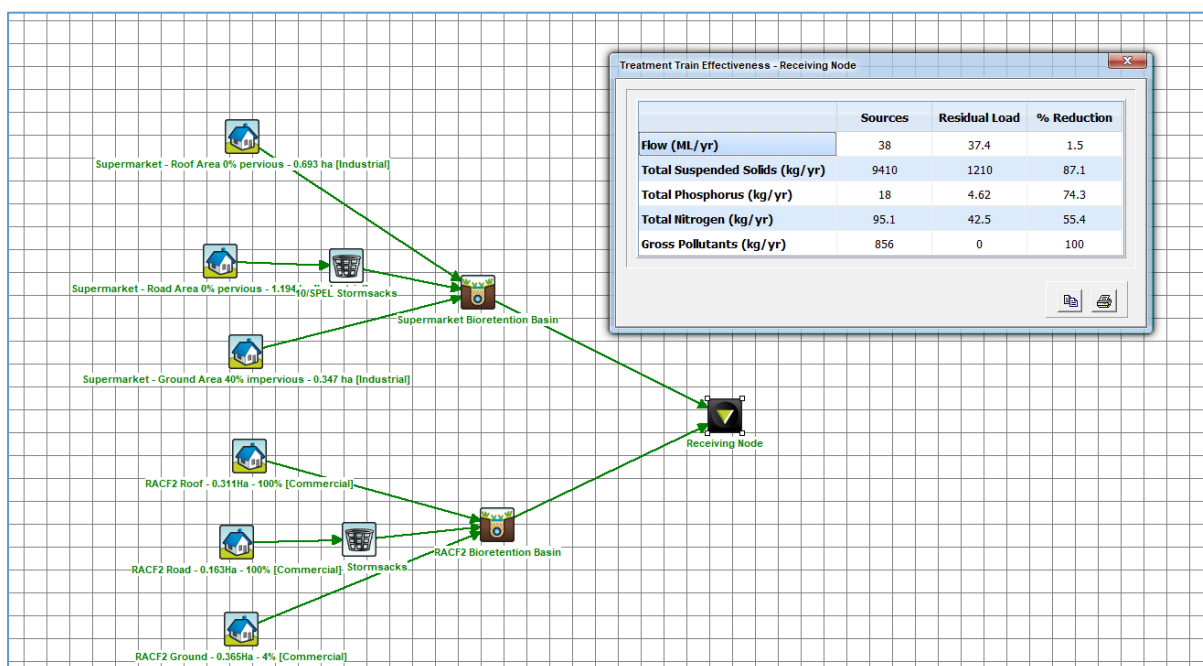


Figure 2 - MUSIC layout for development

The developed site treatment train effectiveness is outlined in Table 2.

Table 2 - Treatment train effectiveness.

Modelled Parameters	Source nodes	Residual load	% Reduction
Flow (ML/yr)	38	37.4	1.5
Total Suspended Solids (kg/yr)	9410	1210	87.1
Total Phosphorus (kg/yr)	18	4.62	74.3
Total Nitrogen (kg/yr)	95.1	42.5	55.4
Gross Pollutants (kg/yr)	856	0	100

Based on the MUSIC modelling results in Table 2 above, the proposed treatment train achieves the required pollutant load reduction objectives for all pollutants. The proposed proprietary treatment measures are therefore considered adequate for the development. Further review and refinement of the water quality treatment measures should be undertaken at the detailed design phase.

4.3 Construction Phase

Management of stormwater runoff during construction and the implementation of an erosion & sediment control program is necessary to avoid impacts to receiving waters from pollutants typically generated during the construction phase. Typical pollutants are described in

Table 3 below:

Table 3 – Pollutants Typically Generated During the Construction Phase

Pollutant	Sources
Litter (Gross Pollutants)	Paper, construction packaging, food packaging, cement bags.
Sediment	Unprotected exposed soils and stockpiles during earthworks and building.
Hydrocarbons	Fuel and oil spills, leaks from construction equipment.
Toxic materials	Cement slurry, asphalt prime, solvents, cleaning agents, wash waters.
pH altering substances	Acid sulphate soils, cement slurry and wash waters.

In addition to the degradation of receiving waters, impacts of inadequate erosion and sediment control downstream from the site include:

- traffic safety problems;
- blocked drains;
- local flooding problems;
- aesthetic pollution of drainage paths; and
- damage to local ecosystems.

4.3.1 Design Objectives

Management of stormwater runoff during construction should be undertaken in accordance with Appendix 2 of the SPP (July 2017). The SPP outlines the design objectives for construction phase stormwater management. These are presented in Table 4, Table 5 and Table 6.

Table 4 – SPP Appendix 2: Part 1 Construction Phase – Stormwater Management Design Objectives

Issue	Desired Outcomes
Drainage Control	<ol style="list-style-type: none"> 1. Manage stormwater flows around or through areas of exposed soil to avoid contamination. 2. Manage sheet flows in order to avoid or minimise the generation of rill or gully erosion. 3. Provide stable concentrated flow paths to achieve the construction phase stormwater management design objectives for temporary drainage works (part 2). 4. Provide emergency spillways for sediment basins to achieve the construction phase stormwater management design objectives for emergency spillways on temporary sediment basins (part 3).
Erosion Control	<ol style="list-style-type: none"> 1. Stage clearing and construction works to minimise the area of exposed soil at any one time. 2. Effectively cover or stabilise exposed soils prior to predicted rainfall. 3. Prior to completion of works for the development, and prior to removal of sediment controls, all site surfaces must be effectively stabilised using methods which will achieve effective short-term stabilisation.
Sediment Control	<ol style="list-style-type: none"> 1. Direct runoff from exposed site soils to sediment controls that are appropriate to the extent of disturbance and level of erosion risk. 2. All exposed areas greater than 2500 metres must be provided with sediment controls which are designed, implemented and maintained to a standard which would achieve at least 80% of the average annual runoff volume of the contributing catchment treated (i.e. 80% hydrological effectiveness) to 50mg/L Total Suspended Solids (TSS) or less, and pH in the range (6.5–8.5).
Litter, Hydrocarbons and other contaminants	<ol style="list-style-type: none"> 1. Remove gross pollutants and litter. 2. Avoid the release of oil or visible sheen to released waters. 3. Dispose of waste containing contaminants at authorised facilities.
Waterway Stability and flood flow management	<ol style="list-style-type: none"> 1. Where measures are required to meet post-construction waterway stability objectives, these are either installed prior to land disturbance and are integrated with erosion and sediment controls, or equivalent alternative measures are implemented during construction. 2. Earthworks and the implementation of erosion and sediment controls are undertaken in ways which ensure flooding characteristics

Issue	Desired Outcomes
	(including stormwater quantity characteristics) external to the development site are not worsened during construction for all events up to and including the 1 in 100 year ARI (1% AEP).

Table 5 – SPP Appendix 2: Part 2 Construction Phase – Stormwater Management Design Objectives for Temporary Drainage Works

Temporary Drainage Works	Anticipated Operation Design Life and Minimum Design Storm Event		
	<12 Months	12-24 Months	>24 Months
Drainage Structure	1 in 2 year ARI/39% AEP	1 in 5 year ARI/18% AEP	1 in 10 year ARI/10% AEP
Where located immediately up-slope of an occupied property that would be adversely affected by the failure or overtopping of the structure	1 in 10 year ARI/10% AEP		
Culvert Crossing	1 in 1 year ARI/63% AEP		

Table 6 – SPP Appendix 2: Part 3 Construction Phase – Stormwater Management Design Objectives for Emergency Spillways on Temporary Sediment Basins

Drainage Structure	Anticipated Operation Design Life and Minimum Design Storm Event		
	<3 Months	3-12 Months	>12 Months
Emergency spillways on temporary sediment basins	1 in 10 year ARI/10% AEP	1 in 20 year ARI/5% AEP	1 in 50 year ARI/2% AEP

Best practice erosion and sediment controls must be installed to minimise the discharge of sediment laden runoff during construction and to achieve the objectives outlined in Tables 4-6. This is discussed in the following section.

4.3.2 Erosion and Sediment Control

Management of stormwater runoff during construction is necessary to avoid pollution of downstream waterways from sediment and gross pollutant loading. Impacts of inadequate erosion and sediment control downstream from the site include:

- traffic safety problems;
- blocked drains;
- local flooding problems;

- aesthetic pollution of drainage paths; and
- damage to local ecosystems.

Best practice erosion and sediment controls must be installed to minimise the discharge of sediment laden runoff during construction. Erosion and sediment control plans shall be developed during detailed design phase and must be continually maintained and amended as required to minimise environmental harm.

Erosion and sediment control plans are based on three sets of control measures:

- drainage control;
- erosion control; and
- sediment control.

These control measures must be maintained in an effective operational condition. Sediment disposal from site is to occur to the satisfaction of Noosa Shire Council. Defects in erosion and sediment control devices, such as sediment fences, are to be inspected and documented. Upon Inspection, the Contractor is to determine whether the device should be replaced or repaired. Documentation is to include how the damage was caused and what measures can be implemented to reduce the possibility of repeat occurrences. Any damage to either permanent or temporary water quality control structures or devices is to be immediately rectified at the contractor's expense.

The effectiveness of the erosion and sediment control devices can be monitored by visual audits. All ESC measures are to be inspected:

- at least daily (when work is occurring on site) or weekly (when work is not occurring on site);
- within 24 hours of expected rain; and
- within 18 hours of a rainfall event (i.e. an event of sufficient intensity and duration to mobilise sediment on site).

Drainage paths are to be inspected to ensure the sediment fences are not being bypassed as a result of soil erosion.

Sediment laden runoff shall be prevented from entering neighbouring properties. This shall be achieved by landscaping disturbed areas immediately and prior to a rainfall event.

The proposed development has scored a '26' on the IECA erosion hazard assessment with trigger score value exceeded as a result of the development land area (refer Appendix A for details). Further details of proposed on site erosion and sediment control measures will be required at the detailed design phase of the development.

4.3.3 Maintenance and Monitoring Requirements

Periodic maintenance and monitoring of stormwater devices proposed in this report is crucial to ensure effective operation and design life.

Inspect field inlet grates, pits and underground pipes for blockage or damage at least 6 monthly or after significant rainfall event. Any installed filter baskets shall be inspected and maintained preferably by the manufacturer to avoid damage to units and to ensure adequate cleaning and record keeping. For the first 12 months routine inspections of filter baskets shall be carried out monthly with routine clean out at alternate months. Results of the initial 12 months maintenance program shall be used to determine future maintenance intervals. Refer manufactures maintenance and monitoring methodology for specific details. Maintenance of ESC measures must occur in accordance with Table 7.

Table 7 - ESC maintenance requirements.

ESC Measure	Maintenance Trigger	Timeframe for Completion of Maintenance
Sediment basins	When settled sediment exceeds the volume of the sediment storage zone	Within 7 days of the inspection.
Other ESC measures	The capacity of ESC measures falls below 75%.	By the end of the day.

Sediment accumulation on ESC devices is to be removed and disposed of to the satisfaction of Noosa Shire Council.

5 CONCLUSION

This Stormwater Management Report outlines how stormwater runoff from the site will be managed in order to not adversely impact the receiving environment.

Stormwater runoff from the development site shall be directed to the existing channel on the site's eastern boundary as per existing conditions through the construction of new on-site stormwater infrastructure. Stormwater detention is not proposed due to the upstream catchments, which will discharge to the same location as the proposed development. Not proposing detention will ensure that the proposed development offsets any worsening conditions that may result.

Stormwater quality treatment is proposed to be managed on-site to achieve the water quality objectives through primary treatment from filter basket inserts in the field inlets in the road and tertiary treatment from bioretention basins. MUSIC modelling has been undertaken to demonstrate that runoff from the development site achieves the water quality pollution load reduction targets of the State Planning Policy and the SEQ Water Development Guidelines.

Further refinement of the proposed stormwater management measures is recommended at the detailed design phase to ensure coordination with final architectural layout.

By implementing the proposed stormwater management system, and providing adequate maintenance, the downstream environment and neighbouring properties will not experience any adverse deterioration of water quality as a result of the proposed development.

Appendix A – Erosion Hazard Assessment

Erosion Hazard Assessment Form

Condition	Points	Score	Trigger value
AVERAGE SLOPE OF DISTURBANCE AREA [1] <ul style="list-style-type: none"> not more than 3% [3% . 33H:1V] more than 3% but not more than 5% [5% = 20H:1V] more than 5% but not more than 10% [10% = 10H:1V] more than 10% but not more than 15% [15% . 6.7H:1V] more than 15% 	0 1 2 4 6	2	4
SOIL CLASSIFICATION GROUP (AS1726) [2] <ul style="list-style-type: none"> GW, GP, GM, GC SW, SP, OL, OH SM, SC, MH, CH ML, CL, or if <i>imported fill</i> is used, or if soils are untested 	0 1 2 3	3	
EMERSON (DISPERSION) CLASS NUMBER [3] <ul style="list-style-type: none"> Class 4, 6, 7, or 8 Class 5 Class 3, (default value if soils are untested) Class 1 or 2 	0 2 4 6	4	6
DURATION OF SOIL DISTURBANCE [4] <ul style="list-style-type: none"> not more than 1 month more than 1 month but not more than 4 months more than 4 months but not more than 6 months more than 6 months 	0 2 4 6	4	6
AREA OF DISTURBANCE [5] <ul style="list-style-type: none"> not more than 1000 m² more than 1000 m² but not more than 5000 m² more than 5000 m² but not more than 1 ha more than 1 ha but not more than 4 ha more than 4 ha 	0 1 2 4 6	4	4
WATERWAY DISTURBANCE [6] <ul style="list-style-type: none"> No disturbance to a watercourse, open drain or channel Involves disturbance to a constructed open drain or channel Involves disturbance to a natural watercourse 	0 1 2	1	2
REHABILITATION METHOD [7] Percentage of area (relative to total disturbance) revegetated by seeding without light mulching (i.e. worst-case revegetation method). <ul style="list-style-type: none"> not more than 1% more than 1% but not more than 5% more than 5% but not more than 10% more than 10% 	0 1 2 4	0	
RECEIVING WATERS [8] <ul style="list-style-type: none"> Saline waters only Freshwater body (e.g. creek or freshwater lake or river) 	0 2	2	
SUBSOIL EXPOSURE [9] <ul style="list-style-type: none"> No subsoil exposure except of service trenches Subsoils are likely to be exposed 	0 2	2	
EXTERNAL CATCHMENTS [10] <ul style="list-style-type: none"> No external catchment External catchment diverted around the soil disturbance External catchment not diverted around the soil disturbance 	0 1 2	1	
ROAD CONSTRUCTION [11] <ul style="list-style-type: none"> No road construction Involves road construction works 	0 2	2	
pH OF SOILS TO BE REVEGETATED [12] <ul style="list-style-type: none"> more than pH 5.5 but less than pH 8 other pH values, or if soils are untested 	0 1	1	
Total Score ^[13]		26	

Explanatory notes

Requirements: Specific issues or actions required by the proponent.

Warnings: Issues that should be considered by the proponent.

Comments: General information relating to the topic.

[1] **REQUIREMENTS:**

For sites with an average slope of proposed land disturbance greater than 10%, a preliminary ESCP must be submitted to the regulatory authority for approval during planning negotiations.

Proponents must demonstrate that adequate erosion and sediment control measures can be implemented on-site to effectively protect downstream environmental values.

If site or financial constraints suggest that it is not reasonable or practicable for the prescribed water quality objectives to be achieved for the proposal, then the proponent must demonstrate that alternative designs or construction techniques (e.g. pole homes, suspended slab) cannot reasonably be implemented on the site.

WARNINGS:

Steep sites usually require more stringent drainage and erosion controls than flatter grade sites.

COMMENTS:

The steeper the land, the greater the need for adequate drainage controls to prevent soil and mulch from being washed from the site.

[2] **REQUIREMENTS:**

If the actual soil K-factor is known from soil testing, then the Score shall be determined from Table 1.

If a preliminary ESCP is required during planning negotiations, then it must be demonstrated that adequate space is available for the construction and operation of any major sediment traps, including the provision for any sediment basins and their associated embankments and spillways. It must also be demonstrated that all reasonable and practicable measures can be taken to divert the maximum quantity of sediment-laden runoff (up to the specified design storm) to these sediment traps throughout the construction phase and until the contributing catchment is adequately stabilised against erosion.

WARNINGS:

The higher the point score, the greater the need to protect the soil from raindrop impact and thus the greater the need for effective erosion control measures. A point score of 2 or greater will require a greater emphasis to be placed on revegetation techniques that do not expose the soil to direct rainfall contact during vegetation establishment, e.g. turfing and *Hydromulching*.

COMMENTS:

Table 2 provides an *indication* of soil conditions likely to be associated with a particular Soil group based on a statistical analysis of soil testing across NSW. This table provides only an initial estimate of the likely soil conditions.

The left-hand-side of the table provides an indication of the type of sediment basin that will be required (Type C, F or D). The right-hand-side of the table provides an indication of the likely erodibility of the soil based on the Revised Universal Soil Loss Equation (RUSLE) K-factor.

Table 3 provides some general comments on the erosion potential of the various soil groups.

Table 1 – Score if soil K-factor is known

	RUSLE soil erodibility K-factor			
	K < 0.02	0.02<K<0.04	0.04<K<0.06	K > 0.06
Score	0	1	2	3

Table 2 – Statistical analysis of NSW soil data^[1]

Unified Soil Class System	Likely sediment basin classification (%)			Probable soil erodibility K-factor (%) ^[2]			
	Dry	Wet		Low	Moderate	High	Very High
	Type C	Type F	Type D	K < 0.02	0.02<K<0.04	0.04<K<0.06	K > 0.06
GM	30	58	12	12	51	26	12
GC	42	33	25	13	71	17	0
SW	40	48	12	49	39	12	0
SP	53	32	15	76	18	5	1
SM	21	67	12	26	48	25	1
SC	26	50	24	16	64	18	2
ML	5	63	32	4	35	45	16
CL	9	51	39	12	56	19	13
OL	2	80	18	34	61	5	1
MH	12	41	48	15	19	41	25
CH	5	44	51	39	43	11	7

Notes: [1] Analysis of soil data presented in Landcom (2004).

[2] Soil erodibility based on Revised Universal Soil Loss Equation (RUSLE) K-factor.

Unified Soil Classification System (USCS)

GW Well graded gravels, gravel-sand mixtures, little or no fines

GP Poorly graded gravels, gravel-sand mixture, little or no fines

GM Silty gravels, poorly graded gravel-sand-silt mixtures

GC Clayey gravels, poorly graded gravel-sand-clay mixtures

SW Well graded sands, gravelly sands, little or no fines

SP Poorly graded sands, gravelly sands, little or no fines

SM Silty sands, poorly graded sand-silt mixtures

SC Clayey sands, poorly graded sand-clay mixtures

ML Inorganic silts & very fine sands, rock flour, silty or clayey fine sands with slight plasticity

CL Inorganic clays, low–medium plasticity, gravelly clays, sandy clays, silty clays, lean clays

OL Organic silts and organic silt-clays of low plasticity

MH Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts

CH Inorganic clays of high plasticity, fat clays

OH Organic clays of medium to high plasticity

Table 3 – Typical properties of various soil groups ^[1]

Soil Groups	Typical properties ^[2]
GW, GP	<ul style="list-style-type: none"> • Low erodibility potential.
GM, GC	<ul style="list-style-type: none"> • Low to medium erodibility potential. • May create turbid runoff if disturbed as a result of the release of silt and clay particles.
SW, SP	<ul style="list-style-type: none"> • Low to medium erodibility potential.
SM, SC	<ul style="list-style-type: none"> • Medium erodibility potential. • May create turbid runoff if disturbed as a result of the release of silt and clay particles.
MH, CH	<ul style="list-style-type: none"> • Highly variable (low to high) erodibility potential. • Will generally create turbid runoff if disturbed.
ML, CL	<ul style="list-style-type: none"> • High erodibility potential. • Tendency to be dispersive. • May create some turbidity in runoff if disturbed.

Note: [1] After Soil Services & NSW DLWC (1998).

[2] Any soil can represent a high erosion risk if the binding clays or silts are unstable.

Table 4 provides **general** guidelines on the suitability of various soil groups to various engineering applications.

Table 4 – Engineering suitability based on Unified Soil Classification ^[1]

Unified Soil Class	USC Group	Embankments		Fill	Slope stability	Untreated roads
		Water retaining	Non water retaining			
Well graded gravels	GW	Unsuitable	Excellent	Excellent	Excellent	Average
Poorly graded gravel	GP	Unsuitable	Average	Excellent	Average	Unsuitable
Silty gravels	GM	Unsuitable	Average	Good	Average	Average
Clayey gravels	GC	Suitable	Average	Good	Average	Excellent
Well graded sands	SW	Unsuitable	Excellent	Excellent	Excellent	Average
Poorly graded sands	SP	Unsuitable	Average	Good	Average	Unsuitable
Silty sands	SM	Suitable ^[2]	Average	Average	Average	Poor
Clayey sands	SC	Suitable	Average	Average	Average	Good
Inorganic silts	ML	Unsuitable	Poor	Average	Poor	Unsuitable
Inorganic clays	CL	Suitable ^[2]	Good	Average	Good	Poor
Organic silts	OL	Unsuitable	Unsuitable	Poor	Unsuitable	Unsuitable
Inorganic silts	MH	Unsuitable	Poor	Poor	Poor	Unsuitable
Inorganic clays	CH	Suitable ^[2]	Average	Unsuitable	Average	Unsuitable
Organic clays	OH	Unsuitable	Unsuitable	Unsuitable	Unsuitable	Unsuitable
Highly organic soils	Pt	Unsuitable	Unsuitable	Unsuitable	Unsuitable	Unsuitable

Notes: [1] Modified from Hazelton & Murphy (1992)

[2] Suitable only after modifications to soil such as compaction and/or erosion protection

- [3] If the soils have not been tested for Emerson Class, then adopt a score of 4.

REQUIREMENTS:

Works proposed on sites containing Emerson Class 1 or 2 soils have a very high pollution potential and must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the authority) during planning negotiations.

WARNINGS:

Class 3 and 5 soils disturbed by cut and fill operations or construction traffic are highly likely to discolour stormwater (i.e. cause turbid runoff). Chemical stabilisation will likely be required if these soils are placed immediately adjacent to a retaining wall. Any disturbed Class 1, 2, 3 and 5 soils that are to be revegetated must be covered with a non-dispersive topsoil as soon as possible (unless otherwise agreed by the regulatory authority).

Class 1 and 2 soils are highly likely to discolour (pollute) stormwater if exposed to rainfall or flowing water. Treatment of these soils with gypsum (or other suitable substance) will most likely be required. These soils should not be placed directly behind a retaining wall unless it has been adequately treated (stabilised) or covered with a non-dispersible soil.

- [4] The duration of disturbance refers to the total duration of soil exposure to rainfall up until a time when there is at least 70% coverage of all areas of soil.

REQUIREMENTS:

All land developments with an expected soil disturbance period greater than 6 months must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the authority) during planning negotiations.

COMMENTS:

Construction periods greater than 3 months will generally experience at least some significant storm events, independent of the time of year that the construction (soil disturbance) occurs.

- [5] **REQUIREMENTS:**

Development proposals with an expected soil disturbance in excess of 1ha must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the regulatory authority) during planning negotiations.

The area of disturbance refers to the total area of soil exposed to rainfall or dust-producing winds either as a result of:

- (a) the removal of ground cover vegetation, mulch or sealed surfaces;
- (b) past land management practices;
- (c) natural conditions.

WARNINGS:

A *Sediment Basin* will usually be required if the disturbed area exceeds 0.25ha (2500m²) within any sub-catchment (i.e. land flowing to one outlet point).

COMMENTS:

For soil disturbances greater than 0.25ha, the revegetation phase should be staged to minimise the duration for which soils are exposed to wind, rain and concentrated runoff.

[6] REQUIREMENTS:

All developments that involve earthworks or construction within a natural watercourse (whether that watercourse is in a natural or modified condition) must submit a conceptual ESCP to the regulatory authority for review and/or approval (as required by the regulatory authority) during planning negotiations.

Permits and/or licences may be required from the State Government, including possible submission of the ESCP to the relevant Government department.

[7] REQUIREMENTS:

No areas of soil disturbance shall be left exposed to rainfall or dust-producing winds at the end of a development without an adequate degree of protection and/or an appropriate action plan for the establishment of at least 70% cover.

COMMENTS:

Grass seeding without the application of a light mulch cover is considered the least favourable revegetation technique. A light mulch cover is required to protect the soil from raindrop impact, excessive temperature fluctuations, and the loss of essential soil moisture.

[8] COMMENTS:

All receiving waters can be adversely affected by unnatural quantities of sediment-laden runoff. Freshwater ecosystems are generally more susceptible to ecological harm resulting from the inflow of fine or dispersible clays than saline water bodies. The further inland a land disturbance is, the greater the potential for the released sediment to cause environmental harm as this sediment travels towards the coast.

For the purpose of this clause it is assumed that all sediment-laden runoff will eventually flow into saline waters. Thus, sediment-laden discharges that flow first into freshwater are likely to adversely affect both fresh and saline water bodies and are therefore considered potentially more damaging to the environment.

This clause does **not** imply that sediment-laden runoff will not cause harm to saline waters.

[9] COMMENTS:

This clause refers to subsoils exposed during the construction phase either as a result of past land practices or proposed construction activities. The exposure of subsoils resulting from the excavation of minor service trenches should not be considered.

[10] WARNINGS:

The greater the extent of external catchment, the greater the need to divert up-slope stormwater runoff around any soil disturbance.

COMMENTS:

The ability to separate "clean" (i.e. external catchment) stormwater runoff from "dirty" site runoff can have a significant effect on the size, efficiency and cost of the temporary drainage, erosion, and sediment control measures.

[11] REQUIREMENTS:

Permission must be obtained from the owner of a road reserve before placing any erosion and sediment control measures within the road reserve.

WARNINGS:

Few sediment control techniques work efficiently when placed on a road and/or around roadside stormwater inlets. Great care must be taken if sediment control measures are located on a public roadway, specifically:

- safety issues relating to road users;
- the risk of causing flooding on the road or within private property.

The construction of roads (whether temporary or permanent) will usually modify the flow path of stormwater runoff. This can affect how “dirty” site runoff is directed to the sediment control measures.

COMMENTS:

“On-road” sediment control devices are at best viewed as secondary or supplementary sediment control measures. Only in special cases and/or on very small projects (e.g. kerb and channel replacement) might these controls be considered as the “primary” sediment control measure.

[12] WARNINGS:

Soils with a pH less than 5.5 or greater than 8 will usually require treatment in order to achieve satisfactory revegetation. Soils with a pH of less than 5 (whether naturally acidic or in acid sulfate soil areas) may also limit the choice of chemical flocculants (e.g. Alum) for use in the flocculation of *Sediment Basins*.

[13] REQUIREMENTS:

A preliminary ESCP must be submitted to the local government for approval during the planning phase for any development that obtains a total point score of 17 or greater or when any trigger value is scored or exceeded.

Appendix B – Noosa Shire Council Flood Overlay Mapping



- Base
 - Road Labels
 - Major
 - AZ Intermediate
 - AZ Minor
 - Land Parcels
 - Local Government Areas
 - Noosa
 - Other LGA
- Overlay Maps
 - Land Subject to Acid Sulfate Soils Overlay (OM-ASS)
 - Land Subject to Acid Sulfate Soil
 - 5 metres AHD or Below (Area 1)
 - Above 5 metres AHD to 20 metres AHD (Area 2)
 - Coastal Protection Overlay Map (OM-CP)
 - Coastal Building Line (State Government)
 - Coastal Protection and Scenic Amenity
 - Flood Hazard Overlay Map (OM-FH)
 - Waterways (1)
 - Flooding and Inundation Extent
 - Coastal Hazards
 - Stormtide inundation 1% AEP
 - Current (1)
 - 2040 (2)
 - 2070 (2)
 - 2100 (2)



Appendix C – Engineering Plans

GENERAL NOTES

- G1 WESTERA PARTNERS HAS LIMITED CONTROL OR INPUT TO LOCAL GOVERNMENT OR OTHER LEGISLATED APPROVALS UNLESS SPECIFICALLY ENGAGED BY IT'S CLIENT. ANY CHANGES TO APPROVAL REQUIREMENTS (INCLUDING ORDERS FOR SUSPENSION OF WORKS ETC) SHOULD BE COMMUNICATED TO WESTERA PARTNERS AND ALL OTHER RELEVANT DESIGNERS TO ALLOW ASSESSMENT OF POTENTIAL RISKS AND ENSURE DESIGN AND SAFETY COMPLIANCE.
- G2 ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LOCAL AUTHORITIES STANDARD DRAWINGS & SPECIFICATIONS AND COMPLETED TO THE SATISFACTION OF THE SUPERINTENDENT AND LOCAL AUTHORITY.
- G3 UNLESS SPECIFIED OTHERWISE ALL MATERIALS AND WORK SHALL COMPLY WITH THE RELEVANT AUSTRALIAN STANDARDS.
- G4 PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR MUST LOCATE ALL EXISTING SERVICES AND PROMPTLY PROVIDE THE LOCATION DATA TO THE DESIGN ENGINEER TO ASSESS IMPACTS ON THE DESIGN.
- G5 ALL CONNECTIONS TO EXISTING SEWERS AND WATER MAINS ARE TO BE CONSTRUCTED BY THE LOCAL AUTHORITY OR AN APPROVED CONTRACTOR. THE CONTRACTOR IS TO ALLOW IN HIS CONTRACT SUM FOR THE COST OF ANY PROPOSED CONNECTIONS.
- G6 ALL SEWERS ARE TO BE 150MM DIA. U.P.V.C. CLASS SN8 RUBBER RING JOINTED AND PROPERTY CONNECTIONS ARE TO BE 100MM DIA. U.P.V.C CLASS SN6 UNLESS NOTED OTHERWISE
- G7 THE PAVEMENT DEPTHS SHOWN ARE PRELIMINARY ONLY AND ARE TO BE VERIFIED FOLLOWING SUB-SOIL TESTS OF THE SUB-GRADE MATERIAL.
- G8 ALL ROOFWATER CONNECTIONS FROM KERB ADAPTERS ARE TO BE 100MM DIA CLASS SN10 AT A MIN GRADE OF 1.0% UNLESS SHOWN OTHERWISE. ROOFWATER CONNECTIONS FROM FIELD INLETS OR GULLY PITS ARE TO BE 150MM DIA CLASS SN8 AT A MIN GRADE OF 1.0% UNLESS NOTED OTHERWISE.
- G9 ALL U.P.V.C. STORMWATER DRAINAGE PIPES ARE TO BE CLASS SN8 (U.N.O.)
ALL R.C. PIPES ARE TO BE CLASS 3 (U.N.O.)
< 900φ = USE SPIGOT AND SOCKET PIPES WITH RUBBER RING JOINTS
900φ < PIPES < 1050φ = USE FLUSH JOINTED PIPES WITH EXTERNAL ELASTOMERIC BAND
1050φ < PIPES = USE FLUSH JOINTED PIPES WITH EXTERNAL ELASTOMERIC BAND AND INTERNAL CEMENT MORTAR JOINT
ALL F.R.C. PIPES ARE TO BE FRCPipe+ CLASS 4 (U.N.O.) AND SHALL BE DUAL RUBBER RING JOINT WITH COLLAR. PIPES SHALL BE FROM 225φ TO 600φ ONLY.
POLYPROPYLENE/POLYETHYLENE STORMWATER PIPE MINIMUM CLASS SN8 (U.N.O.) SUBJECT TO ACCEPTANCE BY CERTIFYING ENGINEER AND LOCAL AUTHORITY. CONSTRUCTION AND EMBEDMENT TO BE IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- G10 WATER PIPES SHALL BE:
- P.V.C.-M WATER PIPES ARE TO BE SERIES 2 PN16 SN10 R.R.J.
- D.I.C.L. WATER PIPES ARE TO BE PN35 WITH ALL FITTINGS TO BE FUSION BONDED POLYMERIC COATED.
- PE WATER PIPES ARE TO BE PN16 SDR11 PE100. DN25 AND DN32 WATER SERVICES SHALL BE PE80B.
- G11 ALL "AS CONSTRUCTED" INFORMATION IS TO BE RECORDED AS REQUIRED BY THE LOCAL AUTHORITY AND SUBMITTED TO THE SUPERINTENDENT IMMEDIATELY AFTER COMPLETION OF THE WORKS.
- G12 ALL ALLOTMENTS ARE TO BE GRADED AT A MINIMUM GRADE OF 1 IN 200.

CONCRETE NOTES

- C1 ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600 CONCRETE STRUCTURES CODE AND THE REFERENCED STANDARDS THEREIN.
- C2 THE CONCRETE STRENGTH GRADE AND THE COVER TO REINFORCEMENT FOR THE VARIOUS CONCRETE ELEMENTS SHALL BE AS LISTED BELOW:
- CLIMATE ZONE: **TROPICAL** **TEMPERATE** **ARID**
- LOCATION: **COASTAL** **NEAR COASTAL** **INLAND**

ELEMENT	EXPOSURE CLASSIFICATION	STRENGTH GRADE	MINIMUM COVER
MANHOLES	B1	N32	40
	C2	S50	65
FIELD INLET PITS	B1	N32	40
	C2	S50	65
HEADWALLS	B1	N32	40
	C2	S50	65
INTERNAL ROADS	B1	N32	40
KERB/CHANNEL	B1	N32	-
FOOTPATHS	B1	N32	40
RETAINING WALL PANELS	B1	N32	30*
	C2	S50	60*
BORED PIERS	B1	N32	40
	C2	S50	65

*RIGID FORMWORK & INTENSE COMPACTION

- C3 CONCRETE TO HAVE A MAXIMUM AGGREGATE SIZE OF 20mm WITH 80mm MAXIMUM SLUMP. A WATER/CEMENT RATIO OF NOT GREATER THAN 0.65 AND A MAXIMUM FINAL BASIC DRYING SHRINKAGE STRAIN OF 800×10^{-6} UNLESS APPROVED OTHERWISE.
- C4 NO ADDITIVES SHALL BE ADDED OF APPLIED TO THE CONCRETE MIX WITHOUT THE APPROVAL OF THE ENGINEER.

- C5 THE MAXIMUM PERMISSIBLE TRANSPORT TIME FOR CONCRETE BETWEEN BATCHING AND PLACEMENT ON SITE SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE.

AMBIENT AIR TEMPERATURE	MAX. BATCHING TO PLACEMENT TIME
10° - 24°C	120 MINUTES
25° - 27°C	90 MINUTES
28° - 30°C	60 MINUTES
31° - 33°C	45 MINUTES
34° - 36°C	30 MINUTES
37°C+	NO PLACEMENT OF CONCRETE UNLESS CHILLED WATER OR ICE IN MIX

- C6 ALL CONCRETE SHALL BE MECHANICALLY VIBRATED. VIBRATORS SHALL NOT BE USED TO SPREAD CONCRETE.
- C7 ALL CONCRETE SHALL BE SAMPLED AND TESTED IN ACCORDANCE WITH AS1379 ADOPTING THE PROJECT ASSESSMENT METHOD FOR COMPRESSIVE STRENGTH AND SLUMP COMPLIANCE. THE RESULTS OF ALL TESTS SHALL BE PROMPTLY SUBMITTED TO THE ENGINEER FOR REVIEW.
- C8 WHEN THE AIR TEMPERATURE EXCEEDS 30°C, ALIPHATIC ALCOHOL SHALL BE APPLIED TO THE CONCRETE SURFACE OF SLABS IMMEDIATELY AFTER THE INITIAL SCREED AND AGAIN AFTER BULL FLOATING.
- C9 CURING OF ALL CONCRETE SURFACES SHALL COMMENCE IMMEDIATELY AFTER COMPLETING CONCRETE FINISHING AND SHALL CONTINUE FOR 7 DAYS. CONTRACTOR TO CONFIRM METHOD OF CURING WITH ENGINEER PRIOR TO USE.
- C10 SIZES OF CONCRETE ELEMENTS DO NOT INCLUDE THICKNESS OF APPLIED FINISHES.
- C11 BEAM DEPTHS ARE WRITTEN FIRST AND INCLUDE SLAB THICKNESS, IF ANY.
- C12 NO HOLES, CHASES OR EMBEDDED ITEMS OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER. CONDUITS, PIPES ETC. SHALL NOT BE PLACED IN THE COVER THICKNESS OF THE CONCRETE.
- C13 WHERE SERVICE PIPES PENETRATE CONCRETE ELEMENTS, PROVISION SHOULD BE MADE TO ALLOW FOR MOVEMENT OF THE ELEMENT.
- C14 FORMWORK SHALL BE DESIGNED, CONSTRUCTED AND STRIPPED IN ACCORDANCE WITH AS3610 FORMWORK CODE, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- C15 REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY SHOWN IN TRUE PROJECTION OR SCALE.
- C16 ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED IN ITS CORRECT POSITION ON PLASTIC BAR CHAIRS, GENERALLY AT NOT GREATER THAN 800mm CENTRES IN BOTH DIRECTIONS.
- C17 WELDING AND HEATING OF REINFORCEMENT SHALL NOT BE PERMITTED WITHOUT APPROVAL OF THE ENGINEER.
- C18 ALL STEEL REINFORCEMENT IN CONCRETE ELEMENTS SHALL BE INSPECTED BY THE ENGINEER AND PASSED PRIOR TO POURING OF ANY CONCRETE.
- C19 LAP REINFORCEMENT ONLY AT LOCATIONS SHOWN ON THE DRAWINGS OR AS APPROVED BY THE ENGINEER.
- C20 SLAB FABRIC SHALL BE LAPPED ONE FULL PANEL OF FABRIC PLUS 50mm SO THAT THE TWO OUTERMOST TRANSVERSE WIRES OF ONE SHEET OVERLAP THE TWO OUTERMOST TRANSVERSE WIRES OF THE SHEET BEING LAPPED BY 50mm.
- C21 BAR REINFORCEMENT SHALL BE LAPPED IN ACCORDANCE WITH THE FOLLOWING TABLE.

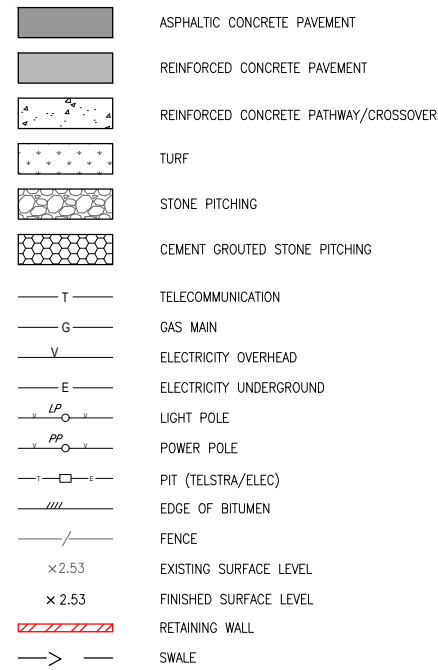
TYPICAL BAR REINFORCEMENT LAP LENGTHS		
BAR	LAP LENGTH UNO	HORIZONTAL BARS WITH GREATER THAN 300mm OF CONCRETE CAST BELOW THEM
N12	550	750
N16	800	1100
N20	1100	1400
N24	1250	1600
N28	1400	1800
N32	1600	2100
N36	2000	2500

WHERE LAPS ARE SHOWN ON THE DRAWINGS THE ABOVE LAP LENGTHS SHALL BE ADOPTED UNLESS NOTED OTHERWISE. WHERE BARS OF DIFFERENT DIAMETER ARE SHOWN LAPPED, ADOPT THE LAP LENGTH APPROPRIATE TO THE SMALLER DIAMETER BAR.

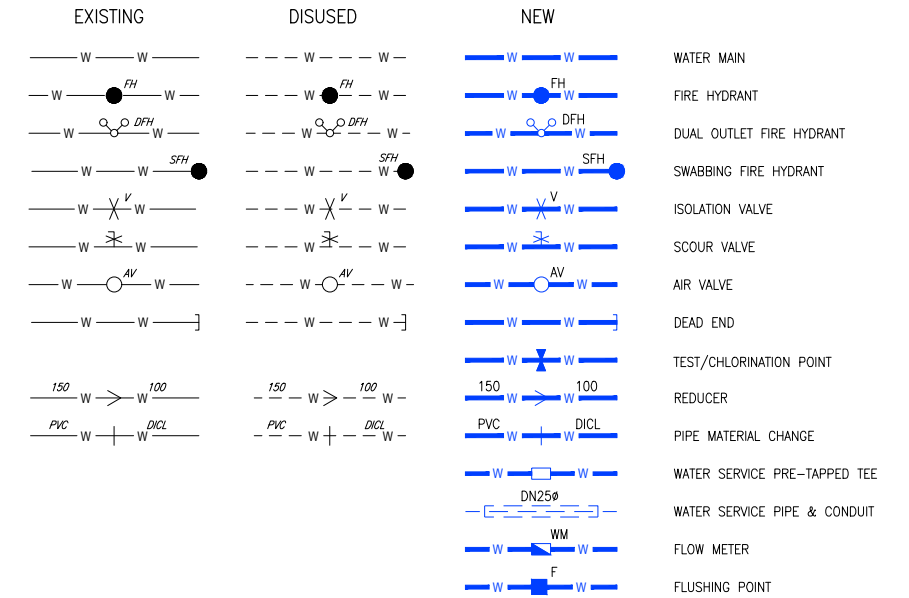
- C22 A VAPOUR BARRIER OF 0.2mm (200um) MINIMUM THICK POLYTHENE SHEETING SHALL BE PLACED BENEATH SLABS ON GROUND UNLESS NOTED OTHERWISE.

LEGEND

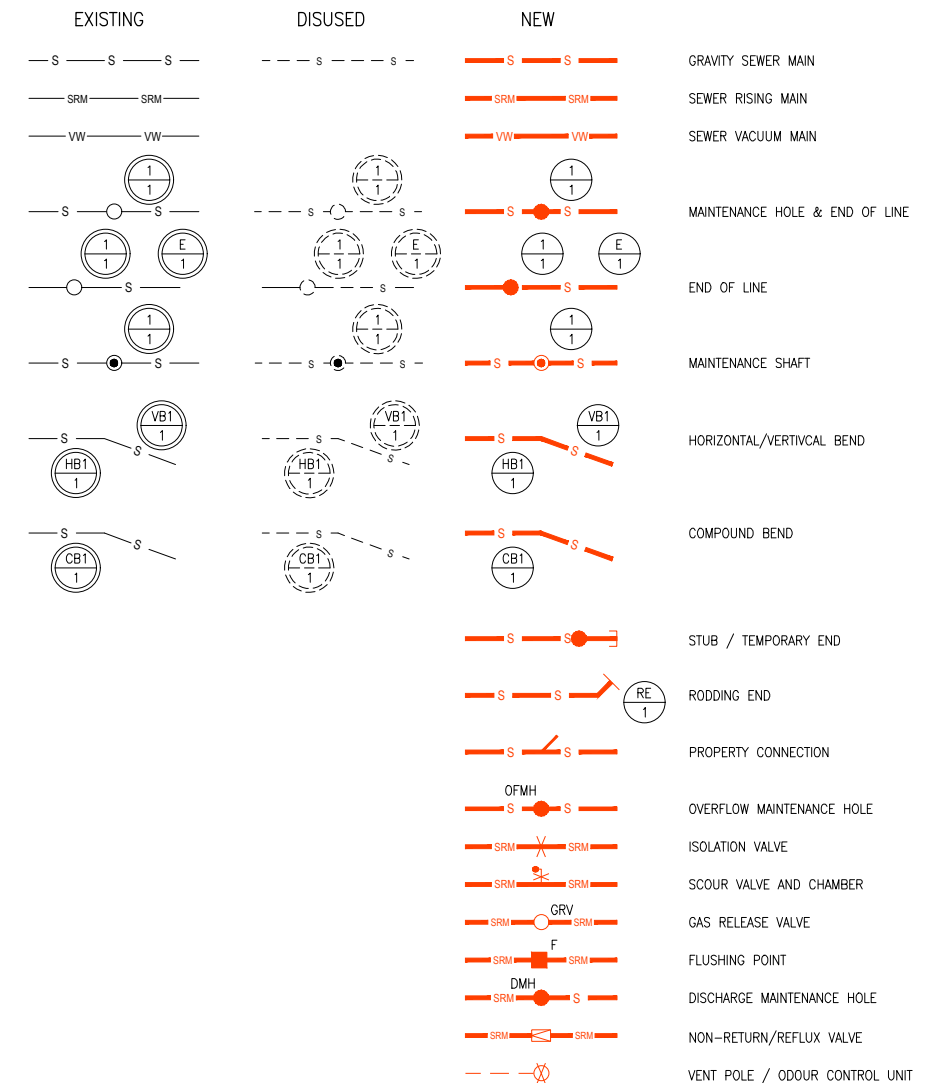
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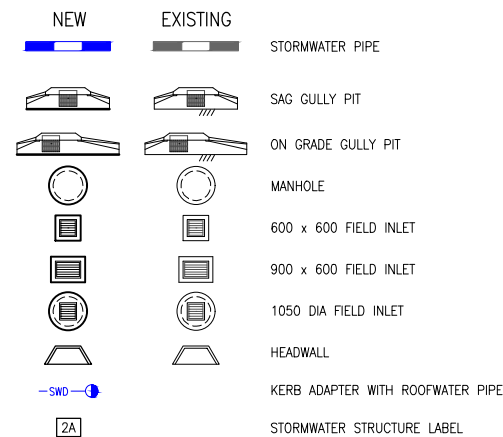
WATER



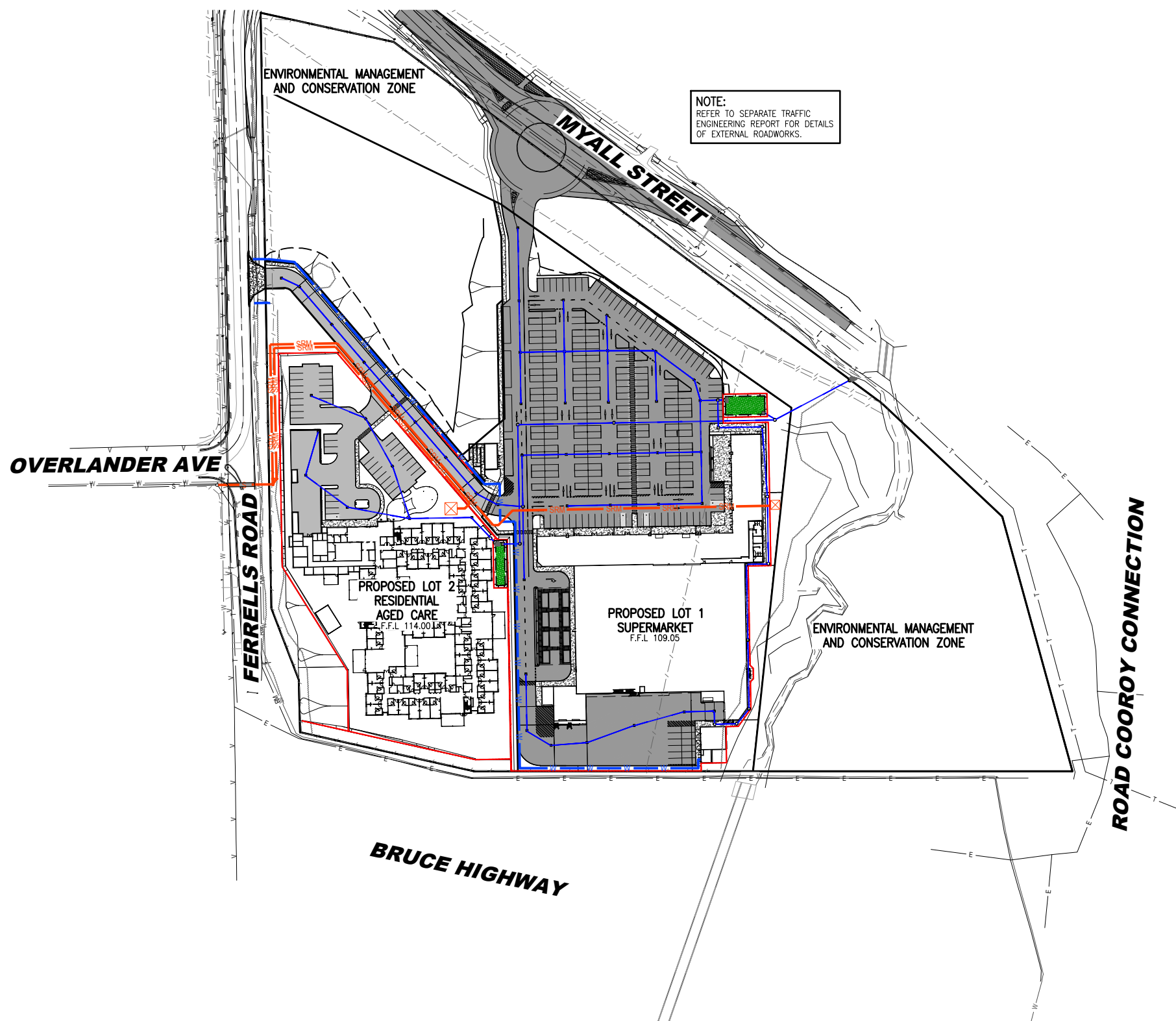
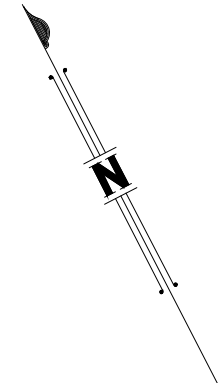
SEWERAGE



STORMWATER DRAINAGE



No.	DATE	REVISIONS	DES	DRN	CHK	APD	DESIGNED S.C.M	DRAWN J.J.D	CHECKED P.B	APPROVED J.M.H	DATE Apr-24	DOCUMENT CONTROL	APPROVED	 BRISBANE T 07 3852 4333 E brisbane@westerapartners.com.au GOLD COAST T 07 5571 1599 E goldcoast@westerapartners.com.au SUNSHINE COAST T 07 5391 3777 E sunshinecoast@westerapartners.com.au NORTHERN NSW T 02 6674 8047 E nsw@westerapartners.com.au CENTRAL VICTORIA T 03 5441 0922 E centralvic@westerapartners.com.au	SURVEYOR DSQ LAND SURVEYORS PHONE 07 5437 8555	DATUM A.H.D. PSM 171964 R.L. 117.348	PROJECT LOCATION TITLE CLIENT	PROPOSED COMMERCIAL DEVELOPMENT LOT 4 on SP248879 125 MYALL STREET, COOROY PRELIMINARY CIVIL NOTES AND LEGEND FABCOT PTY LTD	DRAWING STATUS PRELIMINARY N.F.C. DRAWING NUMBER S23-142-PC01 SHEET NUMBER 1 OF 7	REVISION
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NOTE:
REFER TO SEPARATE TRAFFIC
ENGINEERING REPORT FOR DETAILS
OF EXTERNAL ROADWORKS.

- NOTES**
1. STORMWATER DRAINAGE SHALL BE IN ACCORDANCE WITH NOOSA COUNCIL GUIDELINES AND SPECIFICATIONS.
 2. EXISTING SERVICES ARE TO BE LOCATED AND VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 3. INFORMATION CONTAINED IN THIS DRAWING IS PRELIMINARY ONLY AND SUBJECT TO DETAILED DESIGN INCLUDING BUT NOT LIMITED TO FINISHED LEVELS, PIPE SIZES, ALIGNMENTS AND PIT TYPES AND SIZES.

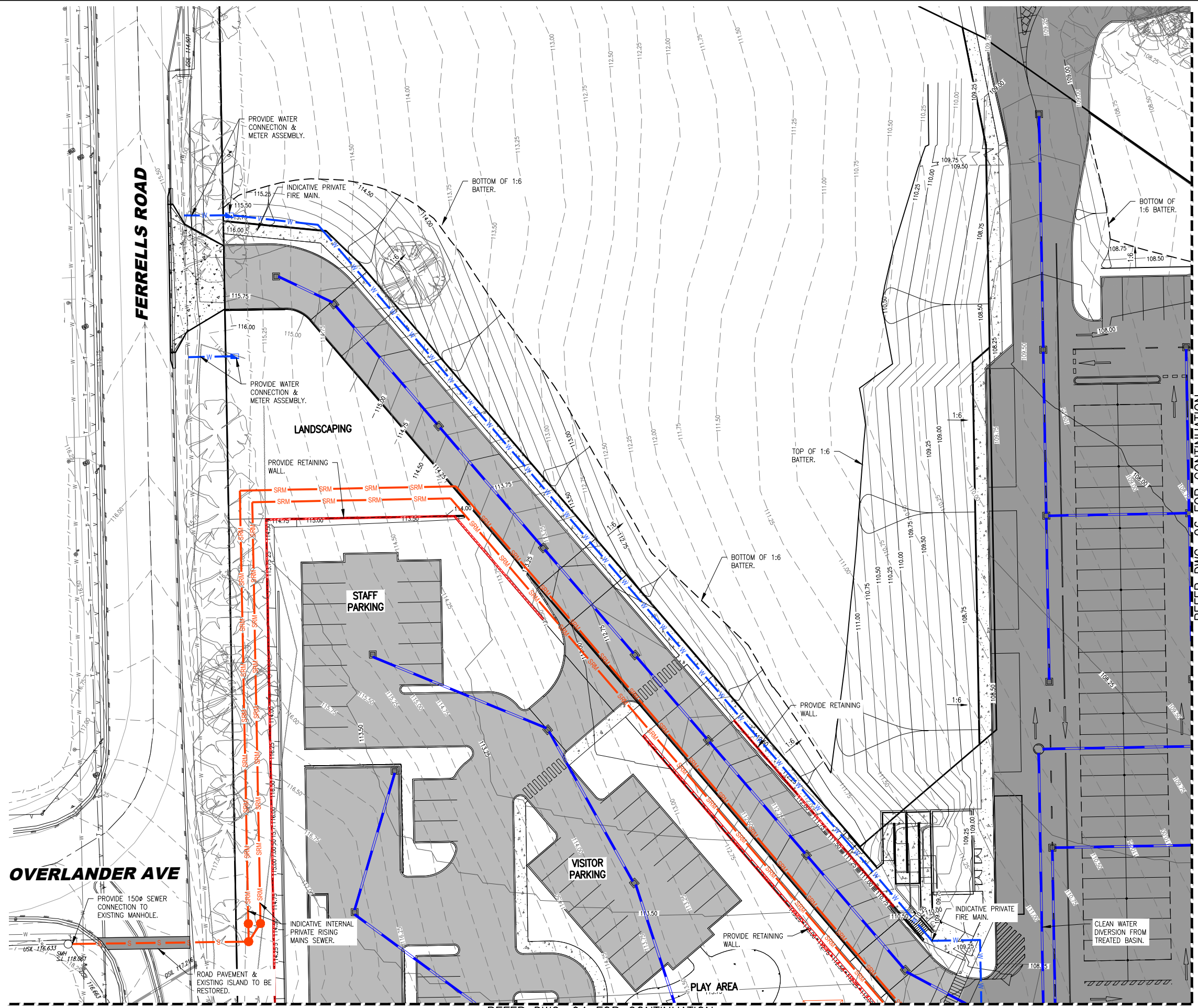
NOTE:
THE INVERT LEVEL & LOCATION OF ALL EXISTING STORMWATER & SEWER INFRASTRUCTURE SHALL BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

***STORMWATER STUB NOTE:**
PROVIDE STUBS AS SHOWN FOR ROOF AND/OR YARD DRAINAGE CONNECTION. REFER HYDRAULIC ENGINEERS DRAWINGS FOR DETAILS.

PRELIMINARY SITE PLAN

SCALE 1:1000 (A1 SIZE)

						DESIGNED S.C.M	<p>STRUCTURAL+CIVIL+ENVIRONMENTAL ENGINEERS</p> <p>www.westerapartners.com.au ABN 52 097 417 975</p>	BRISBANE T 07 3852 4333 E brisbane@westerapartners.com.au	SURVEYOR	DATUM A.H.D.	PROJECT PROPOSED COMMERCIAL DEVELOPMENT	DRAWING STATUS PRELIMINARY N.F.C.
		CHECKED P.B	GOLD COAST T 07 5571 1599 E goldcoast@westerapartners.com.au	DSQ LAND SURVEYORS	PSM 171964	LOCATION LOT 4 on SP248879 125 MYALL STREET, COOROY		DRAWING NUMBER S23-142-PC02				
		APPROVED J.M.H	SUNSHINE COAST T 07 5391 3777 E sunshinecoast@westerapartners.com.au	PHONE 07 5437 8555	R.L. 117.348				TITLE PRELIMINARY SITE PLAN	SHEET NUMBER 2 OF 7		
No.	DATE	REVISIONS	DES	DRN	CHK	APD		DOCUMENT CONTROL			APPROVED	CLIENT FABCOT PTY LTD



REFER DWG. 06 FOR CONTINUATION

REFER DWG. 04 FOR CONTINUATION

NOTES

1. STORMWATER DRAINAGE SHALL BE IN ACCORDANCE WITH NOOSA COUNCIL GUIDELINES AND SPECIFICATIONS.
2. EXISTING SERVICES ARE TO BE LOCATED AND VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. INFORMATION CONTAINED IN THIS DRAWING IS PRELIMINARY ONLY AND SUBJECT TO DETAILED DESIGN INCLUDING BUT NOT LIMITED TO FINISHED LEVELS, PIPE SIZES, ALIGNMENTS AND PIT TYPES AND SIZES.

NOTE:
THE INVERT LEVEL & LOCATION OF ALL EXISTING STORMWATER & SEWER INFRASTRUCTURE SHALL BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

***STORMWATER STUB NOTE:**
PROVIDE STUBS AS SHOWN FOR ROOF AND/OR YARD DRAINAGE CONNECTION. REFER HYDRAULIC ENGINEERS DRAWINGS FOR DETAILS.

PRELIMINARY CIVIL WORKS

SCALE 1:250
(A1 SIZE)

No.	DATE	REVISIONS	DES	DRN	CHK	APD	DOCUMENT CONTROL	APPROVED

DESIGNED S.C.M	DRAWN J.J.D	CHECKED P.B	APPROVED J.M.H	DATE Apr-24
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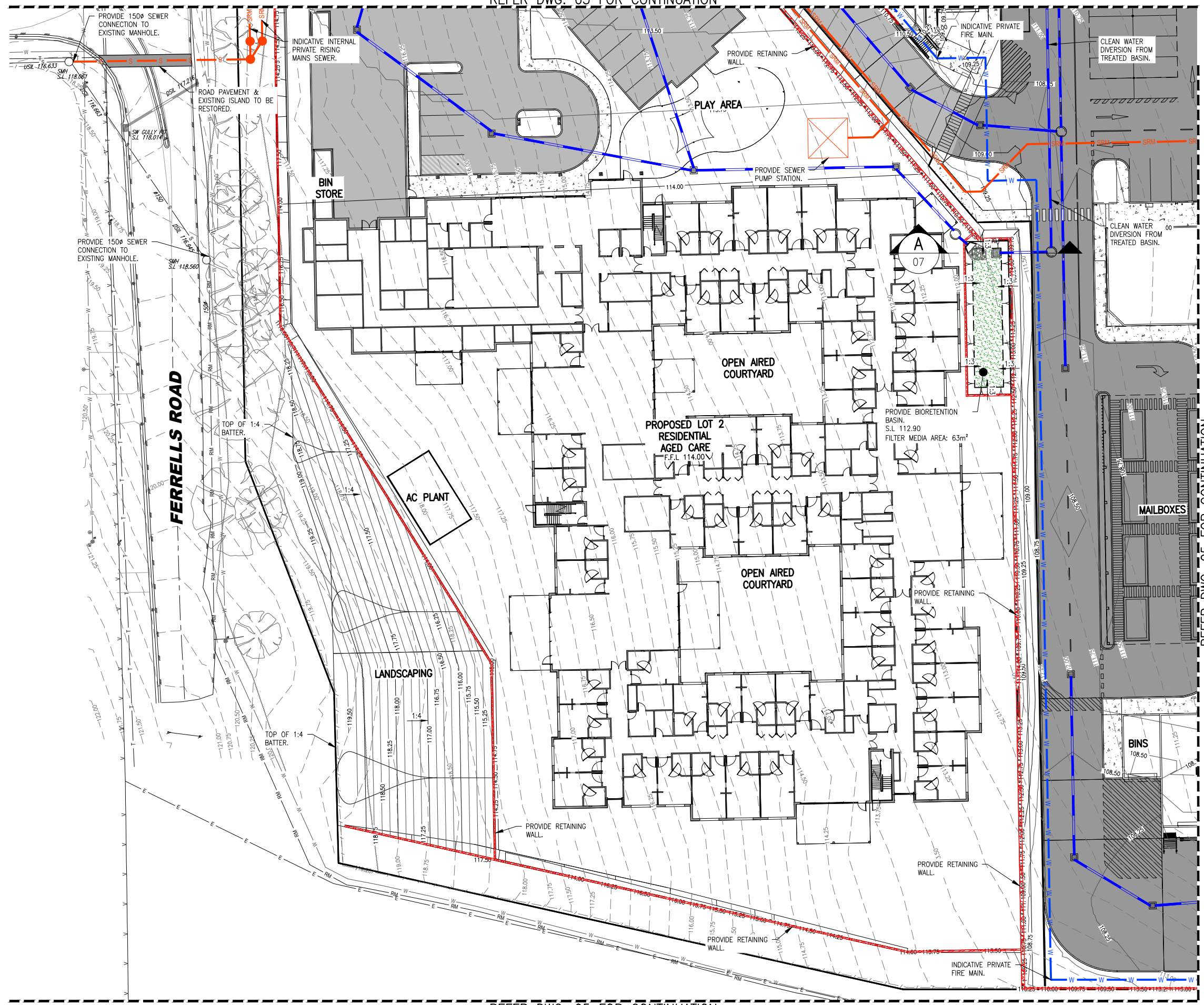
SURVEYOR
DSQ LAND SURVEYORS
PHONE 07 5437 8555

DATUM A.H.D.
PSM 171964
R.L. 117.348

PROJECT LOCATION	PROPOSED COMMERCIAL DEVELOPMENT LOT 4 on SP248879 125 MYALL STREET, COOROY
TITLE	PRELIMINARY CIVIL WORKS PLAN 01 OF 04
CLIENT	FABCOT PTY LTD

DRAWING STATUS	PRELIMINARY N.F.C.
DRAWING NUMBER	S23-142-PC03
SHEET NUMBER	3 OF 7
REVISION	

REFER DWG. 03 FOR CONTINUATION



REFER DWG. 05 FOR CONTINUATION

NOTES

1. STORMWATER DRAINAGE SHALL BE IN ACCORDANCE WITH NOOSA COUNCIL GUIDELINES AND SPECIFICATIONS.
2. EXISTING SERVICES ARE TO BE LOCATED AND VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. INFORMATION CONTAINED IN THIS DRAWING IS PRELIMINARY ONLY AND SUBJECT TO DETAILED DESIGN INCLUDING BUT NOT LIMITED TO FINISHED LEVELS, PIPE SIZES, ALIGNMENTS AND PIT TYPES AND SIZES.

NOTE:
THE INVERT LEVEL & LOCATION OF ALL EXISTING STORMWATER & SEWER INFRASTRUCTURE SHALL BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

***STORMWATER STUB NOTE:**
PROVIDE STUBS AS SHOWN FOR ROOF AND/OR YARD DRAINAGE CONNECTION. REFER HYDRAULIC ENGINEERS DRAWINGS FOR DETAILS.

PRELIMINARY CIVIL WORKS

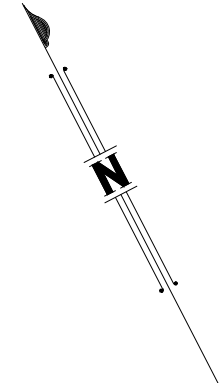
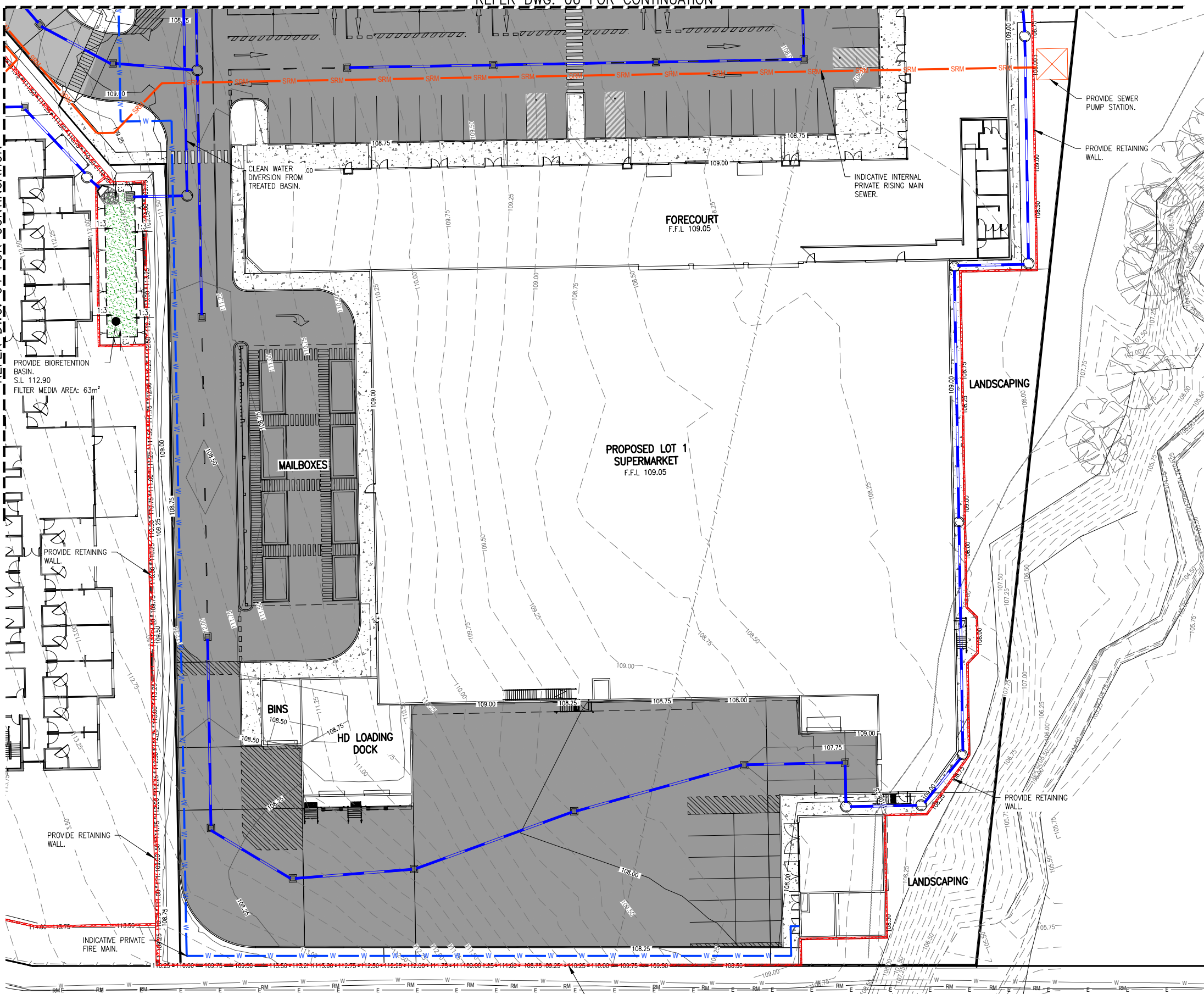
SCALE 1:250
(A1 SIZE)

REFER DWG. 05 FOR CONTINUATION

<p>DESIGNED S.C.M DRAWN J.J.D CHECKED P.B APPROVED J.M.H DATE Apr-24</p>				<p>For and on behalf of WESTERA PARTNERS PTY. LTD.</p>				<p>WESTERA PARTNERS STRUCTURAL+CIVIL+ENVIRONMENTAL ENGINEERS www.westerapartners.com.au ABN 52 097 417 975</p>				<p>BRISBANE T 07 3852 4333 E brisbane@westerapartners.com.au GOLD COAST T 07 5571 1599 E goldcoast@westerapartners.com.au SUNSHINE COAST T 07 5391 3777 E sunshinecoast@westerapartners.com.au NORTHERN NSW T 02 6674 8047 E nsw@westerapartners.com.au CENTRAL VICTORIA T 03 5441 0922 E centralvic@westerapartners.com.au</p>				<p>SURVEYOR DSQ LAND SURVEYORS PHONE 07 5437 8555</p>				<p>DATUM A.H.D. PSM 171964 R.L. 117.348</p>				<p>PROJECT PROPOSED COMMERCIAL DEVELOPMENT LOCATION LOT 4 on SP248879 125 MYALL STREET, COOROY TITLE PRELIMINARY CIVIL WORKS PLAN 02 OF 04 CLIENT FABCOT PTY LTD</p>				<p>DRAWING STATUS PRELIMINARY N.F.C. DRAWING NUMBER S23-142-PC04 SHEET NUMBER 4 OF 7 REVISION</p>			
No.	DATE	REVISIONS	DES	DRN	CHK	APD	DOCUMENT CONTROL	APPROVED																							

REFER DWG. 06 FOR CONTINUATION

REFER DWG. 04 FOR CONTINUATION



NOTE:
THE INVERT LEVEL & LOCATION OF ALL EXISTING STORMWATER & SEWER INFRASTRUCTURE SHALL BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

***STORMWATER STUB NOTE:**
PROVIDE STUBS AS SHOWN FOR ROOF AND/OR YARD DRAINAGE CONNECTION. REFER HYDRAULIC ENGINEERS DRAWINGS FOR DETAILS.

- NOTES**
1. STORMWATER DRAINAGE SHALL BE IN ACCORDANCE WITH NOOSA COUNCIL GUIDELINES AND SPECIFICATIONS.
 2. EXISTING SERVICES ARE TO BE LOCATED AND VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
 3. INFORMATION CONTAINED IN THIS DRAWING IS PRELIMINARY ONLY AND SUBJECT TO DETAILED DESIGN INCLUDING BUT NOT LIMITED TO FINISHED LEVELS, PIPE SIZES, ALIGNMENTS AND PIT TYPES AND SIZES.

PRELIMINARY CIVIL WORKS

SCALE 1:250 (A1 SIZE)

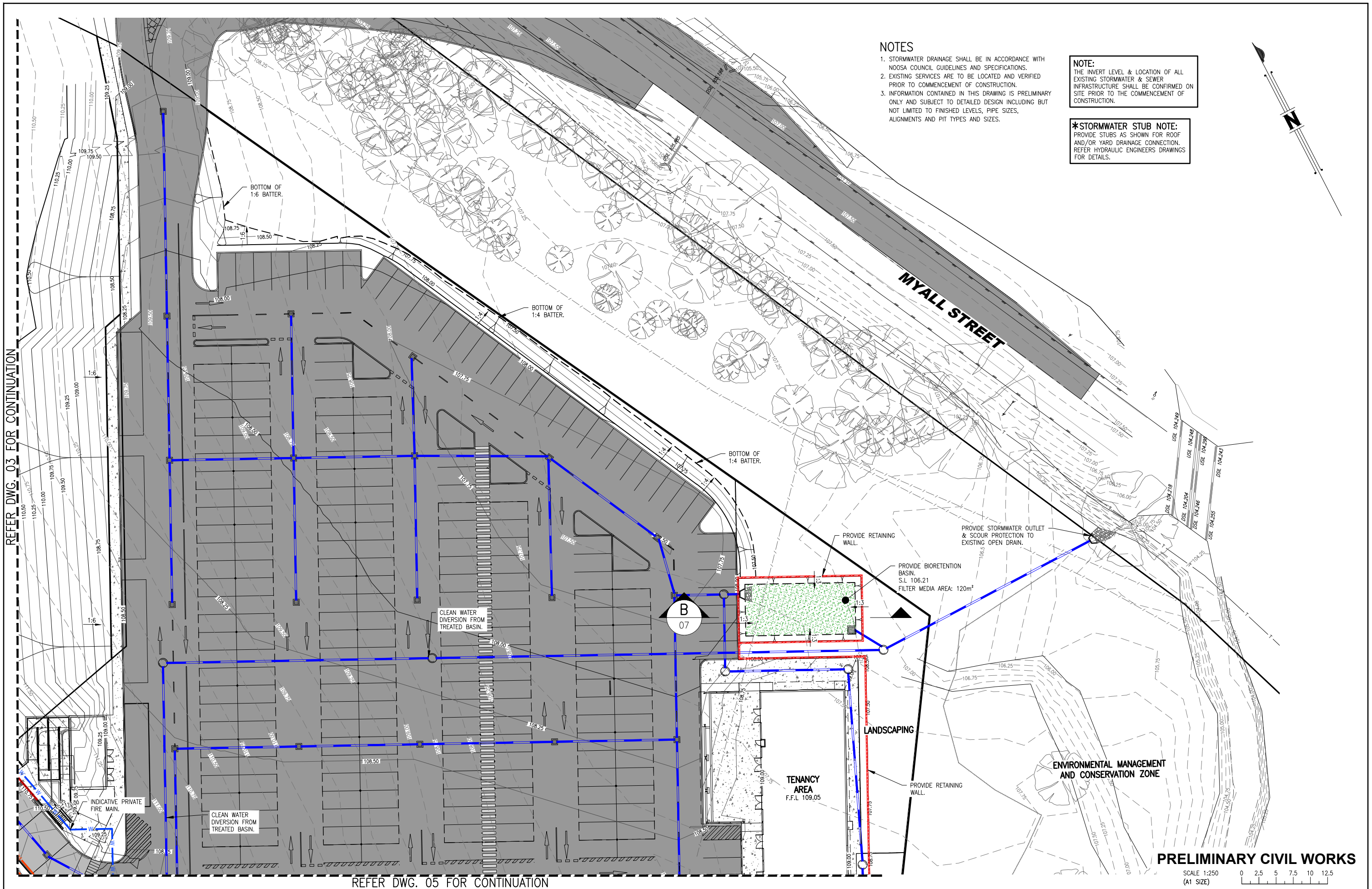
No.	DATE	REVISIONS	DES	DRN	CHK	APD	DOCUMENT CONTROL	APPROVED

DESIGNED	S.C.M
DRAWN	J.J.D
CHECKED	P.B
APPROVED	J.M.H
DATE	Apr-24

WESTERA PARTNERS
STRUCTURAL+CIVIL+ENVIRONMENTAL ENGINEERS
www.westerapartners.com.au | ABN 52 097 417 975

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SUNSHINE COAST T 07 5391 3777
E sunshinecoast@westerapartners.com.au
NORTHERN NSW T 02 6674 8047
E now@westerapartners.com.au
CENTRAL VICTORIA T 03 5441 0922
E centralvictoria@westerapartners.com.au

PROJECT LOCATION	PROPOSED COMMERCIAL DEVELOPMENT LOT 4 on SP248879 125 MYALL STREET, COOROY	DRAWING STATUS	PRELIMINARY N.F.C.
TITLE	PRELIMINARY CIVIL WORKS PLAN 03 OF 04	DRAWING NUMBER	S23-142-PC05
CLIENT	FABCOT PTY LTD	SHEET NUMBER	5 OF 7
		REVISION	



NOTES

1. STORMWATER DRAINAGE SHALL BE IN ACCORDANCE WITH NOOSA COUNCIL GUIDELINES AND SPECIFICATIONS.
2. EXISTING SERVICES ARE TO BE LOCATED AND VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. INFORMATION CONTAINED IN THIS DRAWING IS PRELIMINARY ONLY AND SUBJECT TO DETAILED DESIGN INCLUDING BUT NOT LIMITED TO FINISHED LEVELS, PIPE SIZES, ALIGNMENTS AND PIT TYPES AND SIZES.

NOTE:
THE INVERT LEVEL & LOCATION OF ALL EXISTING STORMWATER & SEWER INFRASTRUCTURE SHALL BE CONFIRMED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

***STORMWATER STUB NOTE:**
PROVIDE STUBS AS SHOWN FOR ROOF AND/OR YARD DRAINAGE CONNECTION. REFER HYDRAULIC ENGINEERS DRAWINGS FOR DETAILS.

REFER DWG. 03 FOR CONTINUATION

REFER DWG. 05 FOR CONTINUATION

PRELIMINARY CIVIL WORKS

SCALE 1:250
(A1 SIZE)

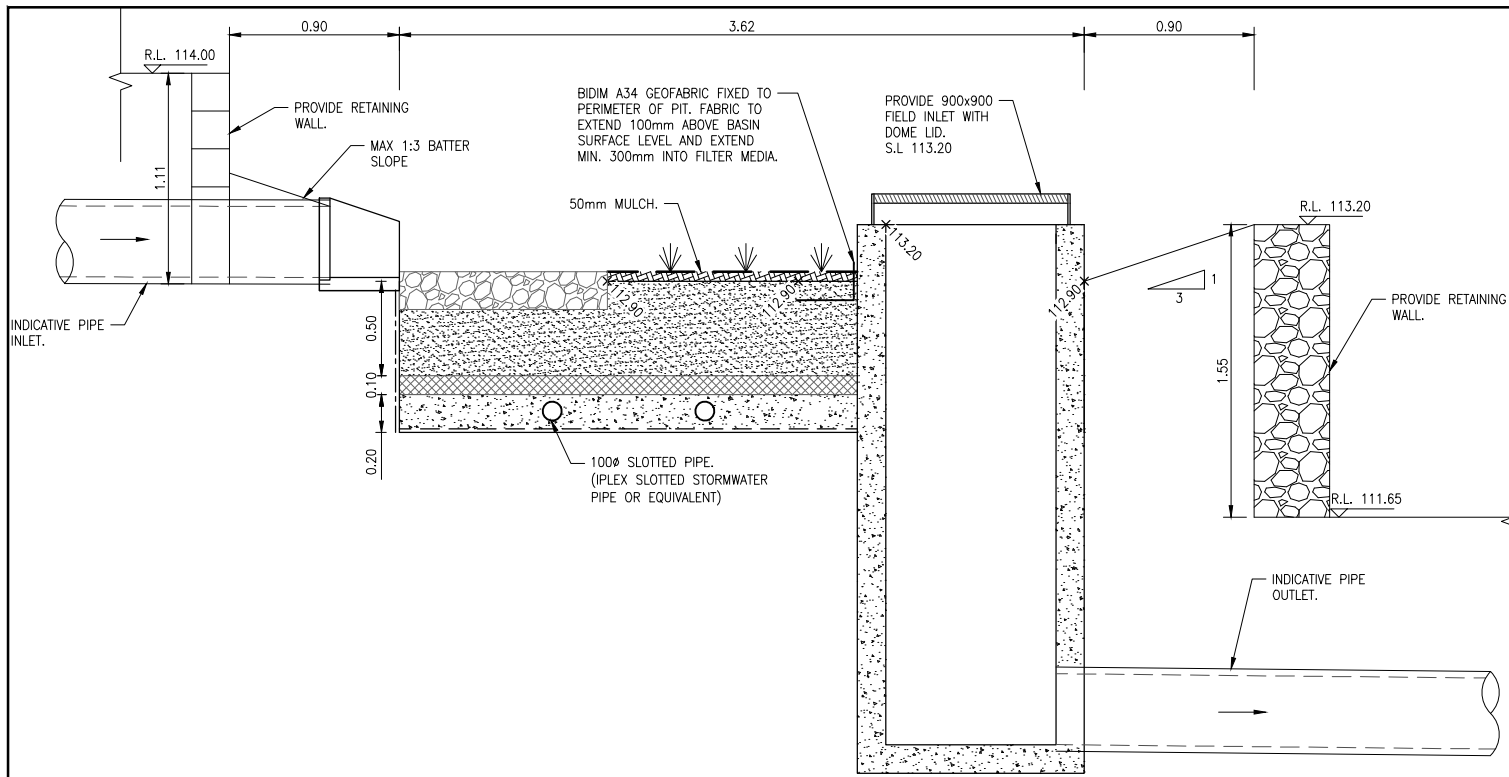
No.	DATE	REVISIONS	DES	DRN	CHK	APD	DOCUMENT CONTROL	APPROVED

DESIGNED S.C.M	DRAWN J.J.D	CHECKED P.B	APPROVED J.M.H	DATE Apr-24
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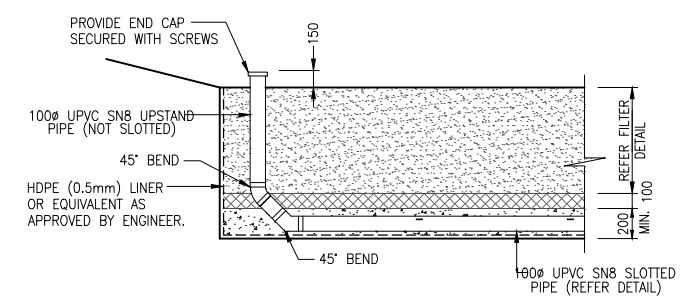
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www.westerapartners.com.au | ABN 52 097 417 975

BRISBANE T 07 3852 4333
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SUNSHINE COAST T 07 5391 3777
E sunshinecoast@westerapartners.com.au
NORTHERN NSW T 02 6674 8047
E nsw@westerapartners.com.au
CENTRAL VICTORIA T 03 5441 0922
E centralvic@westerapartners.com.au

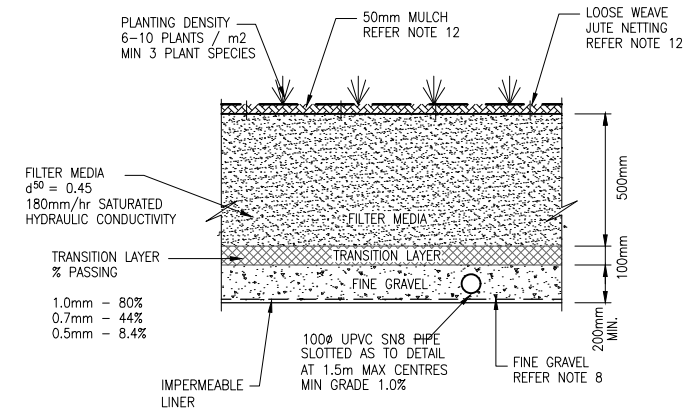
SURVEYOR DSQ LAND SURVEYORS PHONE 07 5437 8555	DATUM A.H.D. PSM 171964 R.L. 117.348	PROJECT PROPOSED COMMERCIAL DEVELOPMENT	DRAWING STATUS PRELIMINARY N.F.C.
		LOCATION LOT 4 on SP248879 125 MYALL STREET, COOROY	DRAWING NUMBER S23-142-PC06
		TITLE PRELIMINARY CIVIL WORKS PLAN 04 OF 04	SHEET NUMBER 6 OF 7
		CLIENT FABCOT PTY LTD	REVISION



SECTION A
SCALE A1 - 1 : 20
A3 - 1 : 40



TYPICAL UPSTAND PIPE DETAILS
(NOT TO SCALE)

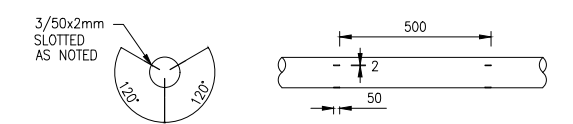


FILTER MEDIA SECTION
(NOT TO SCALE)

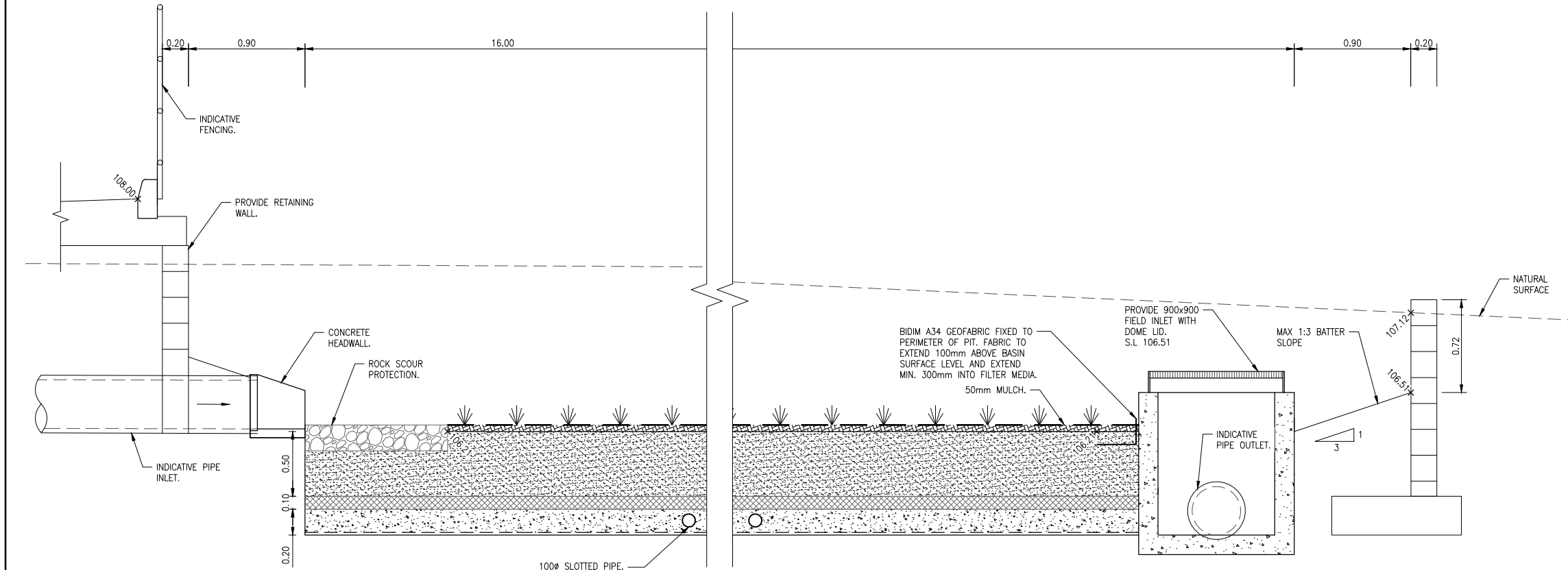
BIO-RETENTION NOTES

- PLEASE ASK IF THERE ARE ANY DOUBTS REGARDING DETAILS SUPPLIED ON THIS DRAWING.
- GENERAL CONSTRUCTION AND PROCUREMENT CONSIDERATIONS SHALL COMPLY WITH THE LATEST VERSION OF THE HEALTHY WATERWAYS GUIDELINE FOR CONSTRUCTION AND ESTABLISHMENT OF VEGETATED STORMWATER MANAGEMENT SYSTEMS. WHERE CONFLICT EXISTS BETWEEN THE GUIDELINE AND THE SPECIFICATIONS ON THIS DRAWING THE SPECIFICATIONS ON THIS DRAWING SHALL BE FOLLOWED.
- THE HYDRAULIC CONDUCTIVITY OF POTENTIAL FILTER MEDIA SHOULD BE MEASURED USING THE ASTM F1815-06 METHOD. TESTING SHOULD BE UNDERTAKEN AT LEAST (i) ONE MONTH FOLLOWING COMMENCEMENT OF OPERATION (ii) IN THE SECOND YEAR OF OPERATION. TESTING SHOULD BE CHECKED AT A MINIMUM OF THREE POINTS WITHIN THE SYSTEM.
- THE FOLLOWING PARTICLE SIZE DISTRIBUTION FOR FILTER MEDIA IS A GUIDE FOR SELECTING AN APPROPRIATE MATERIAL

CLAY & SILT	< 3%	(<0.05mm)
VERY FINE SAND	5-30%	(<0.05 - 0.15mm)
FINE SAND	10-30%	(<0.15 - 0.25mm)
MEDIUM TO COARSE SAND	40-60%	(<0.25 - 1.0mm)
COARSE SAND	7-10%	(<1.0 - 2.0mm)
FINE GRAVEL	< 3%	(<2.0 - 3.4mm)
- SOIL PROPERTIES AS4419-2003 (SOILS FOR LANDSCAPING & GARDEN USE) FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING SPECIFICATION WILL BE REJECTED :
 - ORGANIC MATTER CONTENT - LESS THAN 5 % (w/w)
 - PH - 5.5 - 7.5
 - ELECTRICAL CONDUCTIVITY (E/C) - < 1.2dS/m
 - PHOSPHORUS < 100mg/kg
 - ORTHOPHOSPHATE < 30mg/kg
- POTENTIAL FILTER MEDIA SHOULD BE ASSESSED BY A HORTICULTURALIST TO ENSURE THAT THEY ARE CAPABLE OF SUPPORTING A HEALTHY VEGETATION COMMUNITY.
- THE TRANSITION LAYER MATERIAL IS TO BE A CLEAN WELL GRADED SAND/COARSE SAND MATERIAL CONTAINING LITTLE OR NO FINES.
- THE DRAINAGE LAYER IS TO BE CLEAN, FINE GRAVEL, SUCH AS 2-5mm WASHED SCREENINGS.
- THE FILTER MATERIAL IS TO BE LIGHTLY COMPACTED DURING INSTALLATION TO PREVENT MIGRATION OF FINE PARTICLES. IN SMALL SYSTEMS, A SINGLE PASS WITH A VIBRATING PLATE, WHILE IN LARGE SYSTEMS A SINGLE PASS WITH A ROLLER MACHINERY (eg. A DRUM LAWN ROLLER) WILL BE ADEQUATE. FILTER MEDIA SHOULD BE INSTALLED IN TWO LIFTS UNLESS THE DEPTH IS LESS THAN 500mm
- FILTER MEDIA SHALL COMPLY WITH THE LATEST VERSION OF THE FAWB GUIDELINES FOR SOIL FILTER MEDIA IN BIO-RETENTION SYSTEMS. WHERE CONFLICT EXISTS BETWEEN THE FAWB GUIDELINE AND THE SPECIFICATIONS ON THIS DRAWING THE SPECIFICATIONS ON THIS DRAWING SHALL BE FOLLOWED.
- LANDSCAPING, SUCH AS PLANTING AND MULCH SHALL COMPLY WITH THE LATEST VERSION OF THE HEALTHY WATERWAYS GUIDELINE FOR CONSTRUCTION AND ESTABLISHMENT OF VEGETATED STORMWATER MANAGEMENT SYSTEMS. PLANT SPECIES AND CHARACTERISTICS MUST BE IN ACCORDANCE WITH APPENDIX A- PLANT SELECTION FRO WSUD SYSTEMS, OF THE WSUD TECHNICAL DESIGN GUIDELINES FOR SOUTH EAST QUEENSLAND VERSION 1 JUNE 2006.
- MULCH SHALL BE ORGANIC FRIABLE MULCH THAT DEGRADES WITHIN 6 MONTHS EG. FINE SUGAR CANE OR TEA TREE MULCH. MULCH TYPE TO BE CONFIRMED WITH DESIGNER PRIOR TO PROCUREMENT OR INSTALLATION. THE MULCH SHALL BE PINNED DOWN WITH LOOSE WEAVE JUTE NETTING AND PINNED AT NOT MORE THAN 500mm CENTRES. HEAVY DUTY MATTING EG. 500gsm JUTE MAT, SHALL BE AVOIDED.
- THE BIO-RETENTION BASIN SHALL BE PROTECTED WITH GEOTEXTILE, 75mm TOPSOIL AND TURF FOR AT LEAST 12 MONTHS AND UNTIL 80% OF HOUSES HAVE BEEN CONSTRUCTED. THE PROTECTION IS THEN TO BE REMOVED, PLANTED OUT AND MAINTAINED FOR A FURTHER 12 MONTHS.

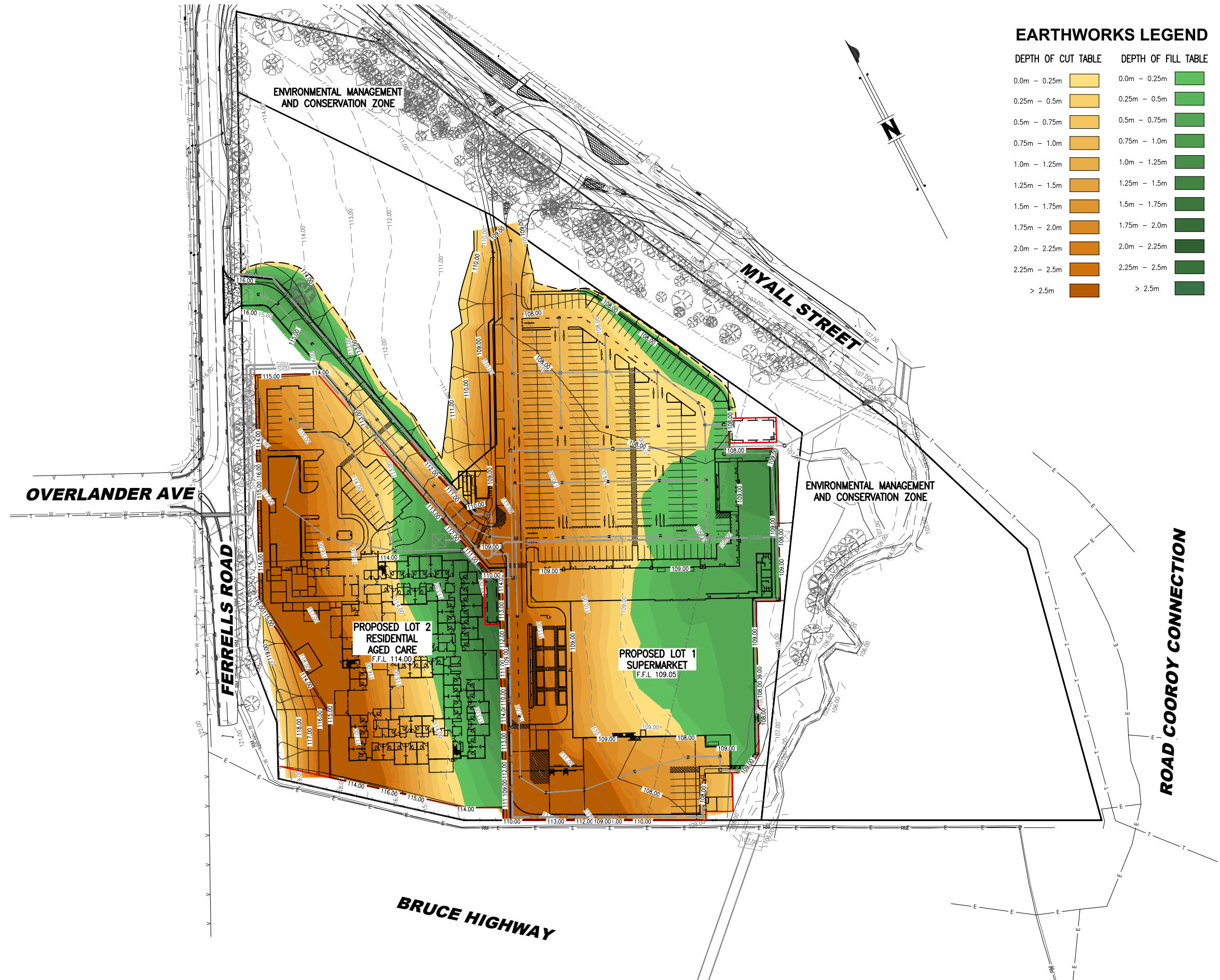


TYPICAL SLOTTED PIPE DETAILS



SECTION B
SCALE A1 - 1 : 20
A3 - 1 : 40

DESIGNED S.C.M.				BRISBANE T 07 3852 4333 E brisbane@westerapartners.com.au		SURVEYOR DSQ LAND SURVEYORS PHONE 07 5437 8555		DATUM A.H.D. PSM 171964 R.L. 117.348		PROJECT PROPOSED COMMERCIAL DEVELOPMENT		DRAWING STATUS PRELIMINARY N.F.C.	
DRAWN J.J.D.				GOLD COAST T 07 5571 1599 E goldcoast@westerapartners.com.au		SUNSHINE COAST T 07 5391 3777 E sunshinecoast@westerapartners.com.au		PROJECT LOCATION LOT 4 on SP248879 125 MYALL STREET, COOROY		DRAWING NUMBER S23-142-PC07		SHEET NUMBER 7 OF 7	
CHECKED P.B.				NORTHERN NSW T 02 6674 8047 E nsw@westerapartners.com.au		CENTRAL VICTORIA T 03 5441 0922 E centralvic@westerapartners.com.au		TITLE PRELIMINARY BIO RETENTION BASIN DETAILS		CLIENT FABCOT PTY LTD		REVISION	
APPROVED J.M.H.				For and on behalf of WESTERA PARTNERS PTY. LTD.		www.westerapartners.com.au ABN 52 097 417 975							
DATE Apr-24				DOCUMENT CONTROL		APPROVED							
No.	DATE	REVISIONS		DES	DRN	CHK	APD						



EARTHWORKS LEGEND

DEPTH OF CUT TABLE	DEPTH OF FILL TABLE
0.0m - 0.25m	0.0m - 0.25m
0.25m - 0.5m	0.25m - 0.5m
0.5m - 0.75m	0.5m - 0.75m
0.75m - 1.0m	0.75m - 1.0m
1.0m - 1.25m	1.0m - 1.25m
1.25m - 1.5m	1.25m - 1.5m
1.5m - 1.75m	1.5m - 1.75m
1.75m - 2.0m	1.75m - 2.0m
2.0m - 2.25m	2.0m - 2.25m
2.25m - 2.5m	2.25m - 2.5m
> 2.5m	> 2.5m

EARTHWORKS SUMMARY

AREA OF CUT - 21,732m²
 VOLUME OF CUT - 27,703m³
 AREA OF FILL - 13,421m²
 VOLUME OF FILL - 10,160m³

THE EARTHWORKS VOLUMES SHOWN ARE INDICATIVE NETT FIGURES ONLY BETWEEN EXISTING SURFACE LEVEL AND FINISHED EARTHWORKS LEVEL AND DO NOT ALLOW FOR DEMOLITION WORKS, STRIPPING OF TOPSOIL, UNSUITABLE MATERIAL AND VEGETATION OR COMPACTION LOSSES.

PAVEMENT LEVELS SHOWN ARE 300mm BELOW F.S.L
 BUILDING PAD LEVELS SHOWN ARE 300mm BELOW F.S.L
 LANDSCAPING LEVELS SHOWN ARE 100mm BELOW F.S.L

EARTHWORKS LEVELS MAY BE ADJUSTED TO SUIT FFL'S AND CONCRETE THICKNESS BASED ON STRUCTURAL DESIGN AS APPROVED BY SUPERINTENDENT.

GENERAL NOTES

- IN CASE OF DOUBT - ASK!
- ALL LEVELS TO AHD, DIMENSIONS IN METERS U.N.O
- ALL LIAISON WITH LOCAL, STATE & STATUTORY AUTHORITIES IS THE CONTRACTOR'S RESPONSIBILITY.
- THE LOCATION OF EXISTING SERVICES IS FOR CONTRACTOR'S INFORMATION ONLY, THE LOCATION OF SERVICES WILL BE CONFIRMED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS.
- ANY DAMAGE CAUSED TO THE EXISTING SERVICE WILL BE MADE GOOD AT THE CONTRACTORS EXPENSE.
- EARTHWORKS PROCEDURES ARE TO BE CARRIED OUT IN ACCORDANCE WITH AS 3798 - 2007 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS".
- EARTHWORKS OPERATIONS ARE TO BE CARRIED OUT IN GENERAL ACCORDANCE WITH THE GEOTECHNICAL REPORT.
- WORKS NOT SPECIFICALLY REFERRED TO, ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE GENERAL DRAWINGS AND SPECIFICATIONS OF THE LOCAL AUTHORITY.
- THE CONTRACTOR IS TO ALLOW FOR ALL FEES AND HAULAGE COSTS ASSOCIATED WITH DISPOSAL OF MATERIAL FROM THE SITE.
- ALL COSTS ASSOCIATED WITH NOISE AND DUST SUPPRESSION FOR SITE WORKS ARE DEEMED THE CONTRACTOR'S RESPONSIBILITY.
- COMPACTION STANDARDS
 - "MODIFIED" TO AS 1289 TEST 5.2.1
 - "STANDARD" TO AS 1289 TEST 5.1.1
- PRIOR TO COMMENCEMENT OF WORKS THE CONTRACTOR WILL PROVIDE SCOUR AND EROSION PROTECTION INCLUDING PROVISION OF SILT TRAPS AND FENCES TO MINIMISE DEPOSITION OF MATERIAL DOWNSTREAM OF THE PROPERTY.
- NO BLASTING WILL BE PERMITTED.
- THE LOCATION OF THE SITE SHEDS, SITE OFFICE AND AMENITIES BUILDING WILL BE LOCATED TO SUIT TEMPORARY UTILITY SERVICES OR AS AGREED WITH THE MANAGER.
- TESTING FREQUENCY AS 3798 - 2007 SECTION 8.0 OR AS APPROVED BY THE GEOTECHNICAL ENGINEER.
- AT COMPLETION OF CONSTRUCTION THE CONTRACTOR SHALL ARRANGE FOR AN INDEPENDENT LICENSED SURVEYOR TO CARRY OUT A "WORKS AS CONSTRUCTED" SURVEY AND SUBMIT THE DETAIL PLAN TO THE MANAGER.
- THE LOCATION OF TEMPORARY STOCKPILES DURING CONSTRUCTION IS TO BE AGREED WITH THE MANAGER.

NOTE:
 TEMPORARY EXCAVATIONS ARE TO BE SUPERVISED BY A SUITABLY QUALIFIED GEOTECHNICAL ENGINEER.

ALL RETAINING WALLS LOCATED WITHIN THE SITE TO STABILISE CUT ARE TO BE WHOLLY WITHIN THE PROPERTY BOUNDARY INCLUDING ALL ASSOCIATED FOOTINGS AND SUB-SOIL DRAINAGE.

CONTRACTOR TO USE EXCAVATION TECHNIQUE THAT WILL PREVENT SUBSIDANCE WITHIN NEIGHBOURING PROPERTIES IN ACCORDANCE WITH GEOTECHNICAL ENGINEERS REPORT AND ADVICE ON SITE.

PRELIMINARY EARTHWORKS PLAN

SCALE 1:750
 (A1 SIZE)

No.	DATE	REVISIONS	DES	DRN	CHK	APD	DOCUMENT CONTROL	APPROVED

DESIGNED S.C.M	<p>STRUCTURAL+CIVIL+ENVIRONMENTAL ENGINEERS www.westerapartners.com.au ABN 52 097 417 975</p>
DRAWN J.J.D	
CHECKED P.B	
APPROVED J.M.H	
DATE Apr-24	

BRISBANE T 07 3852 4333 E brisbane@westerapartners.com.au GOLD COAST T 07 5571 1599 E goldcoast@westerapartners.com.au SUNSHINE COAST T 07 5391 3777 E sunshinecoast@westerapartners.com.au NORTHERN NSW T 02 6674 8047 E nsw@westerapartners.com.au CENTRAL VICTORIA T 03 5441 0922 E centralvic@westerapartners.com.au	SURVEYOR DSQ LAND SURVEYORS PHONE 07 5437 8555	DATUM A.H.D. PSM 171964 R.L. 117.348
---	--	--

USE FIGURED DIMENSIONS ONLY. DO NOT SCALE. IF A DISCREPANCY ARISES CHECK WITH THE PROJECT ENGINEER AND/OR SUPERVISING AUTHORITY. DO NOT WORK FROM REDUCED SCALE DRAWINGS (A1-A3 SIZE PAPER). COPYRIGHT OF ALL DRAWINGS & WORKS EXECUTED FROM THEM IS VESTED IN WESTERA PARTNERS AND USE OF THERE FORE WITHOUT PERMISSION IS STRICTLY PROHIBITED IT IS THE BUILDERS RESPONSIBILITY TO ENSURE ALL WORKS ARE CARRIED OUT WITH DUE CARE AND DILIGENCE TO COMPLY WITH THE CONTRACT DOCUMENTS.

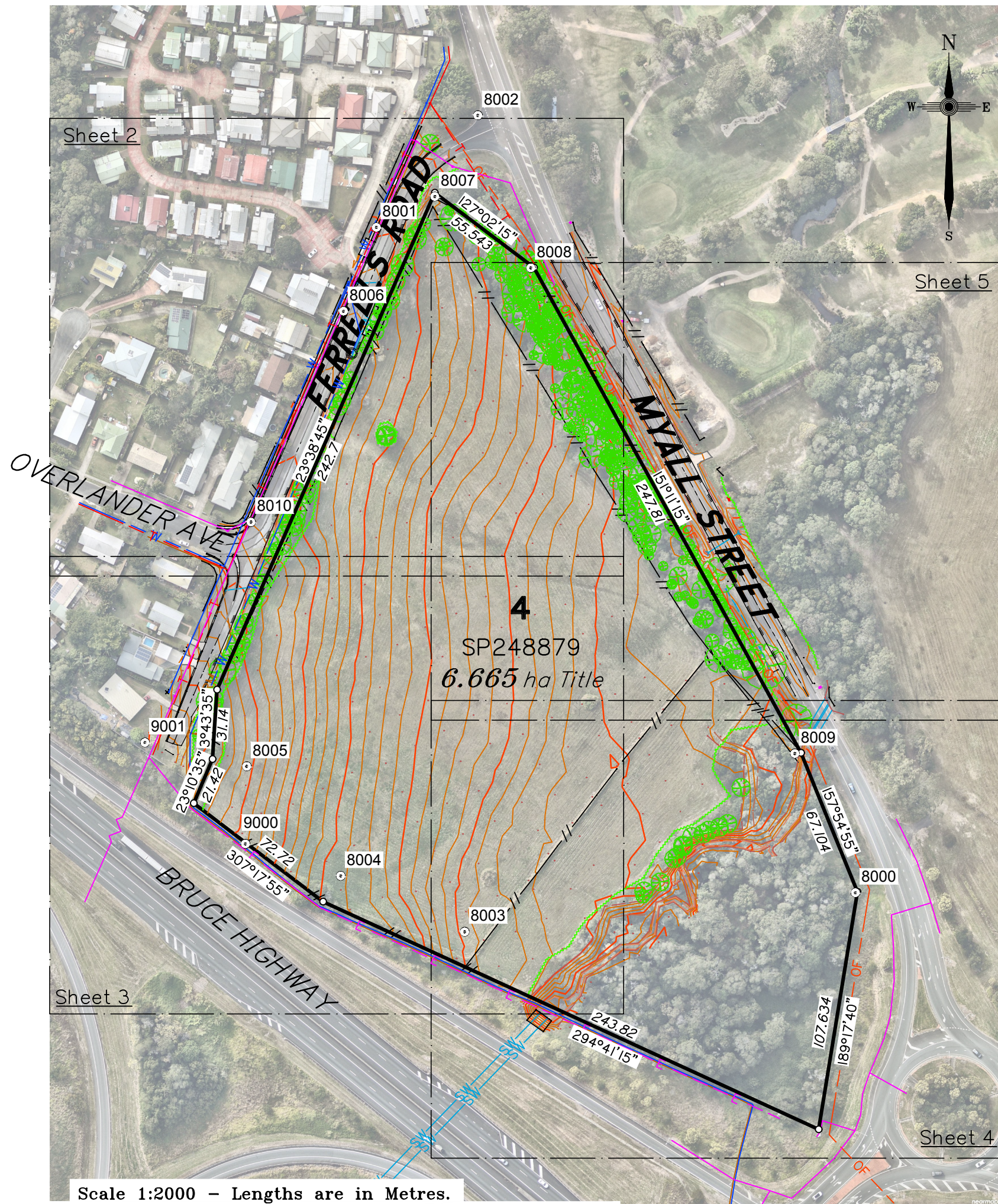
PROJECT LOCATION	PROPOSED COMMERCIAL DEVELOPMENT LOT 4 on SP248879 125 MYALL STREET, COOROY
TITLE	PRELIMINARY EARTHWORKS PLAN
CLIENT	FABCOT PTY LTD

DRAWING STATUS	PRELIMINARY N.F.C.
DRAWING NUMBER	S23-142-PE01
SHEET NUMBER	1 OF 1

Appendix D – Site Survey & Architectural Drawings

COORDINATE TABLE

Point #	Easting	Northing	Elevation	Description
8000	491418.416	7076613.849	108.306	OIP
8001	491204.245	7076911.478	114.076	ONIC HOLE
8002	491249.590	7076961.561	110.467	OSIK
8003	491243.693	7076596.343	109.432	IPIN
8004	491188.292	7076621.378	113.556	IPIN
8005	491146.256	7076670.391	118.308	IPIN
8006	491189.531	7076873.971	115.033	OSIK
8007	491230.361	7076925.272	112.743	OIP
8008	491273.297	7076893.356	109.220	OIP
8009	491391.350	7076676.113	105.543	OIP
8010	491148.165	7076779.651	117.028	OSIK
9000	491145.681	7076635.694	117.348	OPSM 171964
9001	491100.761	7076681.042	122.258	OPSM 47250



Woolworths Group

DETAIL SURVEY
125 Myall Street,
Cooroy

GENERAL NOTES:

- VISIBLE SERVICES ONLY HAVE BEEN LOCATED. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATION OF ALL SERVICES.
- DATA SET IS GROUND COORDINATES SCALED FROM TRUE MGA TO PLANE ABOUT PSM 47250. S.F. 1,0004. E 491 100.761, N 7 076 681.042 MGA TRUE.
- BOUNDARIES HAVE NOT BEEN SURVEYED OR REINSTATED
- BOUNDARIES SHOWN ARE COMPILED FROM SP248879.
- CONTOUR INTERVAL SHOWN IS 0.5 METRE.

LEGEND

- COMMUNICATIONS PIT
- BYDA COMM'S
- BYDA OPTIC FIBRE
- POWER POLE
- ELECTRICAL PILLAR
- LIGHT POLE
- ELECTRICAL PIT
- ELECTRICITY O/H
- BYDA ELECTRICITY
- SEWER MANHOLE LID
- SEWER MAIN
- BYDA SEWER MAIN
- AIR VALVE
- WATER METER
- STOP VALVE
- WATER HYDRANT
- BYDA WATER MAIN
- STORMWATER LINE
- STREET SIGN
- EDGE OF BITUMEN
- CROWN OF ROAD
- FENCE
- SURVEY CONTROL POINT
- TREE
- TREE LINE



Revisions	Surveyed	Drawn	Checked	Passed	Date
A ORIGINAL PLAN	JAM	JAM	AJP	AJP	14.11.23



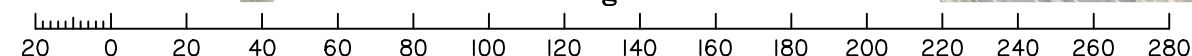
SUNSHINE COAST
PO Box 1073, Buddina QLD 4575 Ph: (07) 5437 8555
mail@dsqsurvey.com ABN: 91 615 043 251
www.dsqsurvey.com ACN: 615 043 251
TOOWOOMBA - DALBY - CHINCHILLA

Horiz. Datum MGA2020-56 Vert. Datum AHD
Origin PSM 47250 Origin PSM 171964
RL 117.348

Locality: COOROY
Local Government: NOOSA SHIRE

SHEET 1 OF 5 Scale A3 1:2000

DRAWING NUMBER 15072-DTM-01 REV. A



\\WSDEFM001\Workgroups\DSQ_Data\Jobs\Jobs Current\15072 Woolworths Group (Cooroy)\Data Survey\Drafting\DTM\15072 DTM 01.dwg

**DETAIL SURVEY
125 Myall Street,
Cooroy**

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3. BOUNDARIES HAVE NOT BEEN SURVEYED OR REINSTATED
4. BOUNDARIES SHOWN ARE COMPILED FROM SP248879.
5. CONTOUR INTERVAL SHOWN IS 0.5 METRE.

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- BYDA OPTIC FIBRE
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- ELECTRICAL PILLAR
- LIGHT POLE
- ELECTRICAL PIT
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- BYDA ELECTRICITY
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- SEWER MAIN
- BYDA SEWER MAIN
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- WATER METER
- STOP VALVE
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Revisions	Surveyed	Drawn	Checked	Passed	Date
A ORIGINAL PLAN	JAM	JAM	AJP	AJP	14.11.23



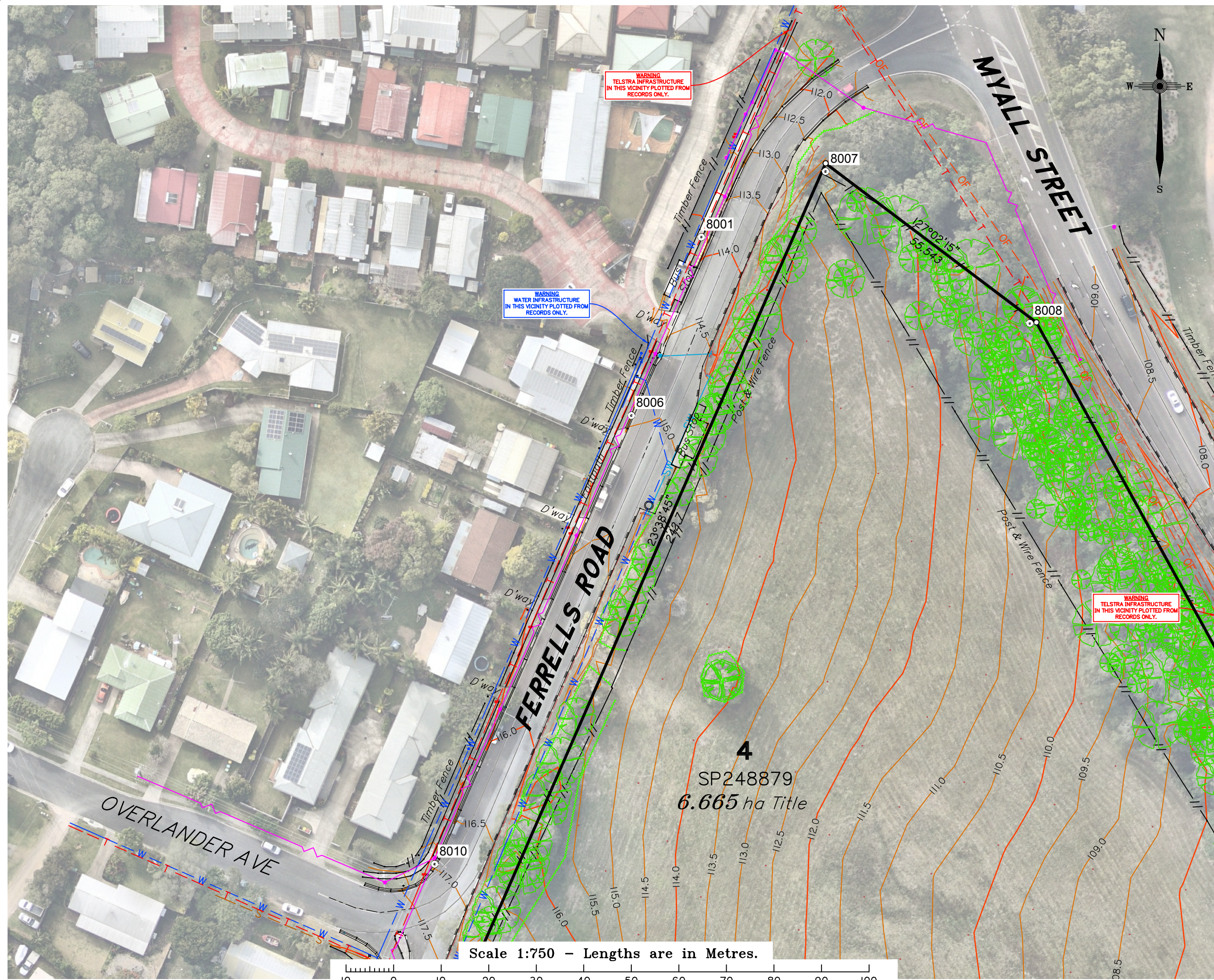
SUNSHINE COAST
PO Box 1073, Buddina QLD 4575 Ph: (07) 5437 8555
mail@dsqsurvey.com ABN: 91 615 043 251
www.dsqsurvey.com ACN: 615 043 251
TOOWOOMBA - DALBY - CHINCHILLA

Horiz. Datum MGA2020-56 Vert. Datum AHD
Origin PSM 47250 Origin PSM 171964
RL 117.348

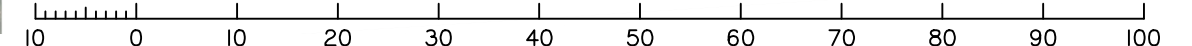
Locality: COOROY
Local Government: NOOSA SHIRE

SHEET 2 OF 5 Scale **A3 1:750**

DRAWING NUMBER **15072-DTM-01** REV. **A**



Scale 1:750 - Lengths are in Metres.



\\WSDEFM001\Workgroups\DSQ_Data\Jobs\Jobs Current\15072 Woolworths Group (Cooroy)\Data Survey Drafting\DTM\15072 DTM 01.dwg

**DETAIL SURVEY
125 Myall Street,
Cooroy**

GENERAL NOTES:

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5. CONTOUR INTERVAL SHOWN IS 0.5 METRE.

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- TREE LINE



Revisions	Surveyed	Drawn	Checked	Passed	Date
A ORIGINAL PLAN	JAM	JAM	AJP	AJP	14.11.23



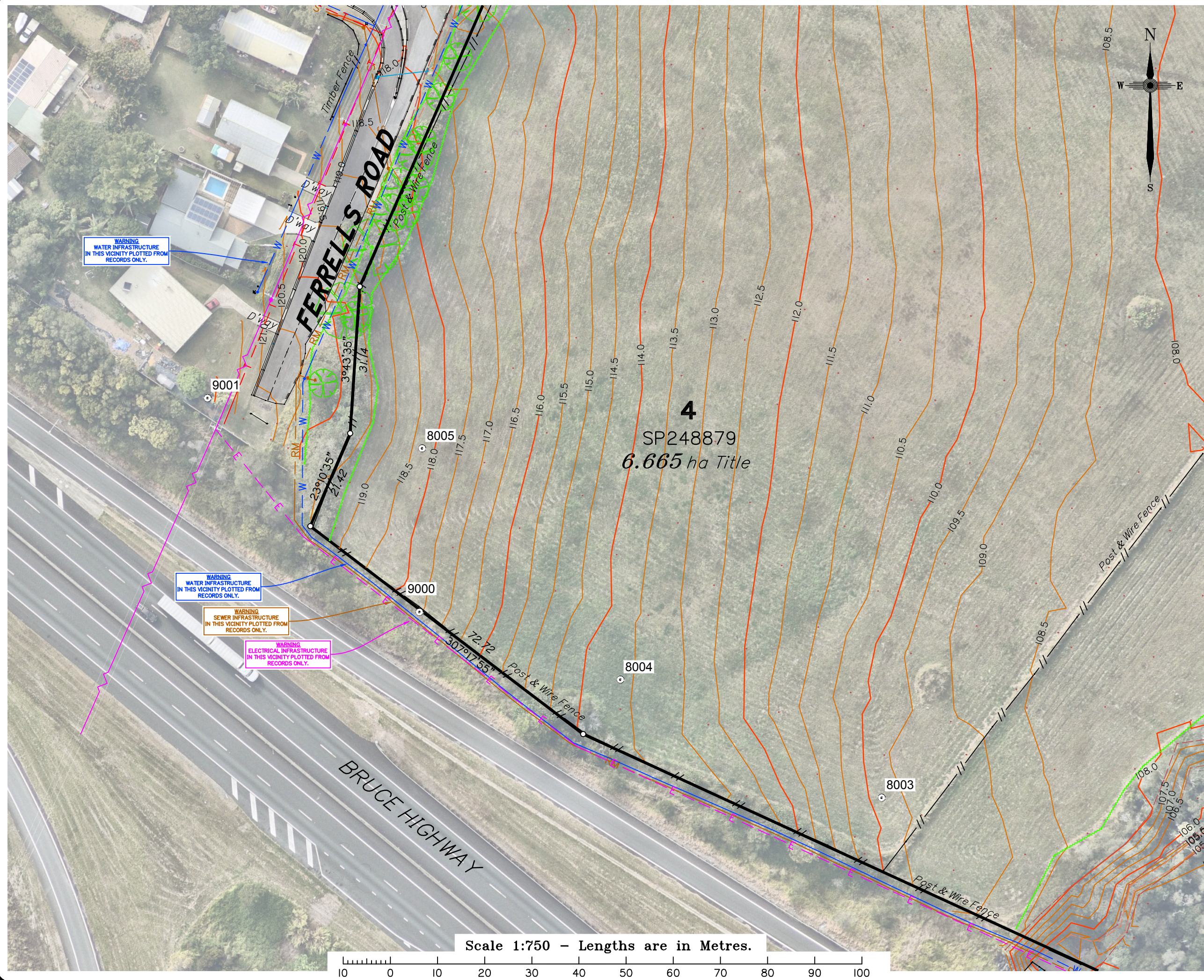
SUNSHINE COAST
 PO Box 1073, Buddina QLD 4575 Ph: (07) 5437 8555
 mail@dsqsurvey.com ABN: 91 615 043 251
 www.dsqsurvey.com ACN: 615 043 251
 TOOWOOMBA - DALBY - CHINCHILLA

Horiz. Datum MGA2020-56 Vert. Datum AHD
 Origin PSM 47250 Origin PSM 171964
 RL 117.348

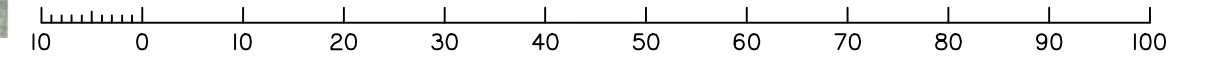
Locality: COOROY
 Local Government: NOOSA SHIRE

SHEET 3 OF 5 Scale **A3 1:750**

DRAWING NUMBER **15072-DTM-01** REV. **A**



Scale 1:750 - Lengths are in Metres.



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DETAIL SURVEY
125 Myall Street,
Cooroy

GENERAL NOTES:

1. VISIBLE SERVICES ONLY HAVE BEEN LOCATED. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATION OF ALL SERVICES.
2. DATA SET IS GROUND COORDINATES SCALED FROM TRUE MGA TO PLANE ABOUT PSM 47250. S.F. 1,0004. E 491 100.761, N 7 076 681.042 MGA TRUE.
3. BOUNDARIES HAVE NOT BEEN SURVEYED OR REINSTATED
4. BOUNDARIES SHOWN ARE COMPILED FROM SP248879.
5. CONTOUR INTERVAL SHOWN IS 0.5 METRE.

LEGEND

- COMMUNICATIONS PIT
- BYDA COMM'S
- BYDA OPTIC FIBRE
- POWER POLE
- ELECTRICAL PILLAR
- LIGHT POLE
- ELECTRICAL PIT
- ELECTRICITY O/H
- BYDA ELECTRICITY
- SEWER MANHOLE LID
- SEWER MAIN
- BYDA SEWER MAIN
- AIR VALVE
- WATER METER
- STOP VALVE
- WATER HYDRANT
- BYDA WATER MAIN
- STORMWATER LINE
- STREET SIGN
- EDGE OF BITUMEN
- CROWN OF ROAD
- FENCE
- SURVEY CONTROL POINT
- TREE
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Revisions	Surveyed	Drawn	Checked	Passed	Date
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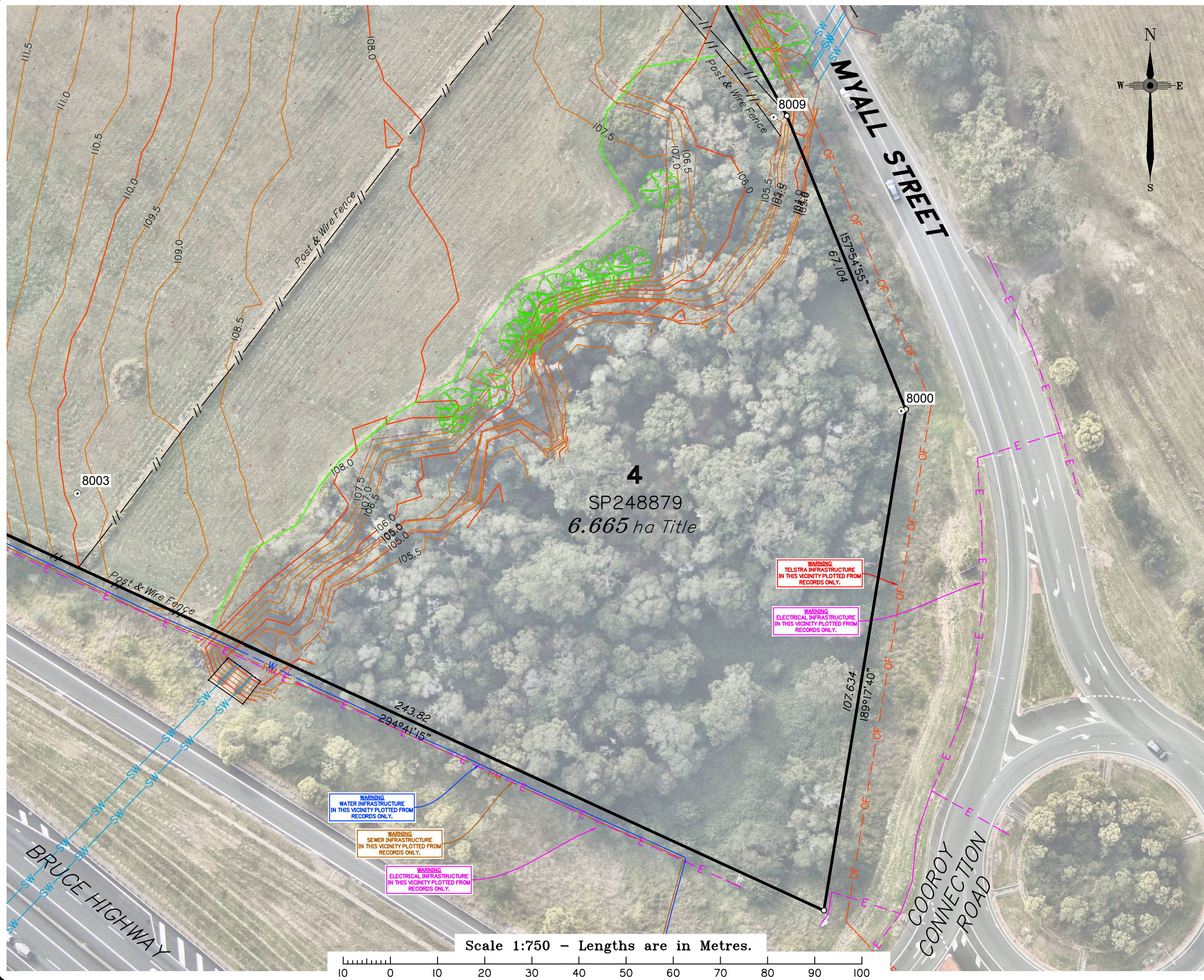
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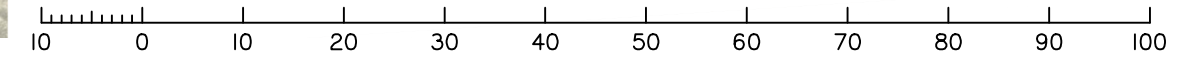
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SHEET 4 OF 5 Scale **A3 1:750**

DRAWING NUMBER **15072-DTM-01** REV. **A**



Scale 1:750 - Lengths are in Metres.



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**DETAIL SURVEY
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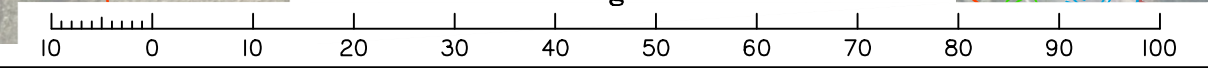
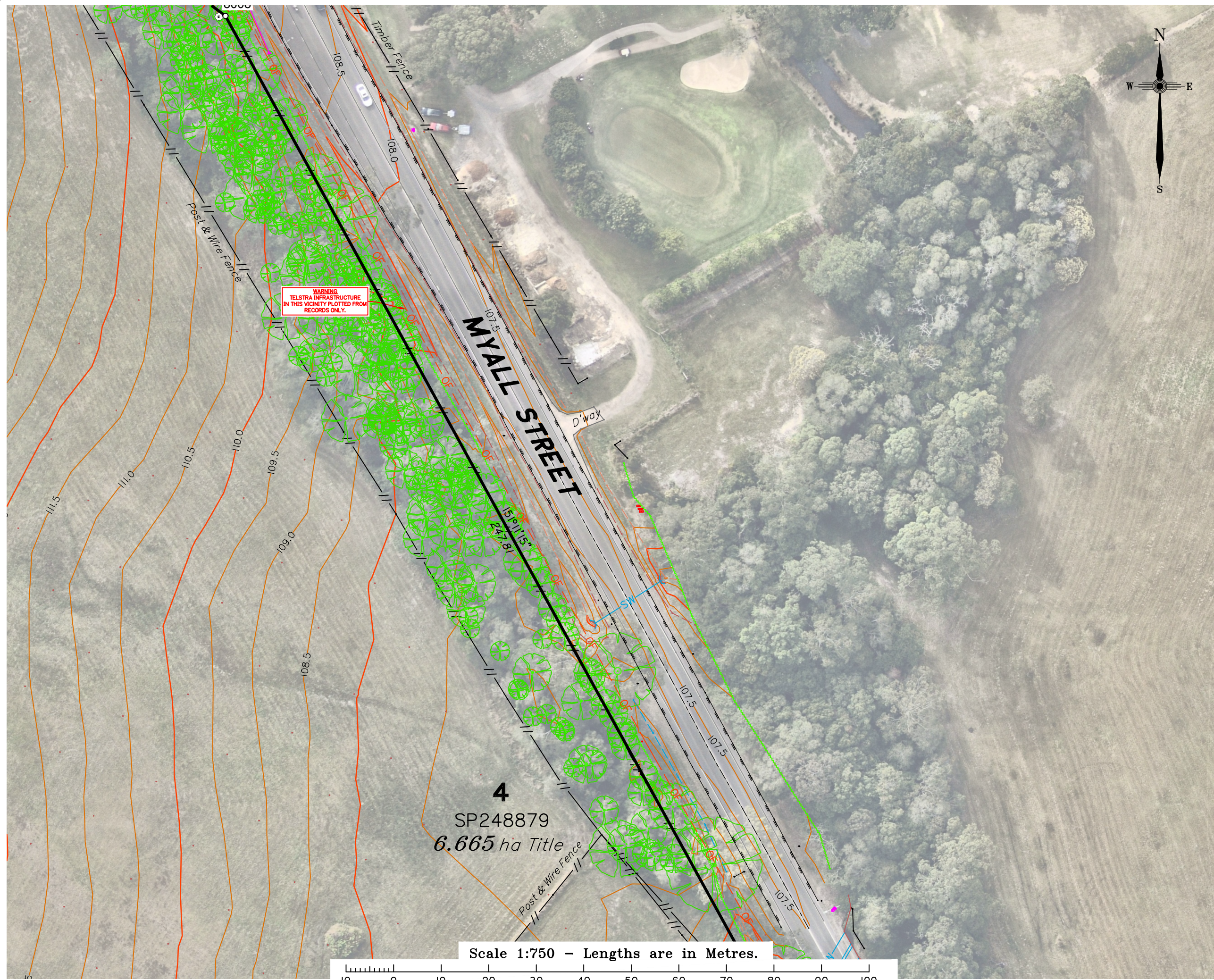
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SHEET 5 OF 5 Scale **A3 1:750**

DRAWING NUMBER **15072-DTM-01** REV. **A**



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PARKING LEGEND	
CAR BAYS	GENERALLY: - STANDARD BAY - 5500 x 2600 - PARENTS WITH PRAMS - 5500 x 2600 - ACCESSIBLE BAY - 5500 x 2400
MOTORCYCLES	1500 x 2500
SRV (MEDIUM RIGID VEHICLE)	7000 x 3500
DRIVEWAYS	GENERALLY - 6600 (UNLESS OTHERWISE SHOWN)
LEVELS	PROPOSED LEVELS SHOWN ARE INDICATIVE ONLY, AND ARE SUBJECT TO VARIANCE AFTER FURTHER DESIGN DEVELOPMENT & CIVIL ENGINEERS ADVICE

LEGEND			
WS	WHEEL STOP	PEDESTRIAN CROSSING	ACOUSTIC FENCE IN ACCORDANCE WITH ACOUSTIC ENGINEER'S REQUIREMENTS
[Green Box]	LANDSCAPING: TO LANDSCAPE ARCHITECTS DRAWINGS.	[Blue Box]	RETAINING WALL WITH SAFETY FENCE (REFER TO CIVIL & LANDSCAPE DRAWINGS)
[Cross-hatched Box]	COVERED WALKWAY	[Dashed Box]	SHADE STRUCTURES TO CARBAYS
[Dotted Box]	UNCOVERED WALKWAY	[Dotted Box]	
[Wheelchair Icon]	PARKING: ACCESSIBLE (MIN 2400 x 5500 WITH CENTRAL SHARED ZONE 2400 WIDE)	[Arrow]	
[Tricycle Icon]	PARKING: PARENTS WITH PRAMS (MIN 3200 x 5500)	[Arrow]	
[Staircase Icon]	LEVELS	[Arrow]	
[Trolley Icon]	TROLLEY BAY	[Arrow]	
[Elevation Box]	EXISTING CONTOURS	[Arrow]	
[Elevation Box]	DIRECTION OF TRAFFIC FLOW		

PROPERTY DETAILS	
PROPERTY DESCRIPTION:	LOT 4 ON SP248879
SITE AREA:	66654m ²
PROPERTY ADDRESS:	125 Myall Street, Cooroy

DEFINITIONS
GROSS FLOOR AREA (GFA)
 FOR A BUILDING, THE TOTAL FLOOR AREA OF ALL STOREYS OF A BUILDING, MEASURED FROM THE OUTSIDE OF THE EXTERNAL WALLS AND THE CENTRE OF ANY COMMON WALLS OF THE BUILDING, OTHER THAN AREAS USED FOR:
 A. BUILDING SERVICES, PLANT OR EQUIPMENT; OR
 B. ACCESS BETWEEN LEVELS; OR
 C. GROUND FLOOR PUBLIC LOBBY; OR
 D. A MALL; OR
 E. PARKING, LOADING AND MANEUVERING OF VEHICLES; OR
 F. UNENCLOSED PRIVATE BALCONIES WHETHER ROOFED OR NOT

MASTERPLAN
 THE SITE COMPRISES OF THREE PARCELS OF LAND.

PROPOSED LOT 1: CENTRE SITE
 22,367m² (EXCLUDING ENVIRONMENTAL MANAGEMENT AND CONSERVATION ZONE).
 40,106m² (INCLUDING ENVIRONMENTAL MANAGEMENT AND CONSERVATION ZONE).

PROPOSED LOT 2: RACF SITE
 13,630m²
 THE SITE IS BOUNDED ON THE EAST BY AN PROPOSED SUPERMARKET. IT IS PROPOSED TO DEVELOP A 2 STOREY RESIDENTIAL AGED CARE HOME (RAC) OF 126 BEDS ON THIS SITE.

PROPOSED LOT 3: RACF SITE
 8,287m² (EXCLUDING ENVIRONMENTAL MANAGEMENT AND CONSERVATION ZONE).
 11,742m² (INCLUDING ENVIRONMENTAL MANAGEMENT AND CONSERVATION ZONE).
 CONCEPTUAL LAYOUT FOR A 2 STOREY RESIDENTIAL AGED CARE HOME (RAC) OF 100 BEDS. NO APPROVAL FOR THIS DEVELOPMENT IS SOUGHT WITH THIS APPLICATION. DEVELOPMENT WILL BE SUBJECT TO A SEPARATE DETAILED APPLICATION.

ACCOMMODATION SUMMARY

- PROPOSED LOT 1: CENTRE SITE + ACCESS ROAD
 - FULL LINE SUPERMARKET + SPECIALTY TENANCIES
- PROPOSED LOT 2: RACF
 - 126 BED AGED CARE FACILITY
- PROPOSED LOT 3: RACF
 - 100 BED AGED CARE FACILITY

PROPOSED LOT 2: RACF SITE DEVELOPMENT SCHEDULE - GFA

AGED CARE FACILITY	GF - 4000m ²
	LVL 1 - 3558m ²
TOTAL AREA (GFA)	7558m ²

PARKING SCHEDULE

BAY DESCRIPTION	QTY
ACCESSIBLE CARPARK BAY	1
STAFF CARPARK BAY	16
STANDARD CARPARK BAY	21
TOTAL CARPARK NUMBERS	38

PROPOSED LOT 3: RACF SITE

NO APPROVAL FOR THIS DEVELOPMENT IS SOUGHT WITH THIS APPLICATION. DEVELOPMENT WILL BE SUBJECT TO A SEPARATE DETAILED APPLICATION.

PROPOSED LOT 1: CENTRE SITE DEVELOPMENT SCHEDULE - GFA

SUPERMARKET (INCLUDING SUPERMARKET OFFICE + BOH)	GROUND - 3958m ²
	MEZZ - 247m ²
SHOPS (INCLUDING KIOSK)	1285m ²
AMENITIES	136m ²
TOTAL AREA (GFA) (SUPERMARKET + SHOPS)	5626m ²

PARKING SCHEDULE

BAY DESCRIPTION	QTY
ACCESSIBLE CARPARK BAY	6
DTB CARPARK BAY	8
PRAM CARPARK BAY	4
STAFF CARPARK BAY	12
STANDARD CARPARK BAY	244
TOTAL CARPARK NUMBERS	274

AREA SCHEDULE - SITE COVER

EXCLUDING ENVIRONMENTAL MANAGEMENT AND CONSERVATION ZONE

TYPE	AREA	%
BUILDING FOOTPRINT	6917 m ²	31%
OTHER	15450 m ²	69%
TOTAL	22367 m ²	

AREA SCHEDULE - LANDSCAPING

EXCLUDING ENVIRONMENTAL MANAGEMENT AND CONSERVATION ZONE

CENTRE SITE - AREA SCHEDULE - LANDSCAPING		
TYPE	AREA	%
HARD LANDSCAPE	13737 m ²	61%
OTHER	5867 m ²	26%
SOFT LANDSCAPE	2762 m ²	12%
TOTAL	22367 m ²	

CENTRE SITE - AREA SCHEDULE - LANDSCAPING ONLY

TYPE	AREA	%
HARD LANDSCAPE	13737 m ²	83%
SOFT LANDSCAPE	2762 m ²	17%
TOTAL LANDSCAPING	16500 m ²	

AREA SCHEDULE - SITE COVER

TYPE	AREA	%
BUILDING FOOTPRINT	5025m ²	37%
OTHER	8606m ²	63%
TOTAL	13630m ²	

MAXIMUM 50% OF THE SITE COVER TO BE BUILDING FOOTPRINT.

AREA SCHEDULE - LANDSCAPING

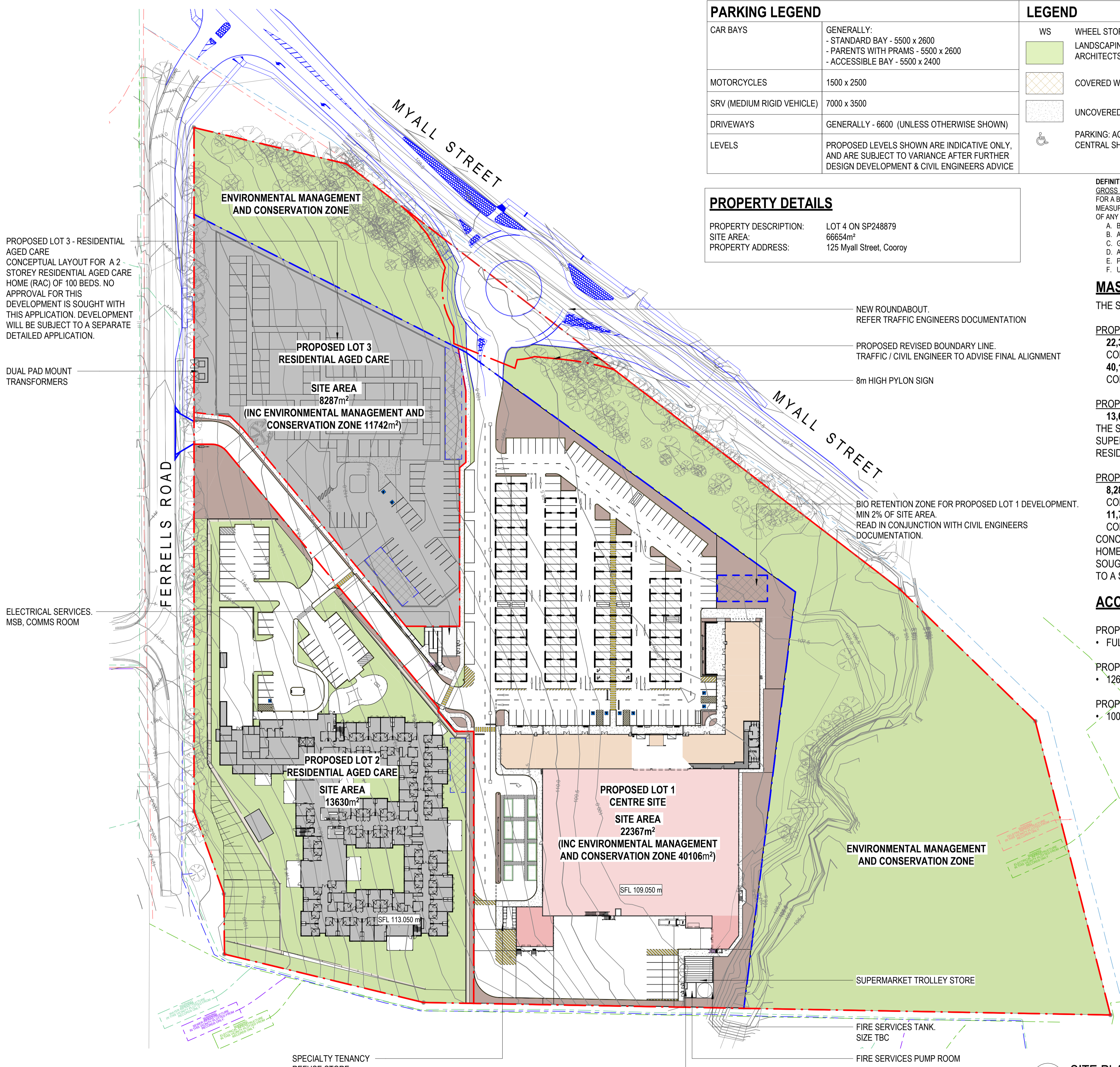
AREA SCHEDULE - LANDSCAPING		
TYPE	AREA	%
HARD LANDSCAPE	144m ²	1%
OTHER	6508m ²	48%
SOFT LANDSCAPE	6979m ²	51%
TOTAL	13630m ²	

MINIMUM 40% OF THE SITE TO BE LANDSCAPED (60% MAXIMUM OF OTHER)

AREA SCHEDULE - LANDSCAPING ONLY

TYPE	AREA	%
HARD LANDSCAPE	144m ²	2%
SOFT LANDSCAPE	6979m ²	98%
TOTAL	7122m ²	

MINIMUM 60% OF THE LANDSCAPED AREA TO BE SOFT LANDSCAPED. (40% MAXIMUM OF HARD LANDSCAPE)



1 SITE PLAN - MASTERPLAN
 1 : 750

DA ISSUE

WOOLWORTHS COOROY
 125 Myall Street, Cooroy

WOOLWORTHS GROUP

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SITE PLAN - MASTERPLAN

2024-05-21

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