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24 March 2022

Hamish McTaggart
Development Coordinator
Muswellbrook Shire Council
Via email/Planning Portal

Re: Development Application 2021/55 - Waste Transfer Station 32-36 Glen Munro Road, Muswellbrook

Dear Mr McTaggart,

Thank you for your email correspondence dated 7 February 2022 advising of considerations of information previously supplied and requesting further information in relation to Development Application 2021/55 for the proposed Muswellbrook Waste Transfer Station at 32 Glen Munro Road, Muswellbrook (the Project).

Following on from the response letters dated 29 October 2021 and 10 November 2021 and 22 December 2021, additional responses are provided below

1 Update to plans

Confirmation has been received from Council, by way of email, advising that no further updates are required to the set of plans in regard to the size of the pipeline leading towards the existing detention basin.

Updates have been made to the Landscaping plan and Site Elevations plan. The Landscaping plan has been updated to include only a reference to the use of a Star Jasmine vine/creeper. The reference to the use of a Creeping Fig has been removed due to their potentially invasive root system that could lead to cracking and lifting of foundations. The Site Elevations plan has been updated to show the planting of the vine along the length of the northern wall.

2 Road safety

The Council requests a "Road Safety Audit". Road Safety Audits have a formal structure that considers the existing roads/intersections and identifies any deficiencies. Generally, they do not provide recommendations regarding identified deficiencies, and they do not consider the impacts of future projects. Rather than commissioning a Road Safety Audit, CWS propose to engage EMM Associate Traffic Engineer, Abdullah Uddin (refer to Appendix A for Abdullah's CV), to prepare a Road Safety Assessment that will consider the existing intersection and propose measures to mitigate any reduction in safety as a result of truck movements associated with the development. This assessment would consist of the following:

1. One day and night-time inspection of Thomas Mitchell Drive, 500 m either side of Glen Munro Road (indicative extent of site inspection area displayed in Figure 2.1 below).

   An investigation of:

   a) sight distances and grades;

   b) signs and pavement markings;

c) roadside objects and hazards;

d) existing turn treatments at Thomas Mitchell Drive/Glen Munro Road;

e) existing traffic conditions and driving behaviour;

f) effectiveness of the posted speed limit;

g) suitability of the road, intersection, etc for heavy vehicle operation; and

h) operation of the intersection, including capacity.

2. Identify any existing safety deficiencies of design, layout and road furniture which are not consistent with the road's function or use.

3. Identify any potential safety issues due to the development's traffic.

4. Identify potential mitigation measures and group measures together as minor and moderate treatments.

5. Preparation of an implementation plan for consideration by Council's Local Traffic Committee.

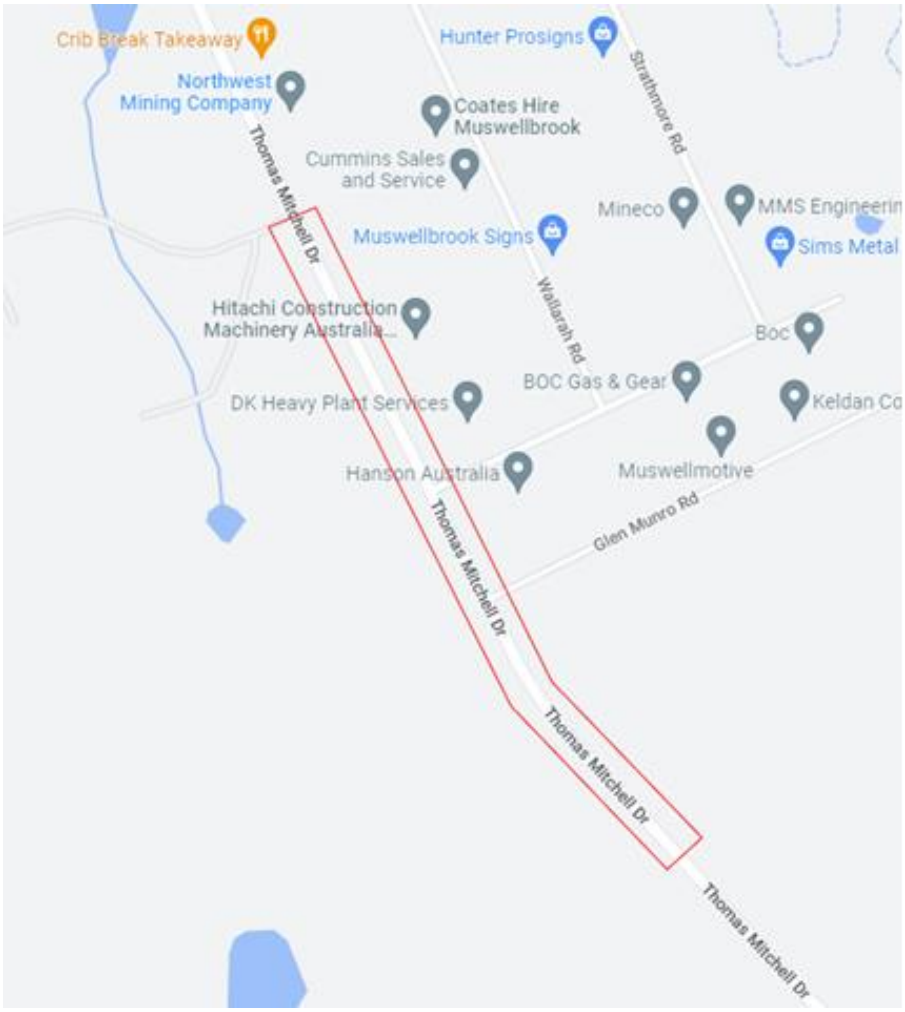


Figure 2.1 Indicative Road Safety Assessment area

We seek Council's confirmation that this is an acceptable approach.

3 Compound size and wall height

3.1 Compound size

Central Waste's established vehicle fleet consists of a range of vehicles. The largest vehicle that will be required to enter site will be a 21-m long articulated vehicle (AV). A Swept Path Assessment was undertaken (Appendix G of original EIS and Figure 3.1 and Figure 3.2 below) to confirm the safe and adequate on-site manoeuvrability of these vehicles to/from and within the site.

The swept path analysis found that the site as currently proposed has the minimum footprint to allow heavy vehicles to move safely within the site without the need for reversing.

The creation of setbacks along the site boundaries would require the operable area to be reduced. In this case, heavy vehicles would no longer be able to move safely within the site without reversing, increasing associated increased risks.

In addition to ensuring maximum available space is available to provide safe movement of heavy vehicles, the installation of the walls on the boundary provide a 'neater' view of the site. It is noted that mixed commercial and industrial uses exist to the north and west of the development site with a proportion of these lots containing a setback from their boundary fence. It can be seen from aerial imagery and recent sites visits that these setbacks often contain stockpiled materials including machinery, scrap metal and wood. Having solid walls built to the boundary along the eastern and southern boundaries will present a tidier and more attractive aspect when compared to other properties in Glen Munro Road that have mesh fences on the boundary, allowing their stored materials to be visible from outside. The addition of landscaping along the northern boundary and the western front fence will soften the external appearance along with screening views to the inside workings of the waste transfer facility.

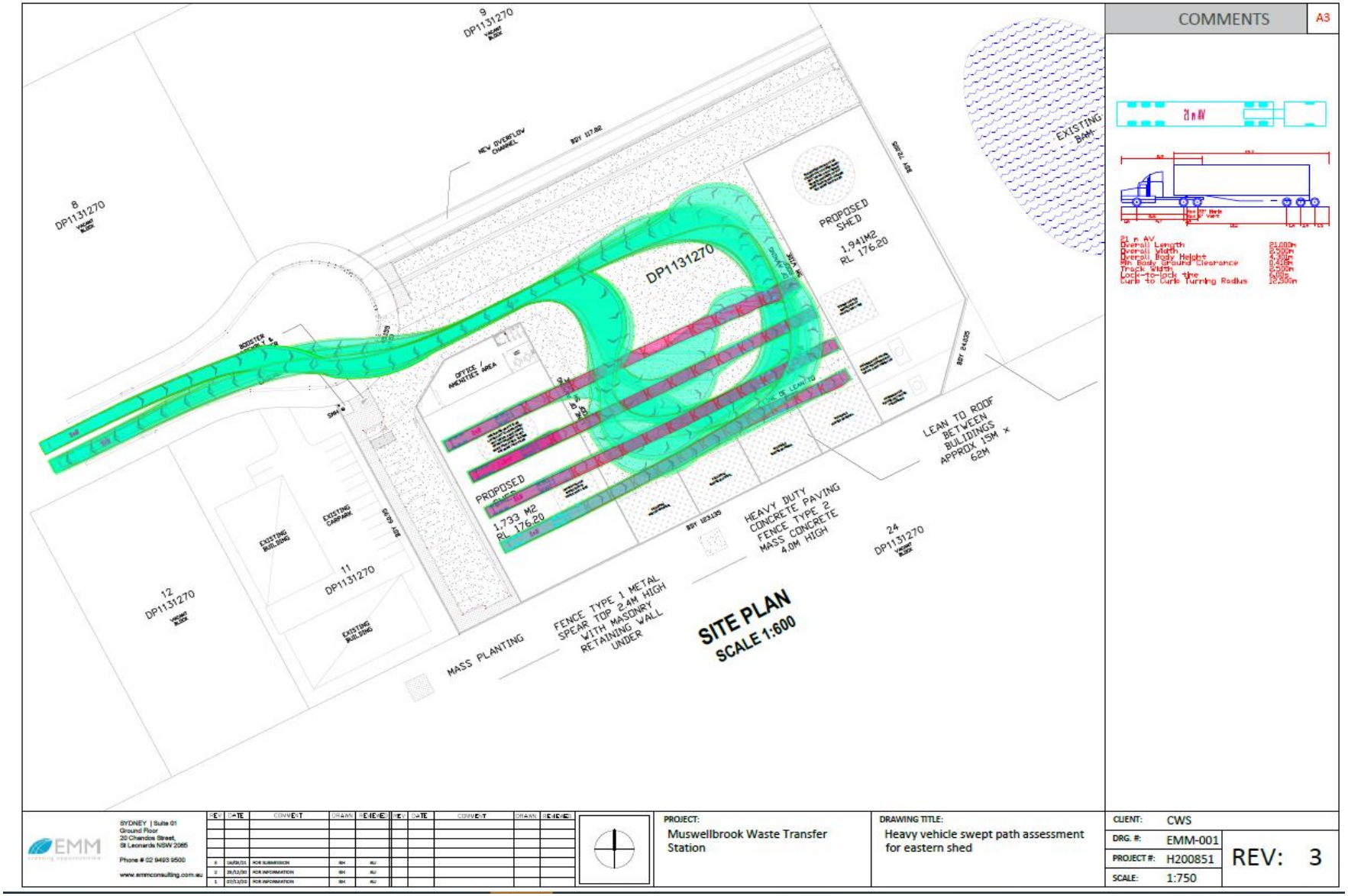


Figure 3.1 Swept path assessment for Eastern shed

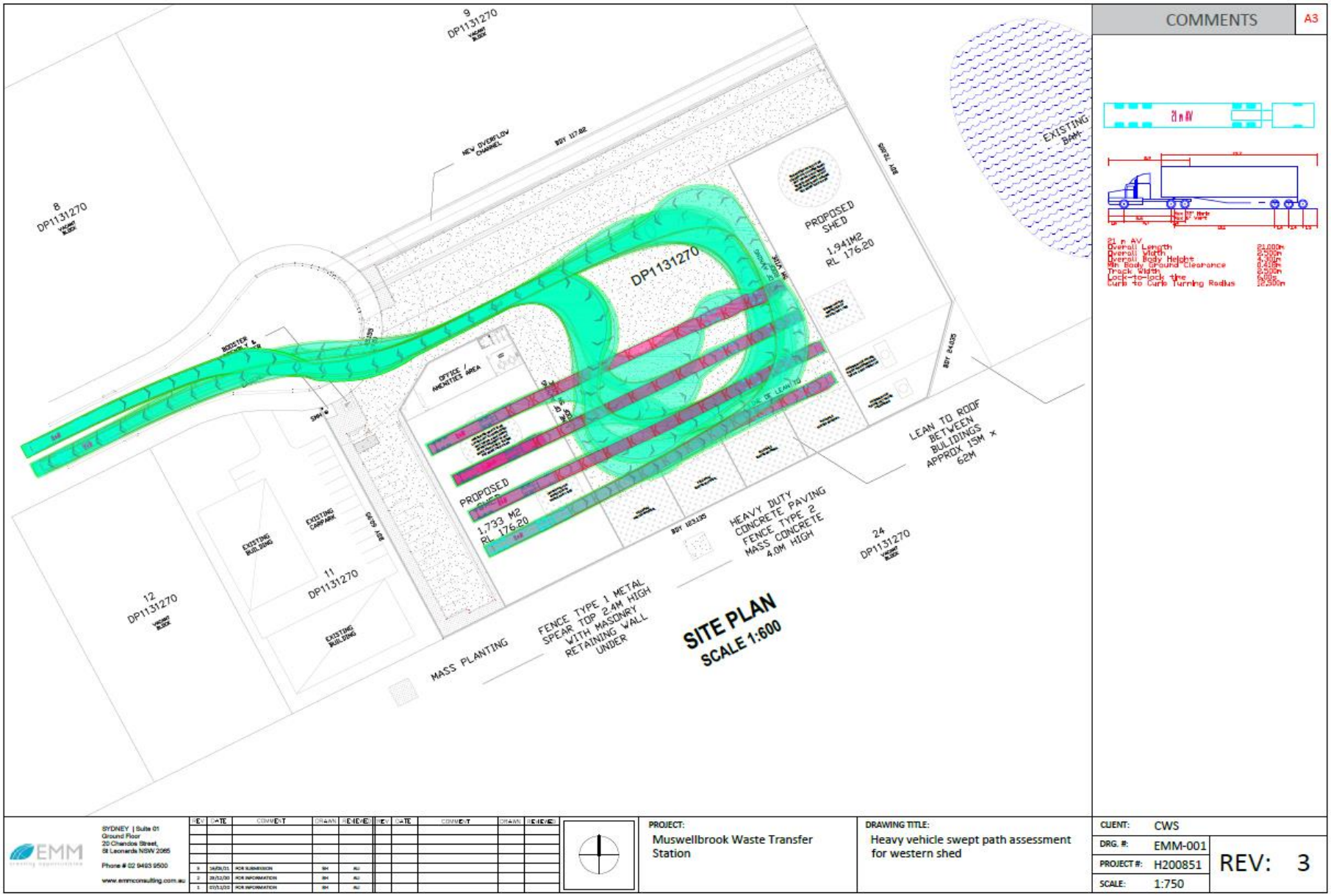


Figure 3.2 Swept path assessment for Western shed

3.2 Wall heights

Central Waste Station (CWS) currently operates a Resource Recovery Facility (RRF) located at 8 Styles Street, Kurri Kurri, NSW. To ensure consistent branding of CWS facilities, the Muswellbrook facility has been designed consistent with the Kurri Kurri RRF. Figure 3.3 below shows the front boundary wall of the CWS RRF located at Kurri Kurri.

Figure 3.3 View of the south boundary wall of CWS Kurri Kurri RRF

It is proposed to carry through this branding and design through to the Muswellbrook Waste Transfer Facility.

Open grassland and partially cleared remnant bushland exists to the north, east and south of the site, with mature trees in these areas screening views of the site. Lots to the North and East of the proposed development site are zoned E3 (Environmental Management) with the lot to the East having additional development restrictions associated with a conservation agreement relating to off-site biodiversity offsets. It is thought that the development of a waste transfer station next to these environmentally zoned lots would not add additional limitations to the existing limited capacity to support development due to the E3 zoning along with the conservation agreement for off-site biodiversity offsets.

Figure 3.4 below shows a scanned data model of the existing topography and vegetation with the proposed design superimposed into the model. This is view is from the south and shows that significant screening is provided by the established vegetation and shows the scale of the proposed structures in the context of the neighbouring buildings.

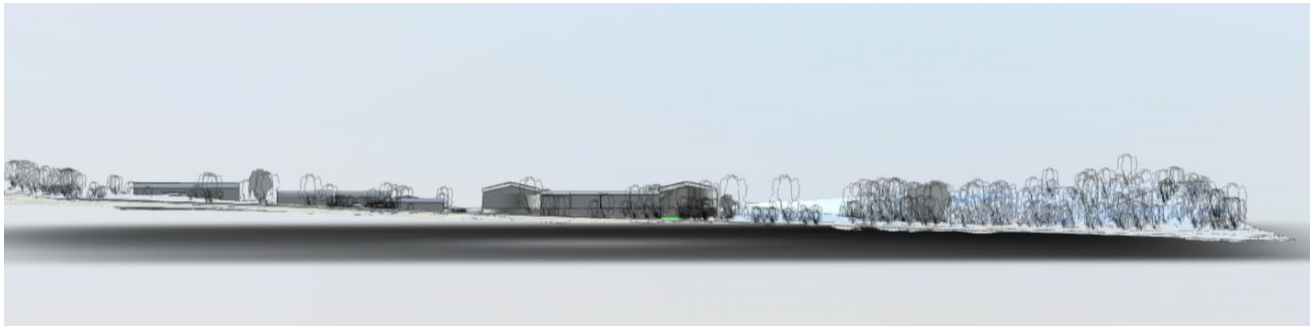


Figure 3.4 Modelled view of the development site from southern lot

Elements of the Project will be partially visible from some roads in the local area. Most views of the site will be fully or partially screened by interceding topography and vegetation, and distances greater than 1 km will reduce the scale and degree of contrast for visible elements of the Project.

The proposed development includes the following boundary/shed wall heights:

- 11 m high section (~69 m long) and 8 m high section (~15.5 m long) along the eastern boundary.
- 11 m high section (~123 m long) and 2.4 m high section (~16 m long) along the southern boundary.
- 8 m along the northern boundary.
- 3.9 m fence along the western boundary.

Refer to the Elevations plan (DA-12) in Appendix B for detailed length and heights of each boundary.

The height along the eastern and southern boundaries encompasses the materials handling sheds and external covered bays. The walls are required to be 11 m high to allow the materials handler equipment safe clearance associate with the 12 m reach and operation. Reducing the shed/boundary wall height would compromise the safe operation of the material handler. Figure 3.4 below shows the model of the material handler to be used on site.

Details, including specifications of the materials handler equipment can be found on the manufacturer's website www.liebherr.com/en/aus/products/material-handling-equipment/mobile-material-handling-machines/details/643504.html

** Image curtesy of Liebherr (https://www.liebherr.com/en/aus/products/material-handling-equipment/mobile-material-handling-machines/details/643504.html)*

Figure 3.5 Model of material handler to be used

The 8-m high wall along the northern boundary, which returns about 112 m along the eastern boundary to the eastern shed, provides an enclosed a working area less susceptible to the effects of winds. The wall will also provide a sense of security aimed to deter potential arsonists or vandals entering the site from a more isolated section of the site boundary.

This wall has been designed to provide an aesthetically attractive visual screen using a mix of materials (concrete and Colorbond) and colours (*Dune*, *Pale Eucalypt* and *Cottage Green*). It will prevent views to the inside workings of the site (plant, equipment and storage bays) and be planted with climbers to mute the hard borders between the concrete and coloured panels.

The 200 mm landscaping strip in between the wall and the concrete drainage channel will allow for the growth of climbers up the length of the boundary wall (refer to Site Elevation plan in Appendix B). The Landscape plan (provided in the plan set in Appendix B) details the plants proposed to be used around the site. Star Jasmine vines will be planted along the external side of the wall to visually soften the appearance. The Star Jasmine was chosen as it has a non-invasive root system. Central Waste is open to Council providing guidance on the type of climber to be planted along this wall if another variety is preferred.

The 8-m high wall is in keeping with CWS branding and we believe is not excessively bulky given the larger sheds on the site. Natural muted wall colours, along with the planting of vines have been chosen to reduce the walls perception of bulk and scale. While a lower wall would be less prominent when viewed from more distant viewpoints, the view of the top section of the wall would then be replaced by a view of the building walls that would look similar to the wall (ie the view of the wall would be replaced by the view of the building walls and hence provide a similar view).

The 3.9-m high fence along the western boundary (front of premises) consists of a 2.4-m high top section consisting of metal spear top as shown in Figure 3.2 below. As this boundary fence is front facing to the public, the addition of the metal spear top allows for a visually ‘softer’ appearance compared to a solid concrete wall while still providing a level of security for the site. The addition of landscaping (Figure 3.7) including trees and shrubs planted along the length of this front fence will aid in softening the visual impact and increase street appeal of the entrance to the site.

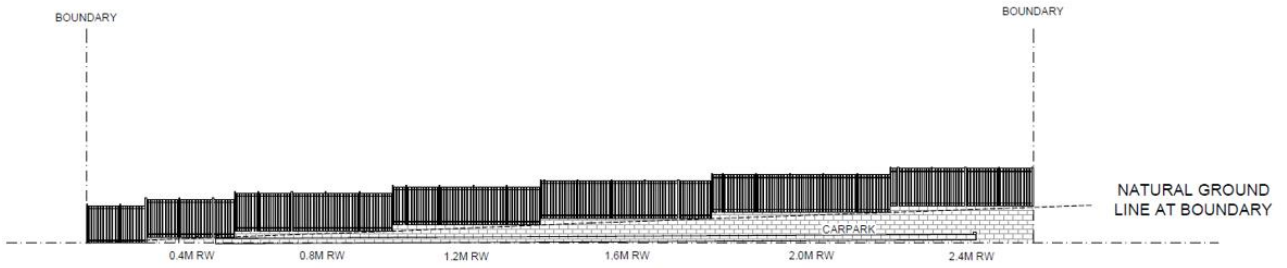


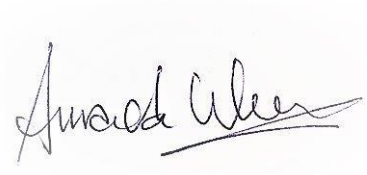
Figure 3.6 Western boundary fence

Figure 3.7 Landscaped entrance showing visual softening of front fence

4 Closing

We trust that the initial information provided above assists Council with their assessment of the proposal. If further information is required, or you would like more details on the information provided above, please do not hesitate to contact me.

Yours sincerely



Amanda Weston
Associate Director Environmental Scientist

aweston@emmconsulting.com.au

Appendix A

Abdullah Uddin CV

Abdullah Uddin

Associate Traffic Engineer

Curriculum vitae

Abdullah has worked as a traffic engineer for over 18 years and has significant knowledge and experience in managing traffic engineering and planning projects. He has in depth knowledge of relevant traffic engineering codes and guidelines including development and planning.

Abdullah has managed multidisciplinary transport and civil engineering teams. He has considerable experience in traffic impact assessments, car park design, strategic transport planning and road safety reviews with a view to sustainability.

Abdullah has a strong understanding on the traffic engineering software including SIDRA, Auto CAD and GIS.

Qualifications

- Bachelor of Civil Engineering, Khulna University of Engineering and Technology, Bangladesh, 1998
- Post Graduate Diploma in Information Technology, University of Southern Queensland, 2001
- Master of Engineering Studies, University of Technology Sydney, 2011
- Chartered Professional Member of Engineers Australia (CPEng)
- Registered Professional Engineer of Queensland (RPEQ)
- TfNSW Traffic Management Plan Designer (PWZ) certificate
- Department of Fair Trading Registered Engineer for Class 2 buildings in NSW

Career

- EMM Consulting, 2019 – Present
- Senior Traffic Engineer, PTC, 2017-2019
- Manager Traffic and Transport, Lane Cove Council, 2015-2017
- Senior Traffic Engineer, Bayside Council, 2011–2015
- Traffic Engineer, Arup, 2007-2011
- Traffic Engineer, Inner West Council, 2005-2007
- Traffic Engineering Assistant, Cumberland Council, 2004-2005

Representative experience

Mining, quarry and renewable energy projects

- Great Cobar, Queen Bee, Lake Cowal, Balranald mines
- Dubbo, Luddenham, Dunmore Lakes, Peppertree, Gunlake, Sandy Point, Menangle quarry
- Sundown, Polo Flat, Birriwa Solar farms, Oven Mountain Pumped Hydro
- Penrith, Girraween, Kurri Kurri, Cardiff, Muswellbrook recycling facilities

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Transport planning projects

- Victoria Park, Zetland Masterplan, NSW (TSA Project Management)
- Mascot Transport management and accessibility plan (TMAP), NSW (DPIE)
- Harold Park Paceway, Glebe Land Use and transport accessibility study, NSW (City of Sydney)
- St Leonards and Lane Cove microsimulation modelling projects, NSW (Lane Cove Council)
- Sutherland transport interchange development, NSW (RailCorp)
- Sydney light rail feasibility analysis (TfNSW)

Traffic engineering projects

- Peakhurst, Penhurst & Punchbowl, James Sheahan school developments (SINSW)
- Campbelltown, Bankstown, Mudgee, Wagga Wagga, Nepean, Katoomba, Liverpool, Griffith, Tumut hospital developments NSW (Health Infrastructure NSW, CPB Contractors, CBRE)
- World Square car park and loading dock development (JLL)
- Schofields commuter car park development (TfNSW)
- B-Double route assessment, Matraville NSW (Randwick Council)

Parking study projects

- Georges River Council parking strategies, NSW (Georges River Council)
- Marrickville resident and business parking strategy (Inner West Council)
- Ku-ring-gai town centre parking strategy (Ku-ring-gai Council)

Active transport projects

- Moore Park Road Cycleway REF (City of Sydney)
- Bike plans (Lane Cove and City of Canada Bay Councils)
- Pedestrian And Mobility Plans (PAMP), (Lane Cove & Willoughby City Councils)
- Powells Creek bicycle option development (Strathfield Council)

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Appendix B

Updated plan set

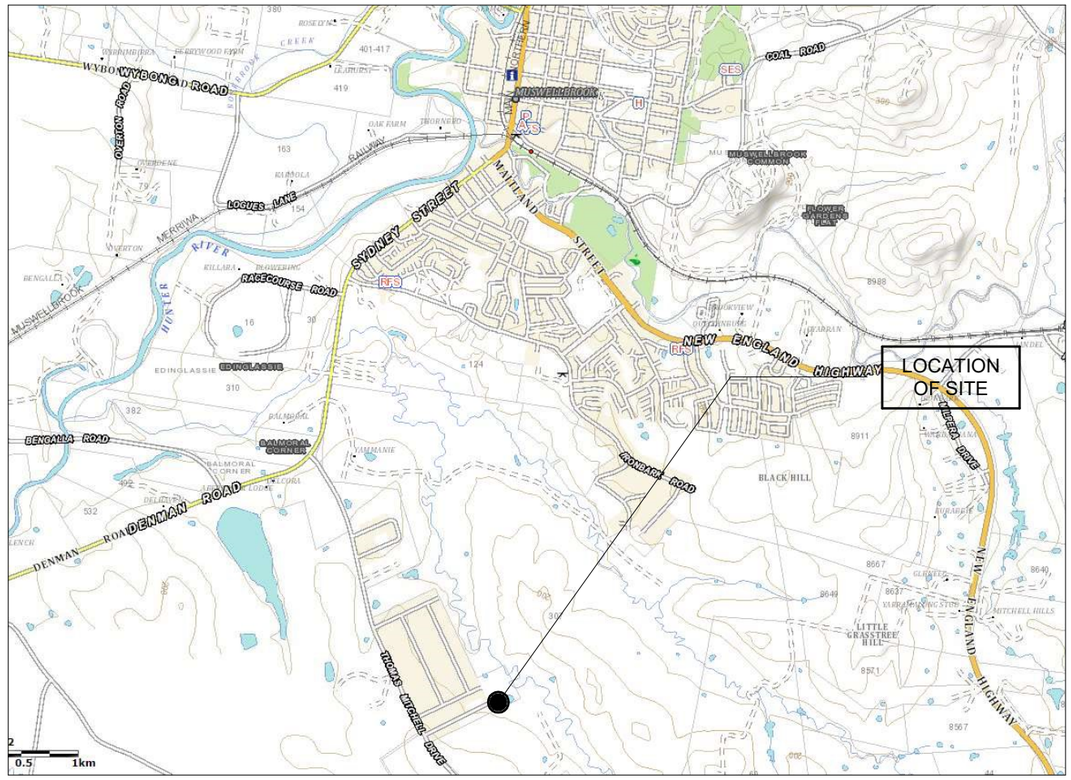
Lot No.10 DP1131270

32-36 Glen Munro Road
Muswellbrook NSW 2333

Central Waste Station Muswellbrook

DEVELOPMENT APPLICATION SET

DRAWING SCHEDULE		
Drawing No.	**Drawing Name**	**Revision**
DA-01	Site & Landscaping Plan	Q
DA-02	Building 1 Floor Plan	I
DA-03	Building 2 Floor Plan	H
DA-04	Building 1 Elevations	E
DA-05	Building 2 Elevations	G
DA-06	Building 1 Typical Section	D
DA-06.1	Building 2 Typical Section	B
DA-07	Stormwater Management Plan	N
DA-07.1	Overflow Channel Section	A
DA-08	Stockpile Awning Section	D
DA-09	Site Services Plan	D
DA-10	Fence Type Plan	C
DA-11	Site Setout Plan	B
DA-12	Retaining Wall Plan	B
DA-13	Building Height Compliance	A
DA-14	Bulk Earthworks Heat Map	A
DA-15	Fire Wall Plan	B
DA-16	Landscaping Plan	C



			H	08.04.21	Revisions updated
			G	02.04.21	Revisions updated
			F	29.03.21	Revisions updated
M	11.03.22	Revisions updated	E	03.03.21	For Information
L	20.12.21	Revisions updated	D	01.03.21	For Information
K	17.12.21	Revisions updated	C	18.12.20	For Information
J	11.08.21	For Information	B	19.08.20	For Information
I	09.04.21	For Information	A	29.04.19	For Information
Revision	Date	Details	Revision	Date	Details

Drawings By:
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Owner:
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Kurri Kurri NSW 2327
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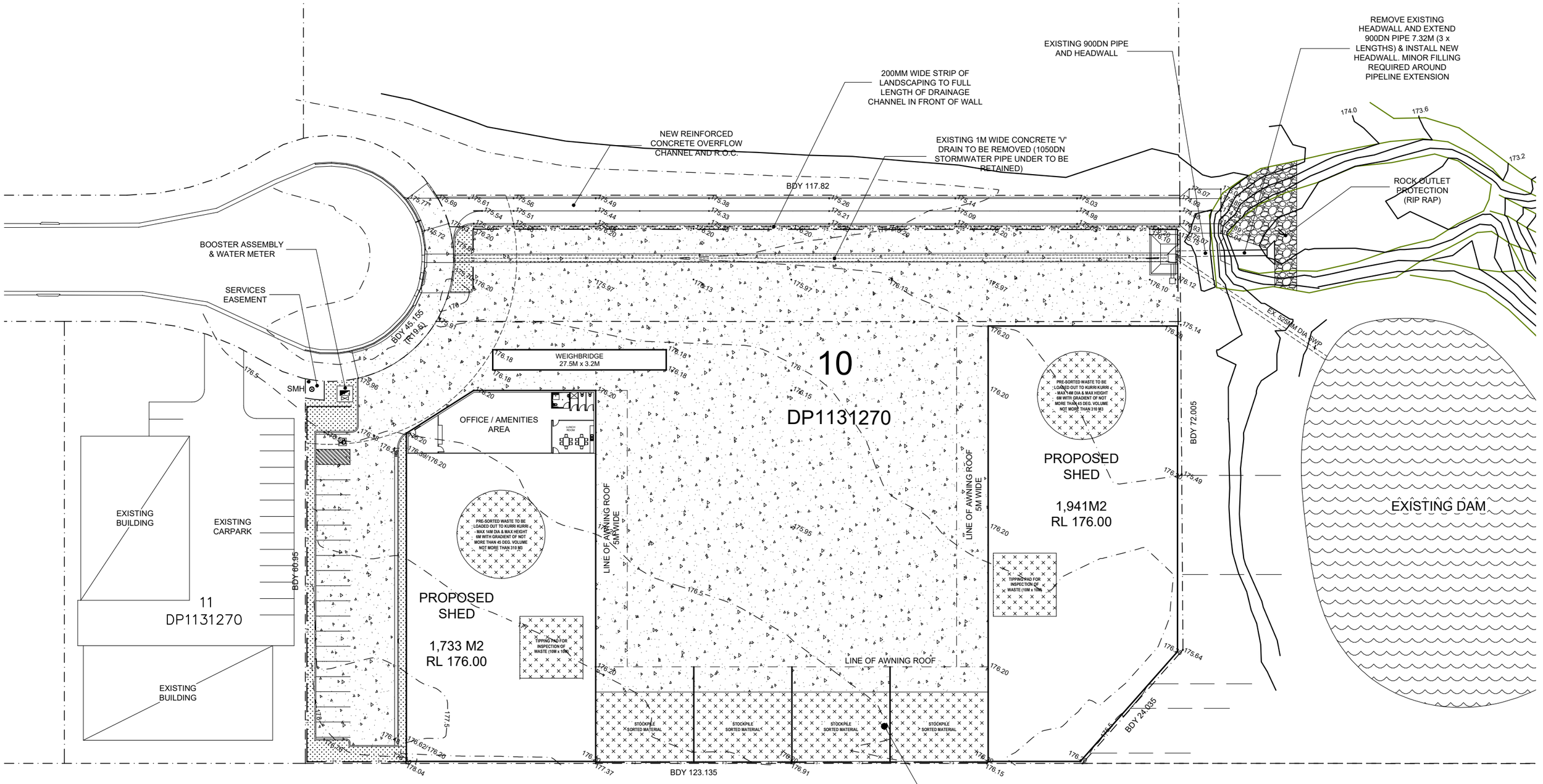
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	NTS	TR

Drawing Name: Cover Sheet

Drawing No:	Revision:
DA-00	M



MASS PLANTING

HEAVY DUTY CONCRETE PAVING

STOCKPILE AWNING BETWEEN BUILDINGS APPROX 15M x 62M (REFER SECTION ON DRAWING DA-08)

F1 F1 FENCE TYPE 1 METAL SPEAR TOP 2.4M HIGH WITH MASONRY RETAINING WALL UNDER (WALL APPROX 1.5M HIGH)

175.04 NEW SURFACE LEVEL

177.5 EXISTING CONTOUR LINE

24
DP1131270
VACANT BLOCK

F2 F2 FENCE TYPE 2 - 8.0M OVERALL HEIGHT (CONCRETE & STEEL)

F3 F3 FENCE TYPE 3 - 11.0M OVERALL HEIGHT (CONCRETE & STEEL)

SITE PLAN
SCALE 1:600

Project North:

Revision	Date	Details
Q	20.12.21	Drainage channel landscaping added
P	17.12.21	Building RL updated
O	14.12.21	Proposed spot levels added
N	04.11.21	Proposed spot levels added
M	03.11.21	Existing survey information added
L	09.04.21	Various updates
K	08.04.21	Various updates
J	02.04.21	V drain note added
I	29.03.21	For Information
H	03.03.21	End stockpile removed to building 1
G	01.03.21	Minor changes
F	17.12.20	Updated to reflect civil design input
E	27.11.20	Building information added
D	18.08.20	For Information
C	15.07.20	For Information
B	19.06.20	For Information
A	16.06.20	For Information

Drawings By:

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Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
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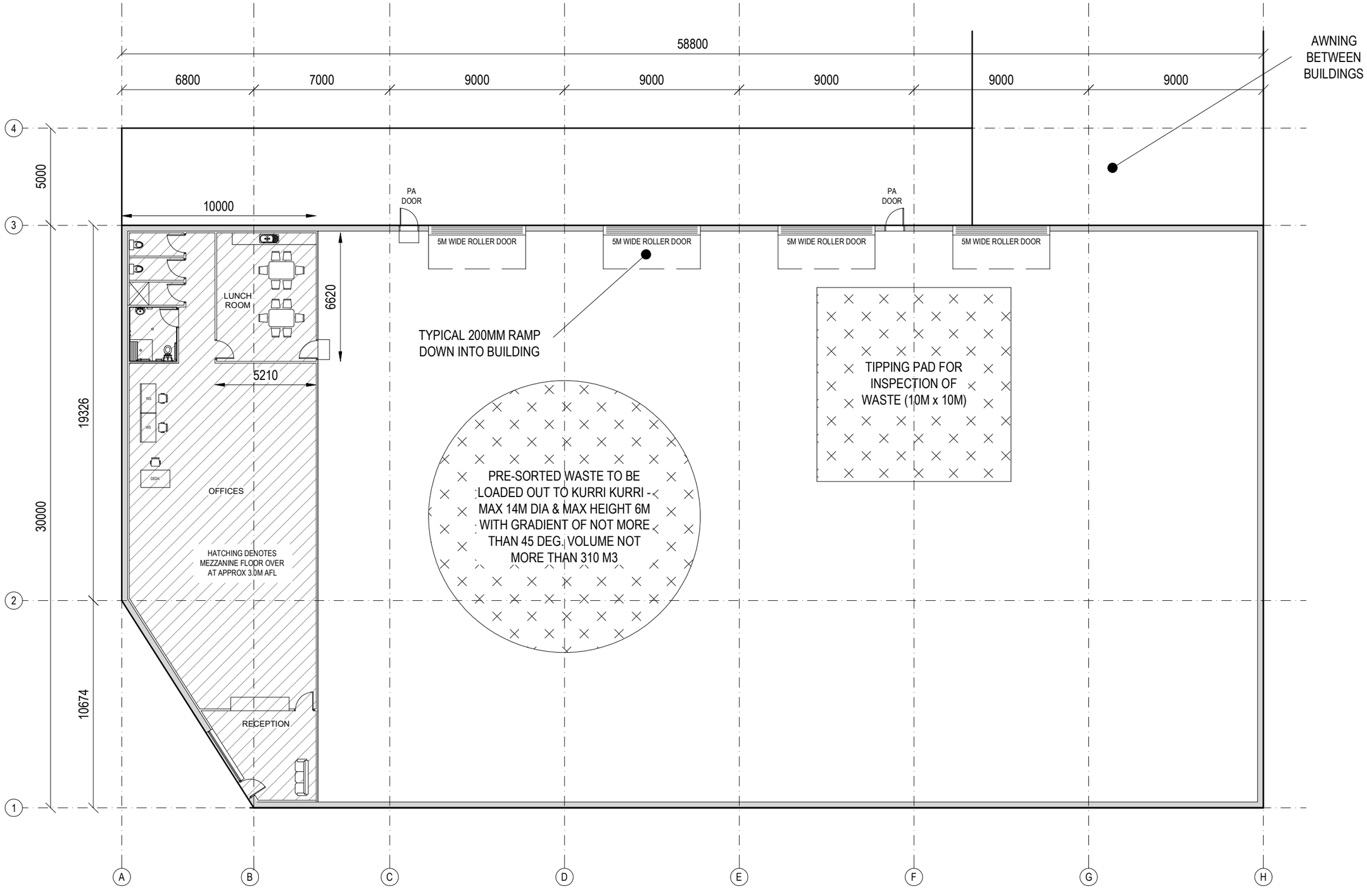
Drawing Name: Site Plan

Drawing No:	Revision:
DA-01	Q



FLOOR PLAN BUILDING 1

SCALE 1:200

Project North:

Revision	Date	Details
I	17.12.21	Building RL updated
H	08.04.21	Grated drains updated
G	02.04.21	Minor updates
F	03.03.21	End stockpile removed
E	01.03.21	Internal bay walls removed
D	17.12.20	Length & wall thickness adjusted
C	27.11.20	Details added
B	19.08.20	For Information
A	15.07.20	For Information

Drawings By:

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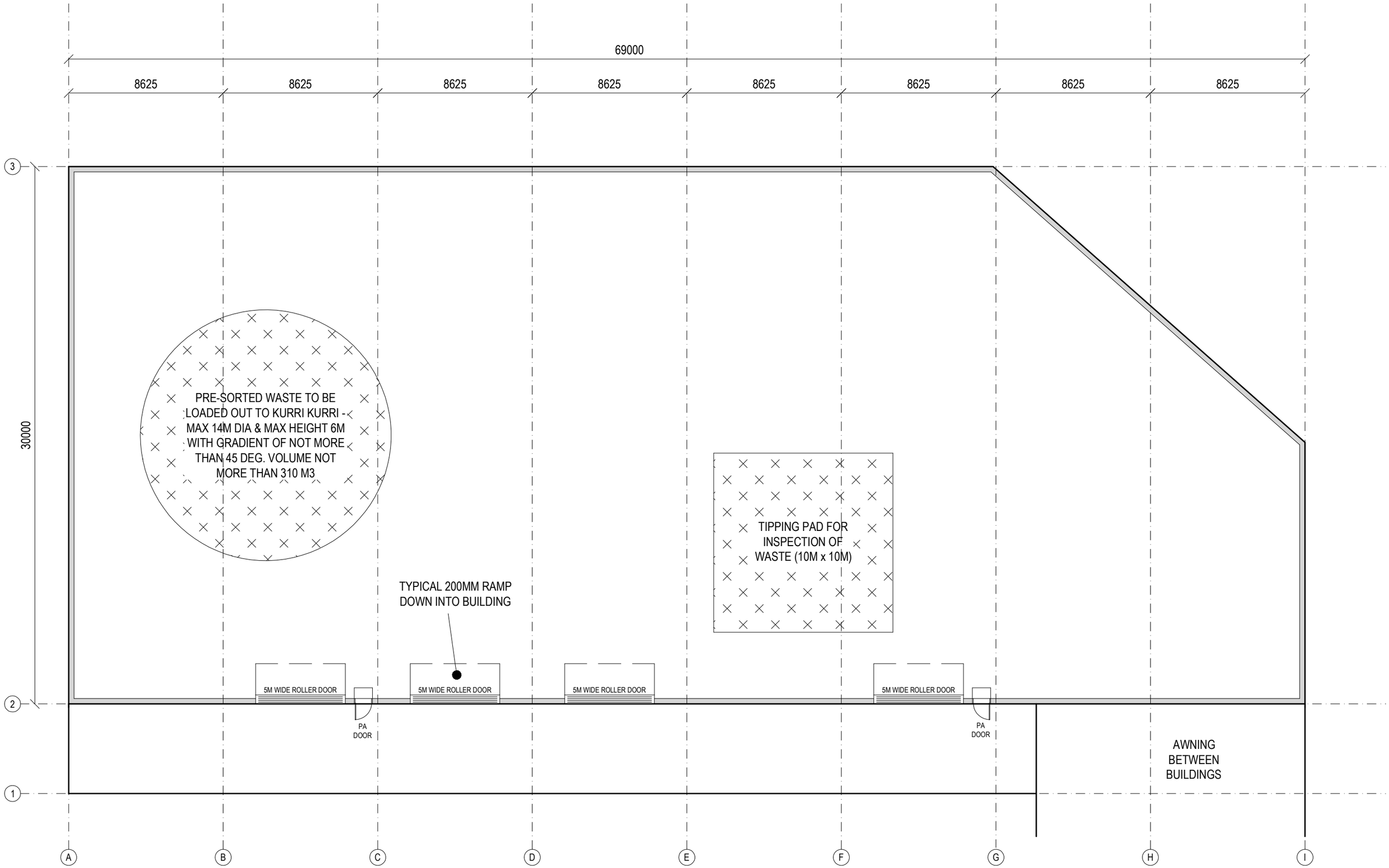
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook		
Size: A3	Scale: 1:200	Drawn By: TR
Drawing Name: Floor Plan - Building 1		
Drawing No: DA-02		Revision: I



FLOOR PLAN BUILDING 2

SCALE 1:200

Project North:

Revision	Date	Details
H	17.12.21	Building RL updated
G	08.04.21	Grated drains updated
F	02.04.21	Notes updated
E	01.03.21	Northern RD deleted & RD added to west
D	17.12.20	Length & wall thickness adjusted
C	27.11.20	Details added
B	19.08.20	For Information
A	15.07.20	For Information

Drawings By:

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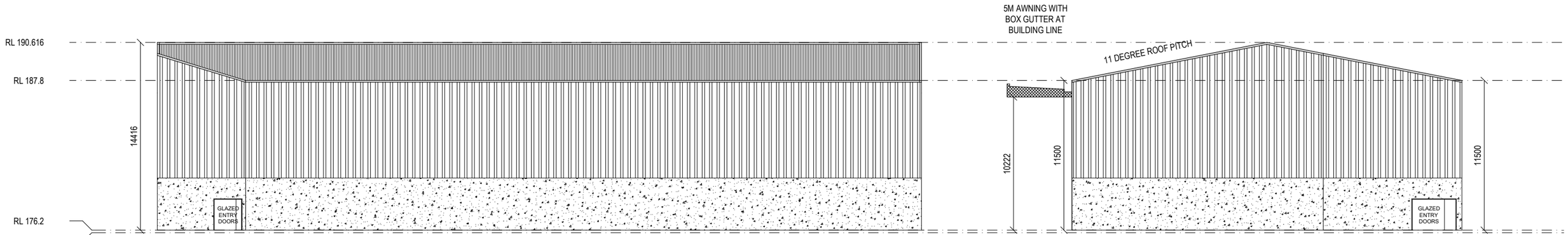
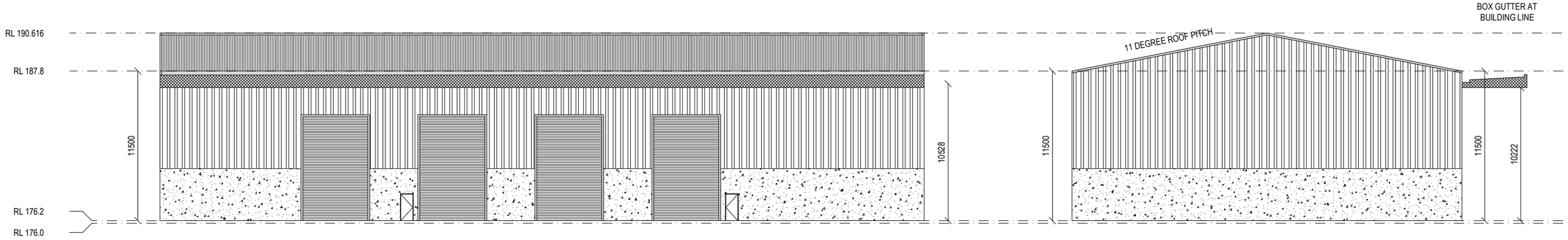
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	1:200	TR

Drawing Name: Floor Plan - Building 2

Drawing No:	Revision:
DA-03	H





ELEVATIONS BUILDING 1

SCALE 1:300

Revision	Date	Details
E	17.12.21	Building RL updated
D	01.04.21	PA doors added
C	17.12.20	Awning & concrete wall added
B	19.08.20	For Information
A	15.07.20	For Information

Drawings By:

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Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

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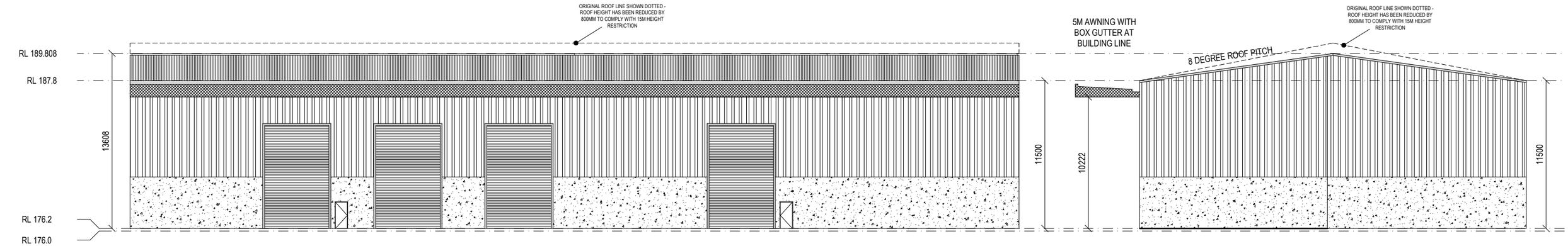
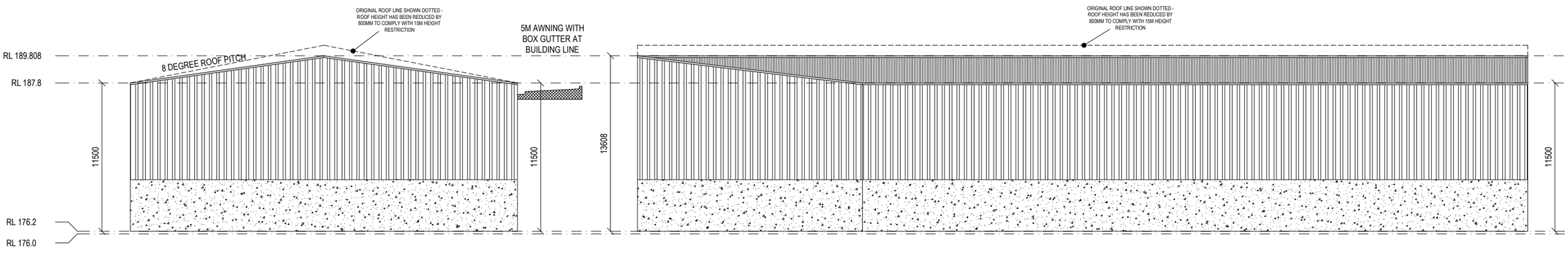
Drawing Name: Elevations - Building 1

Drawing No:	Revision:
DA-04	E





ELEVATIONS BUILDING 2

SCALE 1:300

Revision	Date	Details
G	17.12.21	Building RL updated
F	28.10.21	Roof pitch lowered
E	01.04.21	PA doors added
D	01.03.21	Roller door added
C	17.12.20	Awning & concrete wall added
B	19.08.20	For Information
A	15.07.20	For Information

Drawings By:

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Email: info@centralwaste.com.au

Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
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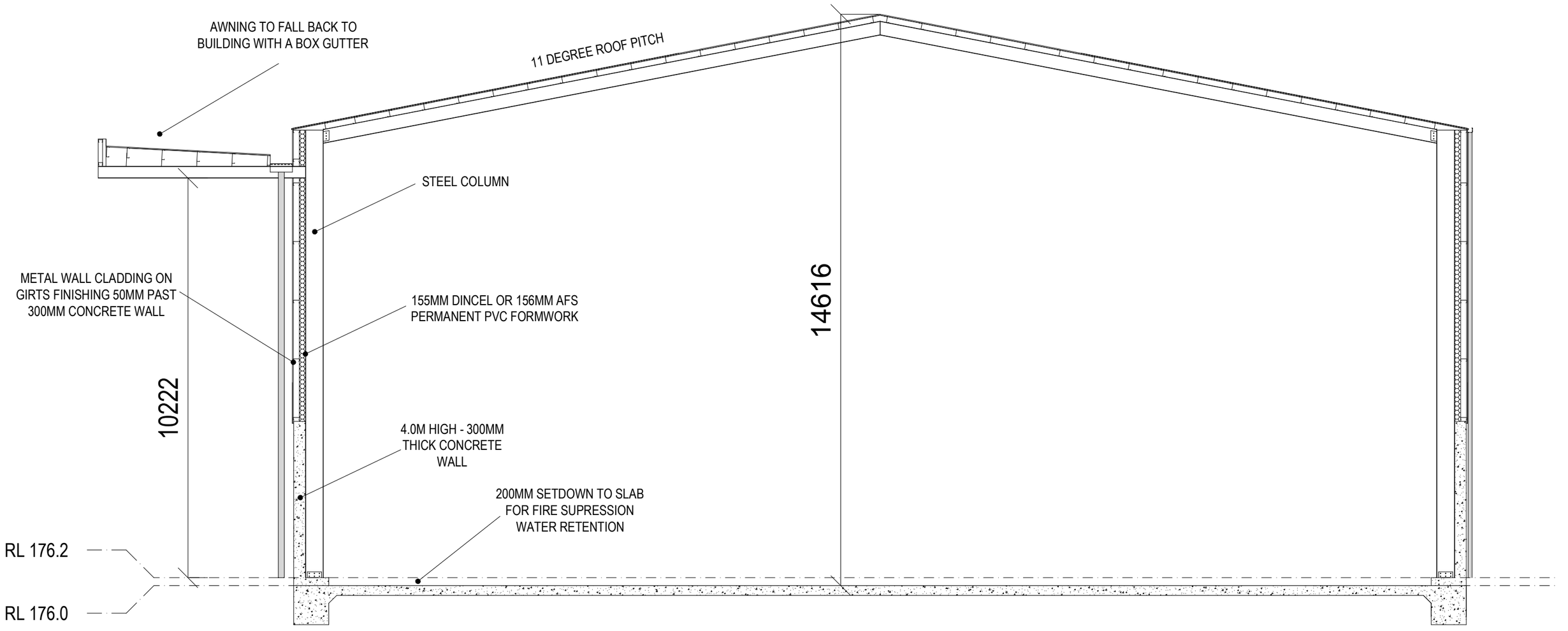
Drawing Name: Elevations - Building 2

Drawing No:	Revision:
DA-05	G



BUILDING 1 - TYPICAL SECTION

SCALE 1:100

Revision	Date	Details
D	17.12.21	Building RL & setdown updated
C	08.04.21	Grated drain amended
B	17.12.20	Awning & concrete wall added
A	19.08.20	For Information

Drawings By:

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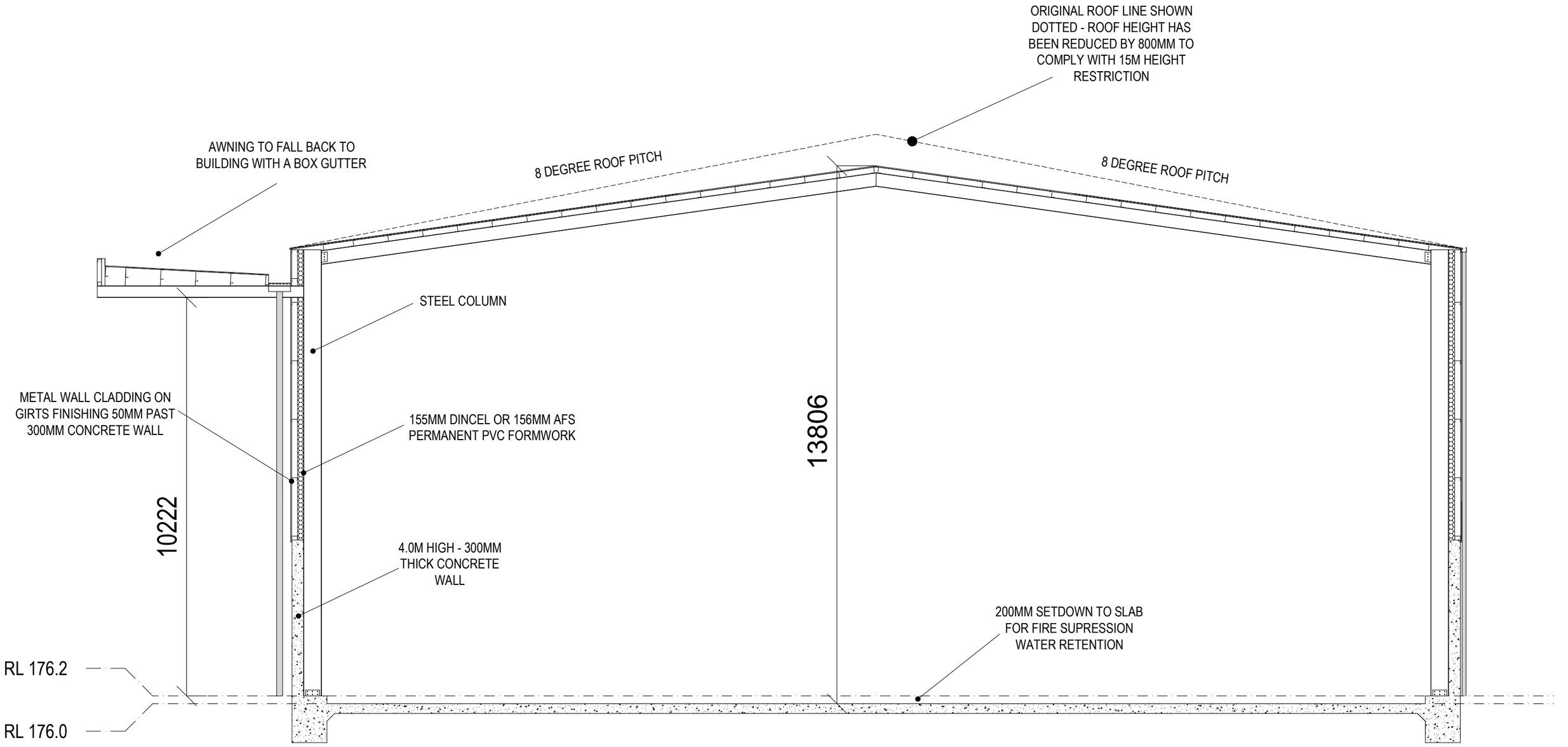
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	1:100	TR

Drawing Name: Building 1 Section

Drawing No:	Revision:
DA-06	D



BUILDING 2 - TYPICAL SECTION

SCALE 1:100

Revision	Date	Details
B	17.12.21	Building RL & setdown updated
A	28.10.21	Building 2 roof pitch lowered

Drawings By:

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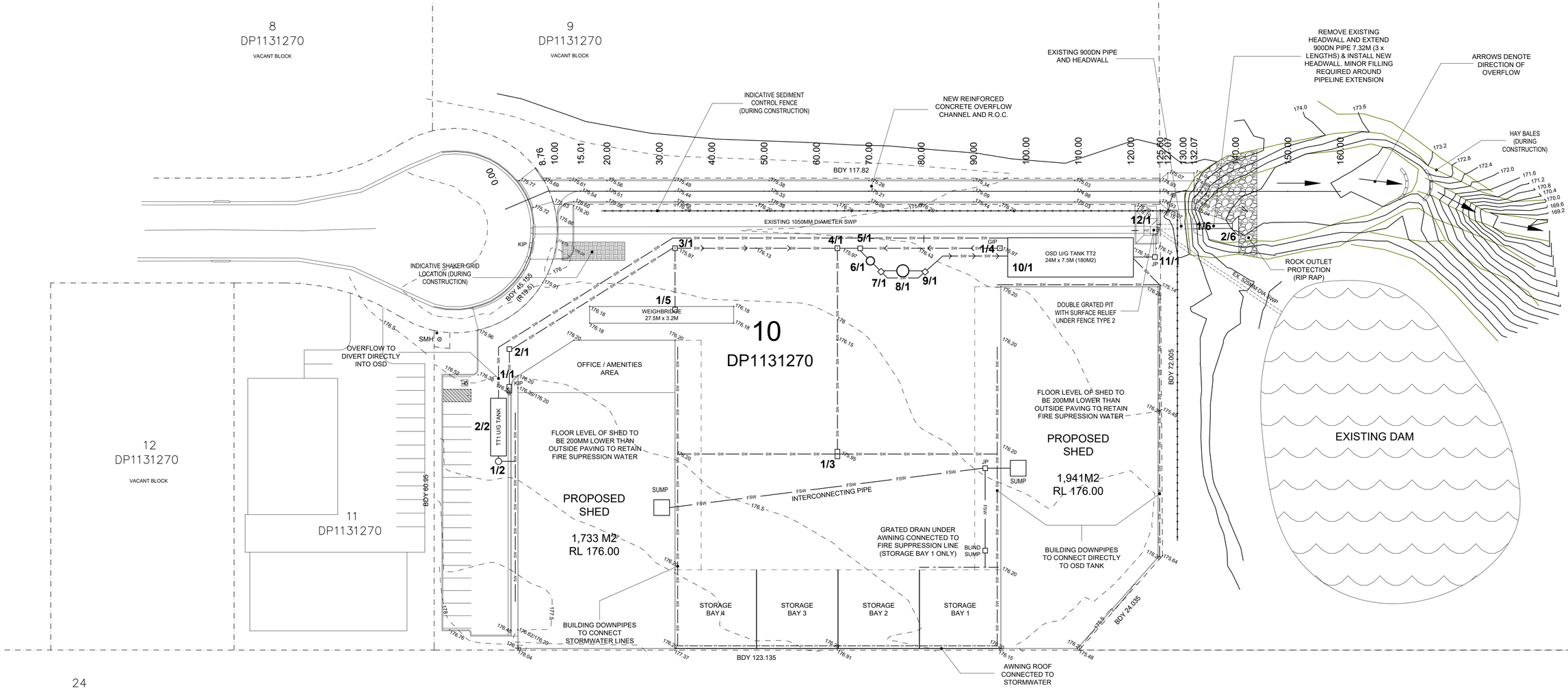
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	1:100	TR

Drawing Name: Building 2 Section

Drawing No:	Revision:
DA-06.1	B



STORMWATER MANAGEMENT PLAN

SCALE 1:400

LEGEND

SW SW SW SW	375MM DIA STORMWATER DRAINAGE
FSW FSW	375MM DIA FIRE SUPPRESSION DRAINAGE
GD GD	HEAVY DUTY GRATED DRAIN
KIP	KERB INLET PIT WITH LINTEL
JP	JUNCTION PIT FOR ACCESS
GIP	SINGLE GRATED SURFACE INLET PIT
DGGP	DOUBLE GRATED SURFACE INLET PIT
GPT	GROSS POLLUTANT TRAP
TT1	UNDERGROUND STORAGE TANK TYPE 1 (MIN. 22,500L CAPACITY)
TT2	UNDERGROUND STORAGE TANK TYPE 2 (MIN. 235,000L CAPACITY)
1/1	STORMWATER PIT NUMBER
177.5	EXISTING CONTOUR LINE
+175.04	NEW SURFACE LEVEL

NOTE: SUBJECT TO DETAILED DESIGN

SCHEDULE OF DRAINAGE STRUCTURES

PIT NO.	TYPE	SURFACE LEVEL	INLET			OUTLET			REMARK	PRODUCT DESCRIPTION
			SIZE	CLASS	INV.RL	SIZE	CLASS	INV. RL		
1/1	KERB INLET PIT	176.25				DN375	3	175.40		STANDARD ON-GRADE KERB INLET PIT WITH 2.4m LINTEL OPENING SIZE. PROVIDE OCEAN PROTECT OG-SD OR SIMILAR.
2/1	JUNCTION PIT	176.07	DN375	3	175.32	DN375	3	175.32		900x900 PROPRIETARY PRECAST PIT
3/1	GRATED INLET PIT	175.97	DN375	3	174.95				PIPELINE FROM WEIGHBRIDGE STRUCTURE	900x900 PROPRIETARY PRECAST PIT
			DN375	3	174.95	DN375	3	174.95		
4/1	GRATED INLET PIT	175.97	DN375	3	174.64					900x900 PROPRIETARY PRECAST PIT
			DN375	3	174.64	DN375	3	174.64		
5/1	JUNCTION PIT	176.01	DN375	3	174.60					900x900 PROPRIETARY PRECAST PIT
			DN375	3	174.60	DN375	3	174.60		
6/1	GROSS POLLUTANT TRAP		DN375	3	174.58	DN375	3	174.56		OCEAN PROTECT OCEANSAVE 0809 OR SIMILAR
7/1	JUNCTION PIT		DN375	3	174.54	DN375	3	174.54	FOR HIGH FLOW BYPASS OF OIL/WATER SEPARATOR	900x900 INSITU PIT WITH BAFFLE TO ENGINEER'S DETAILS.
						DN315	HDPE	174.54		
8/1	OIL/WATER SEPARATOR		DN315	HDPE	174.51	DN315	HDPE	174.49		OCEAN PROTECT ESK40 COALESCENCE OIL/WATER SEPARATOR 5kL MANHOLE CONFIGURATION OR SIMILAR
9/1	JUNCTION PIT		DN315	HDPE	174.43				FOR HIGH FLOW BYPASS OF OIL/WATER SEPARATOR	900x900 PROPRIETARY PRECAST PIT
			DN375	3	174.43	DN375	3	174.43		
10/1	ON-SITE DETENTION STORAGE TANK		DN315	HDPE	174.39				OUTLET WITH ORIFICE PLATE. FLOOR RL 173.39	CONSTRUCT TO ENGINEER'S DESIGN (DETAIL DESIGN PHASE)
			DN375	HDPE	174.39	DN375	3	173.39		
11/1	JUNCTION PIT		DN375	3	173.35	DN375	3	173.35		900x900 PROPRIETARY PRECAST PIT
12/1	EXISTING GRATED INLET PIT	175.80	DN375	3	173.31					REMOVE EXISTING IAD LINE. RECONSTRUCT PIT TO NEW CONFIGURATION AND ENGINEER'S DETAILS.
			EXTG 1050		173.31	EXTG 525		173.31		
						EXTG 900		173.31		
1/2	PIT BASKET		DN315	HDPE		DN315	HDPE		INLET FROM ROOF CAPTURE	OCEAN PROTECT OG-SD OR SIMILAR.
2/2	RAINWATER RE-USE TANK		DN315	HDPE		DN315	HPPE		OUTLET TO 11/1	HOLCIM AUSTRALIA RAINVAULT SYSTEM OR SIMILAR. TO SUPPLY IRRIGATION SYSTEM FOR SITE LANDSCAPING.
1/3	GRATED INLET PIT	175.95				DN375		174.98		1800x900 PROPRIETARY PRECAST PIT. PROVIDE OCEAN PROTECT OG-SD OR SIMILAR.
1/4	GRATED INLET PIT	175.97				DN375		174.82		900x900 PROPRIETARY PRECAST PIT
1/5	GRATED INLET PIT	SUBJECT TO WEIGHBRIDGE DESIGN				DN375	3	175.01	FOR DRAINAGE OF WEIGHBRIDGE STRUCTURE	900x900 PROPRIETARY PRECAST PIT
1/6	PIPE TO PIPE		EXTG 900		173.25	DN900	3	173.25		
2/6	HEADWALL					DN900	3	173.18		PROPRIETARY PRECAST HEADWALL

NOTES
1. ALL KERB INLET AND GRATED SURFACE INLET PITS ARE TO BE CONSTRUCTED WITH IN PIT BASKETS (OCEAN PROTECT OCEANGUARD OR SIMILAR).
2. ALL PIPELINES ARE REINFORCED CONCRETE TYPE CLASS 3 WITH RUBBER RING JOINTS UNLESS NOTED OTHERWISE. MINIMUM PIPE GRADE IS 1%.
3. ALL GRATES AND COVERS ARE TO BE MINIMUM CLASS D.

Project North:

Revision	Date	Details
N	17.12.21	Pit schedule & numbers updated
M	15.12.21	Fire supression & OSD tank updated
L	14.12.21	Contours & stormwater added to western end
K	10.11.21	New spot levels & existing contours added
J	11.08.21	Filter chamber size increased
I	11.08.21	For Information
H	10.08.21	Civilplan markups incorporated
G	10.08.21	Various update for comment
F	08.04.21	Various updates
E	08.04.21	Updated to reflect civil design
D	02.04.21	Fire suppression added
C	01.03.21	Weighbridge moved
B	17.12.20	Updated to reflect civil design input
A	19.08.20	For Information

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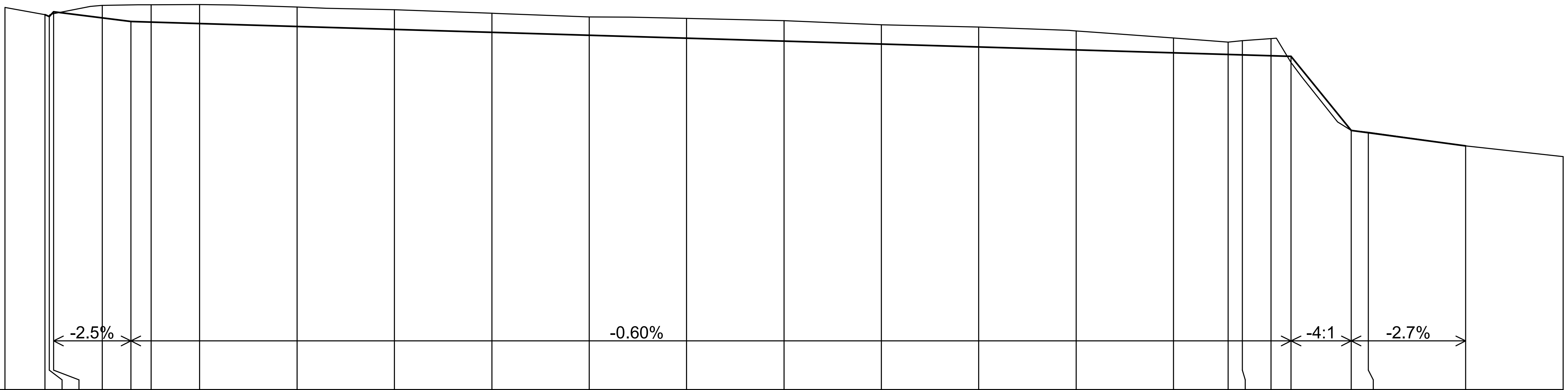
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A1	1:400	TR

Drawing Name: Stormwater Management Plan

Drawing No:	Revision:
DA-07	N



GRADE/SLOPE: -2.5% | -0.60% | -4:1 | -2.7%

Datum R.L. 168.00

DESIGN SURFACE		175.69	175.65	175.75	175.63	175.56	175.54	175.51	175.45	175.39	175.33	175.27	175.21
EXISTING SURFACE	175.84	175.69	175.65	175.71	175.88		175.90	175.90	175.85	175.80	175.73	175.65	175.62
CHAINAGE	0.00	4.11	4.56	5.00	10.00	12.94	15.01	20.00	30.00	40.00	50.00	60.00	70.00

DESIGN SURFACE	175.15	175.09	175.03	174.97	174.91	174.88	174.87	174.85	174.84	173.32	173.27	173.00	
EXISTING SURFACE	175.57	175.49	175.44	175.36	175.21	175.13	175.16	175.20	174.71	173.32	173.28	173.00	172.78
CHAINAGE	80.00	90.00	100.00	110.00	120.00	125.60	127.07	130.00	132.07	138.24	140.00	150.00	160.00

Scale Horizontal 1:500 Vertical 1:100

DESIGN PROFILE ALONG RIGHT OF CARRIAGEWAY 5 WIDE AND OVERFLOW CHANNEL

OVERFLOW CHANNEL LONG SECTION

Revision	Date	Details
A	14.12.21	For Information

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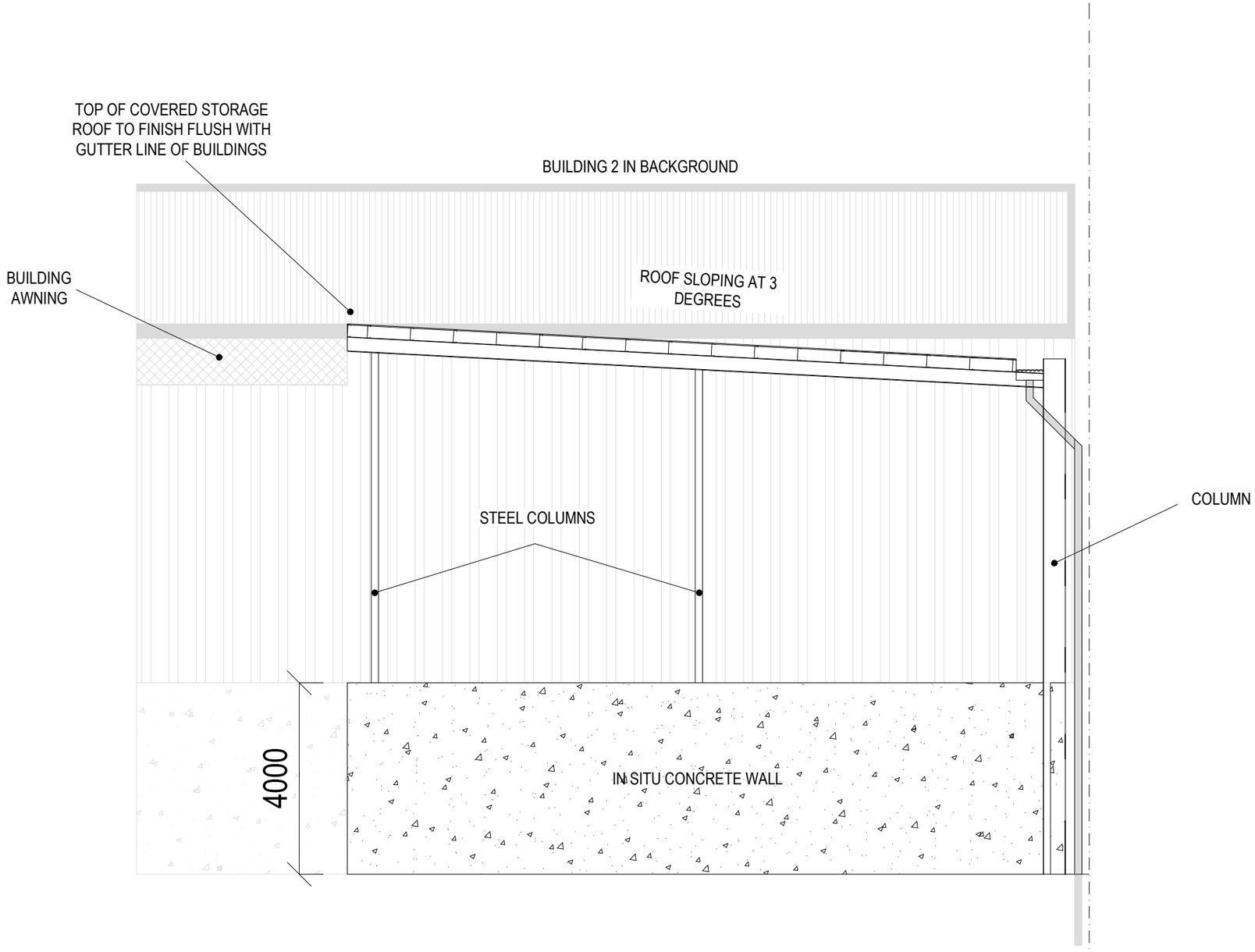
Size:	Scale:	Drawn By:
A3	As noted	TR

Drawing Name: Overflow Channel Long Section

Drawing No: DA-07.1 | Revision: A



STOCKPILE AWNING SECTION

SCALE 1:100

Revision	Date	Details
D	02.04.21	Minor updates
C	29.03.21	Awning lowered & connected to other buildings
B	01.03.21	Building shown behind
A	17.12.20	For Information

Drawings By:
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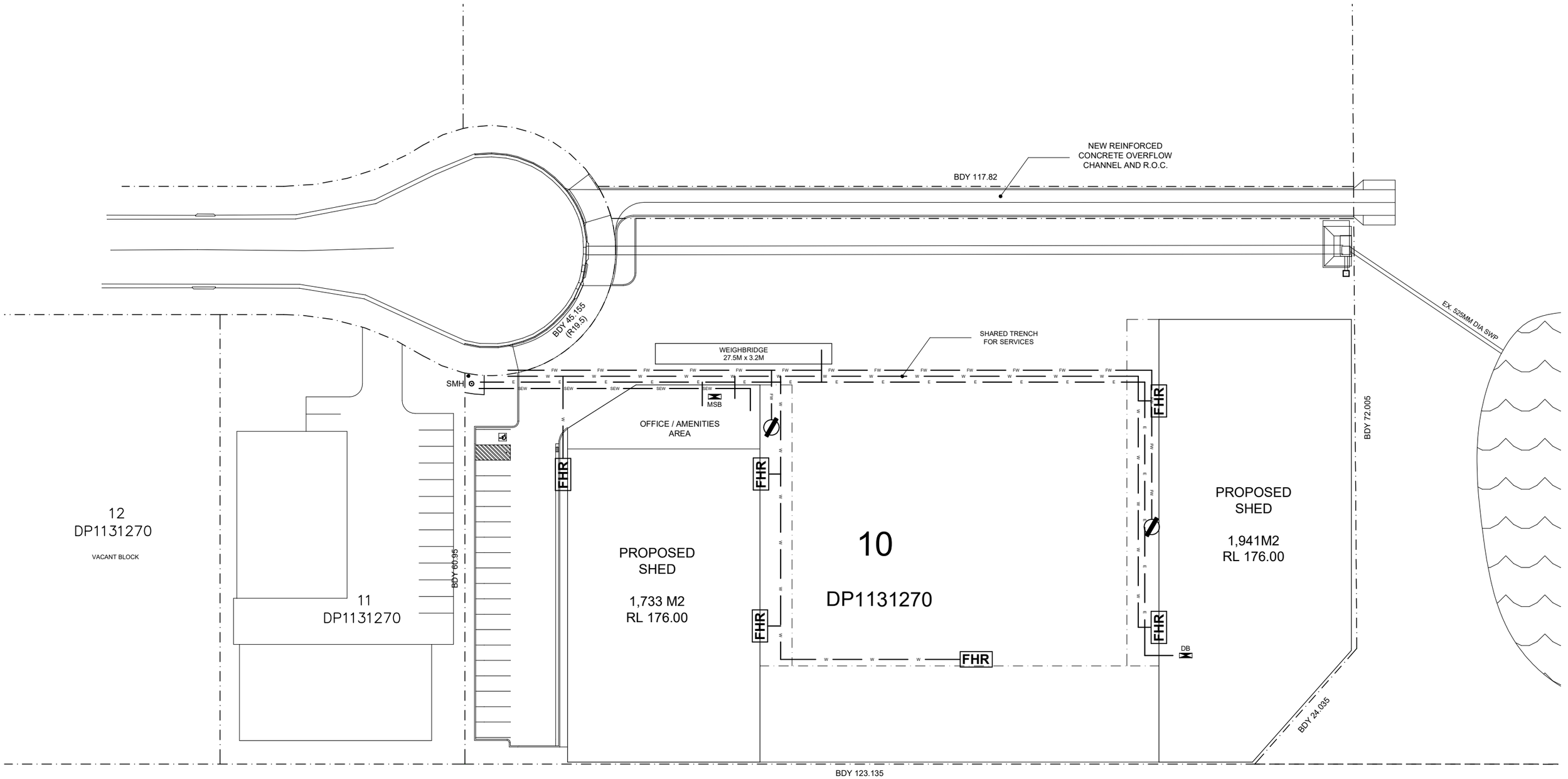
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	1:100	TR

Drawing Name: Stockpile Awning Section

Drawing No:	Revision:
DA-08	D



LEGEND

- FIRE WATER LINE
- WATER LINE
- ELECTRICAL LINE
- SEWER LINE
- FHR — FIRE HOSE REEL
- DOUBLE PILLAR HYDRANT

SITE SERVICES PLAN

SCALE 1:600

NOTE: SUBJECT TO DETAILED DESIGN

Revision	Date	Details
D	17.12.21	Building RL updated
C	08.04.21	Various updates
B	02.04.21	Hose reels & hydrant points added
A	16.03.20	For Information

Drawings By:

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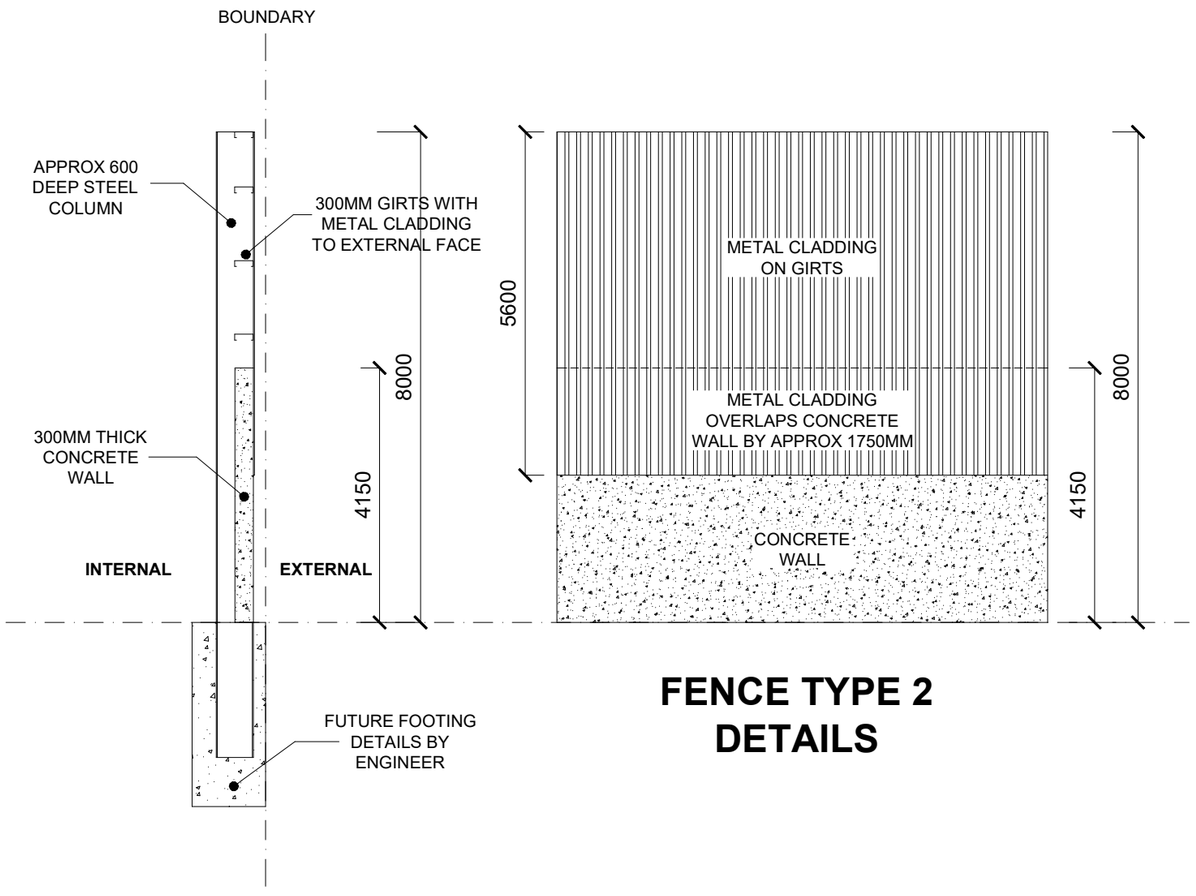
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

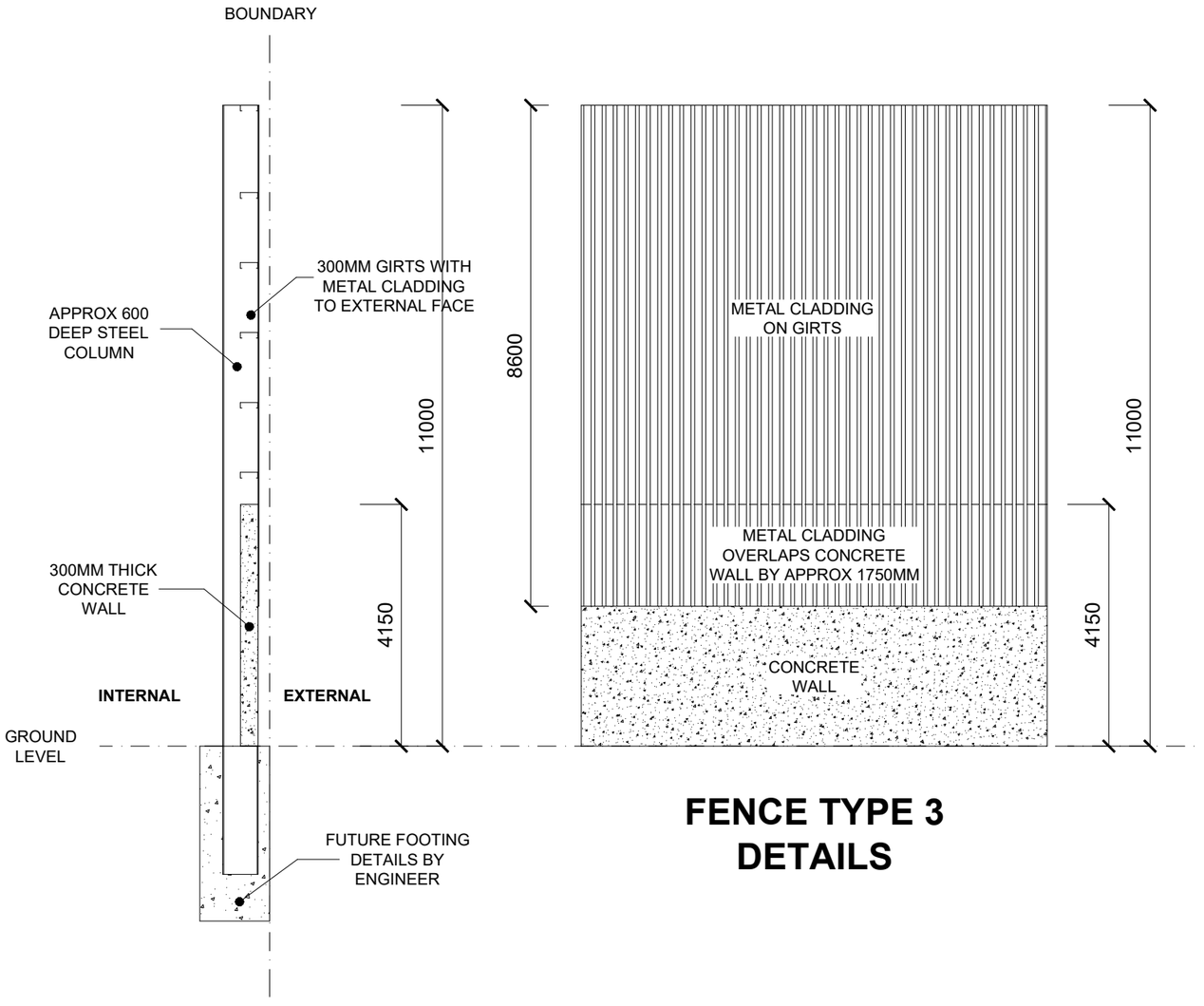
Size:	Scale:	Drawn By:
A3	1:600	TR

Drawing Name: Site Services Plan

Drawing No:	Revision:
DA-09	D



FENCE TYPE 2 DETAILS



FENCE TYPE 3 DETAILS

Revision	Date	Details
C	02.04.21	Minor updates
B	29.03.21	Additional fence type added
A	22.03.21	For Information

Drawings By:

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Project:

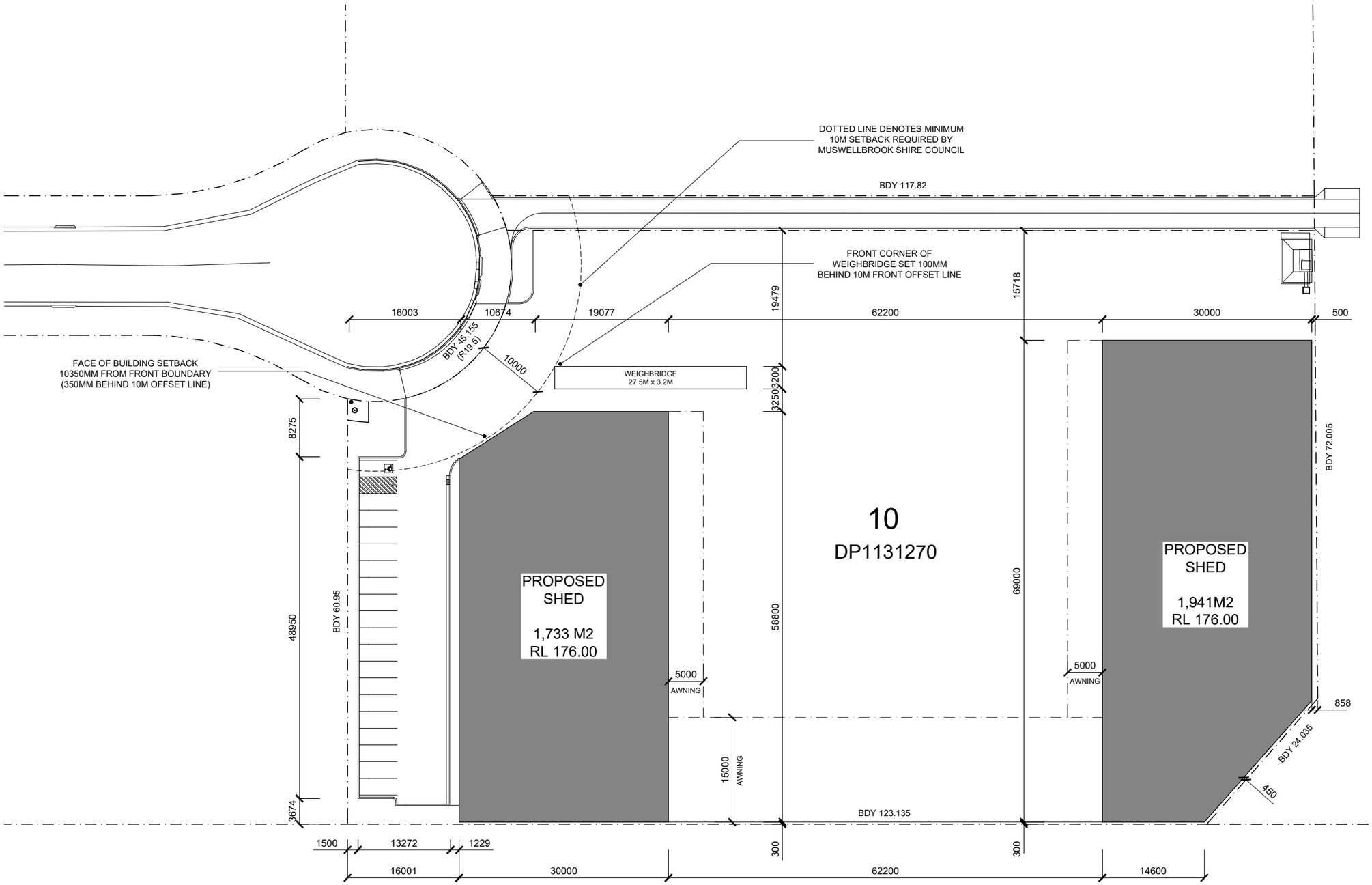
Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	1:100	TR

Drawing Name:

Fence Type Plan

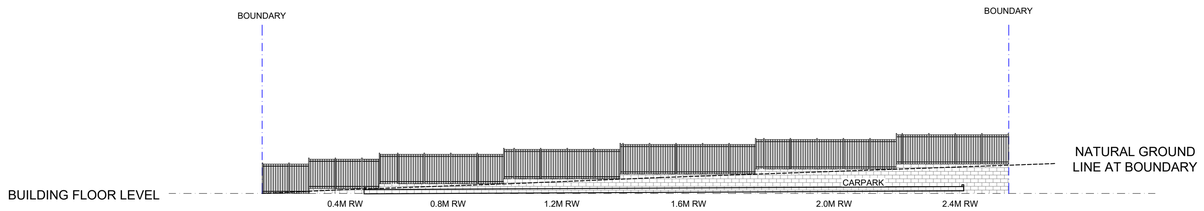
Drawing No:	Revision:
DA-10	C



SITE SETOUT PLAN

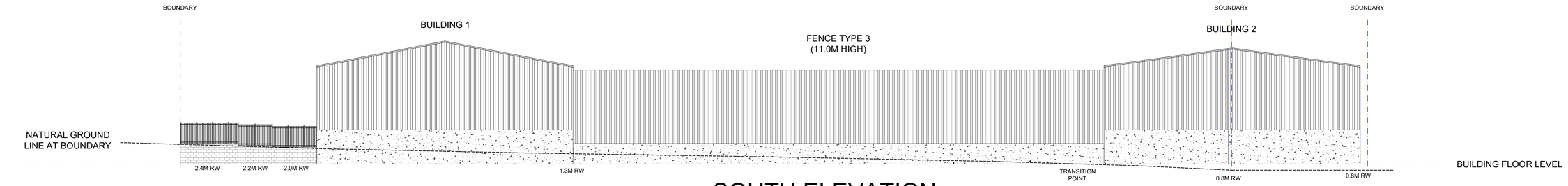
SCALE 1:600

Project North:				Drawings By:	Owner:	Project:		
				QUANTIFY CONSULTING 0439 406 100 info@quantifyconsulting.com.au www.quantifyconsulting.com.au	CENTRAL WASTE STATION 8 Styles Street Kurri Kurri NSW 2327 Phone: 1800 180 180 Email: info@centralwaste.com.au	Lot 10 DP 11312870 Glen Munro Road, Muswellbrook		
						Size: A3	Scale: 1:600	Drawn By: TR
						Drawing Name: Site Setout Plan		
						Drawing No: DA-11		Revision: B
	B	17.12.21	Building RL updated					
	A	28.10.21	For Information					
	Revision	Date	Details					



WEST ELEVATION

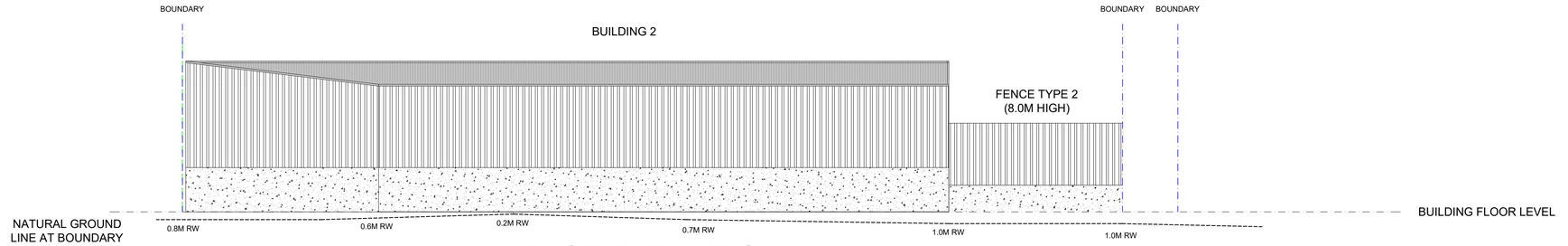
60951



SOUTH ELEVATION

16000 | 30000 | 62200 | 30858

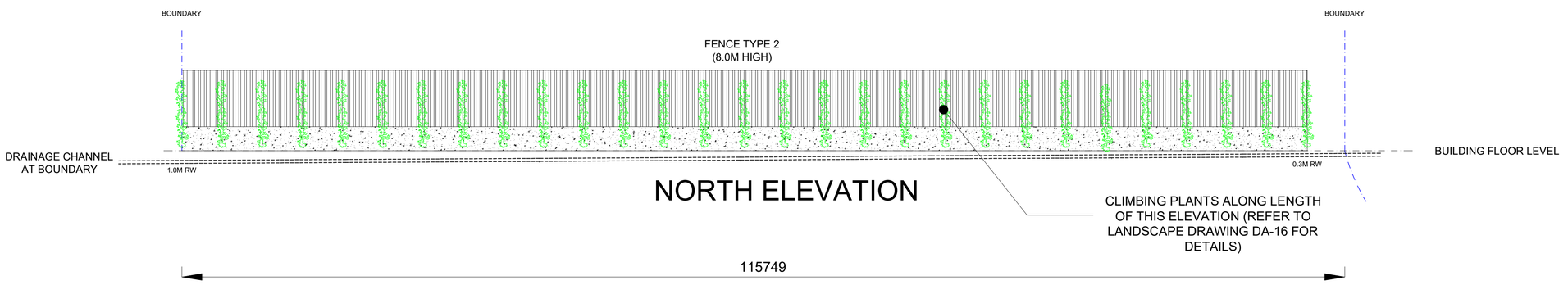
139058



EAST ELEVATION

69306 | 15708

85014



NORTH ELEVATION

115749

Revision	Date	Details
D	24.03.22	Overall lengths shown
C	24.03.22	Fence lengths shown
B	25.02.22	Landscaping shown, elevation names corrected
A	10.11.21	For Information

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Project:

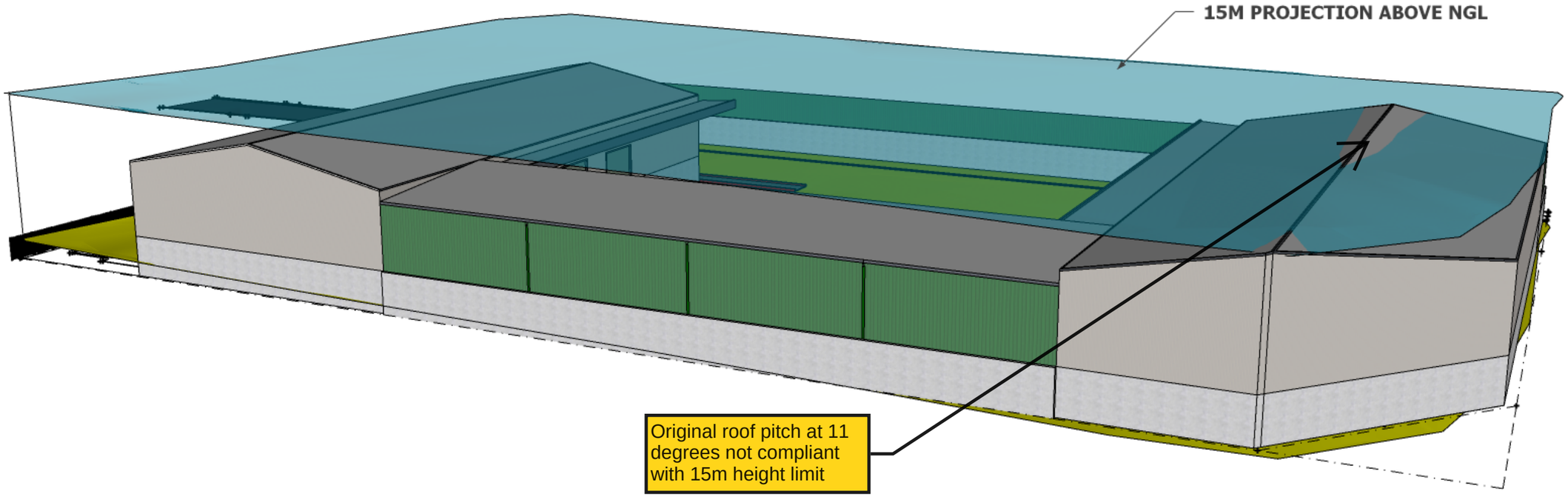
Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

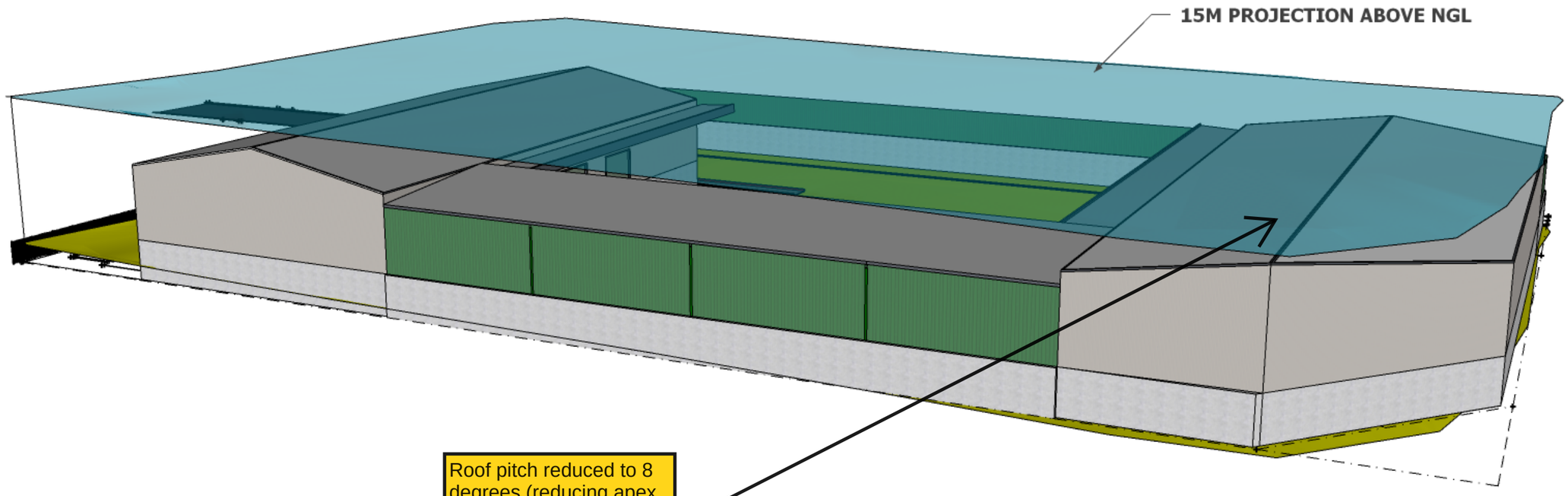
Size:	Scale:	Drawn By:
A1	1:600	TR

Drawing Name:

Retaining Wall Plan

Drawing No:	Revision:
DA-12	D





Revision	Date	Details
A	28.10.21	For Information

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Project:
Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

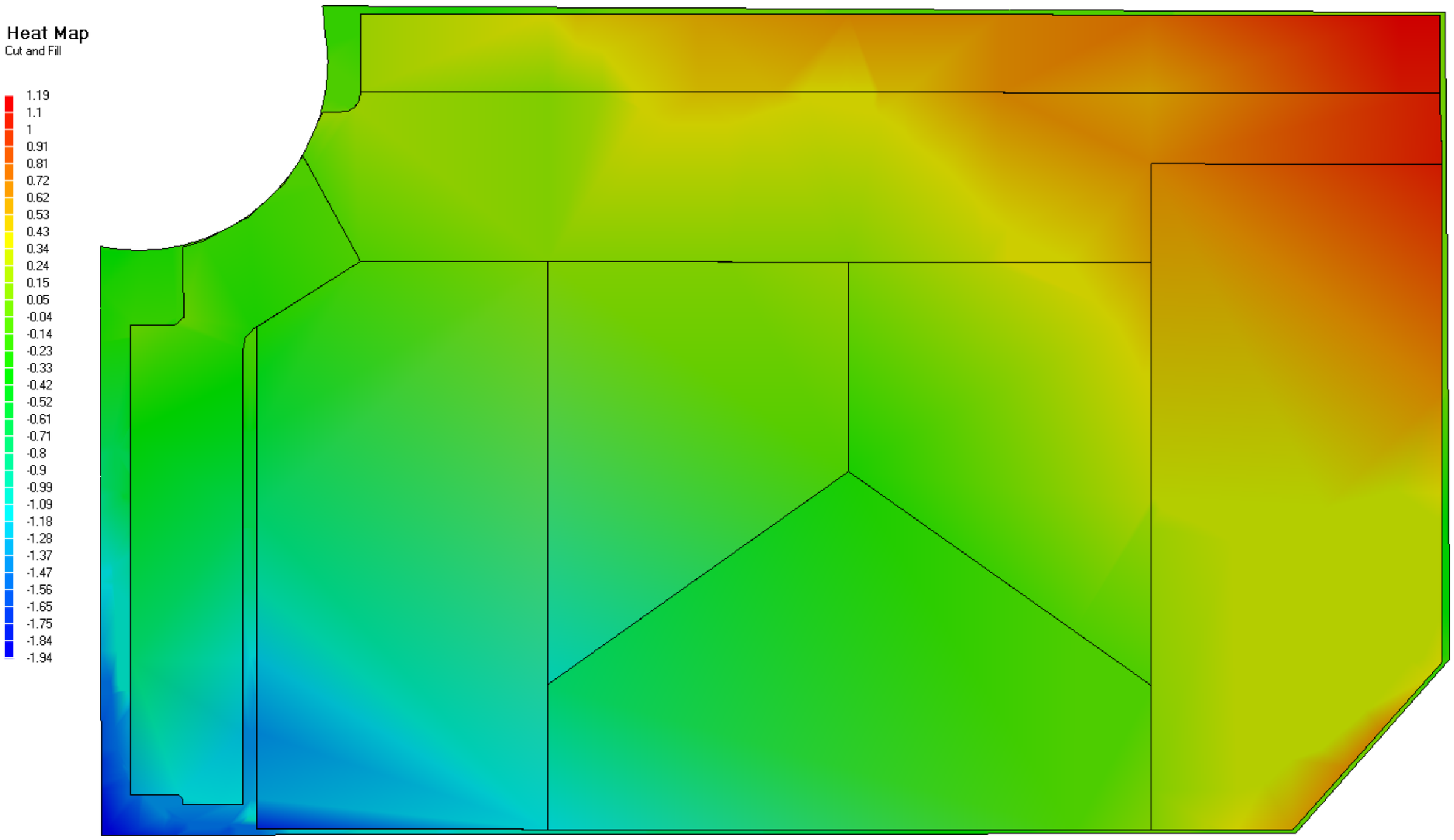
Size:	Scale:	Drawn By:
A3	-	TR

Drawing Name:
Building Height Compliance

Drawing No:	Revision:
DA-13	A

Heat Map

Cut and Fill



Revision	Date	Details
A	04.11.21	For Information

Drawings By:

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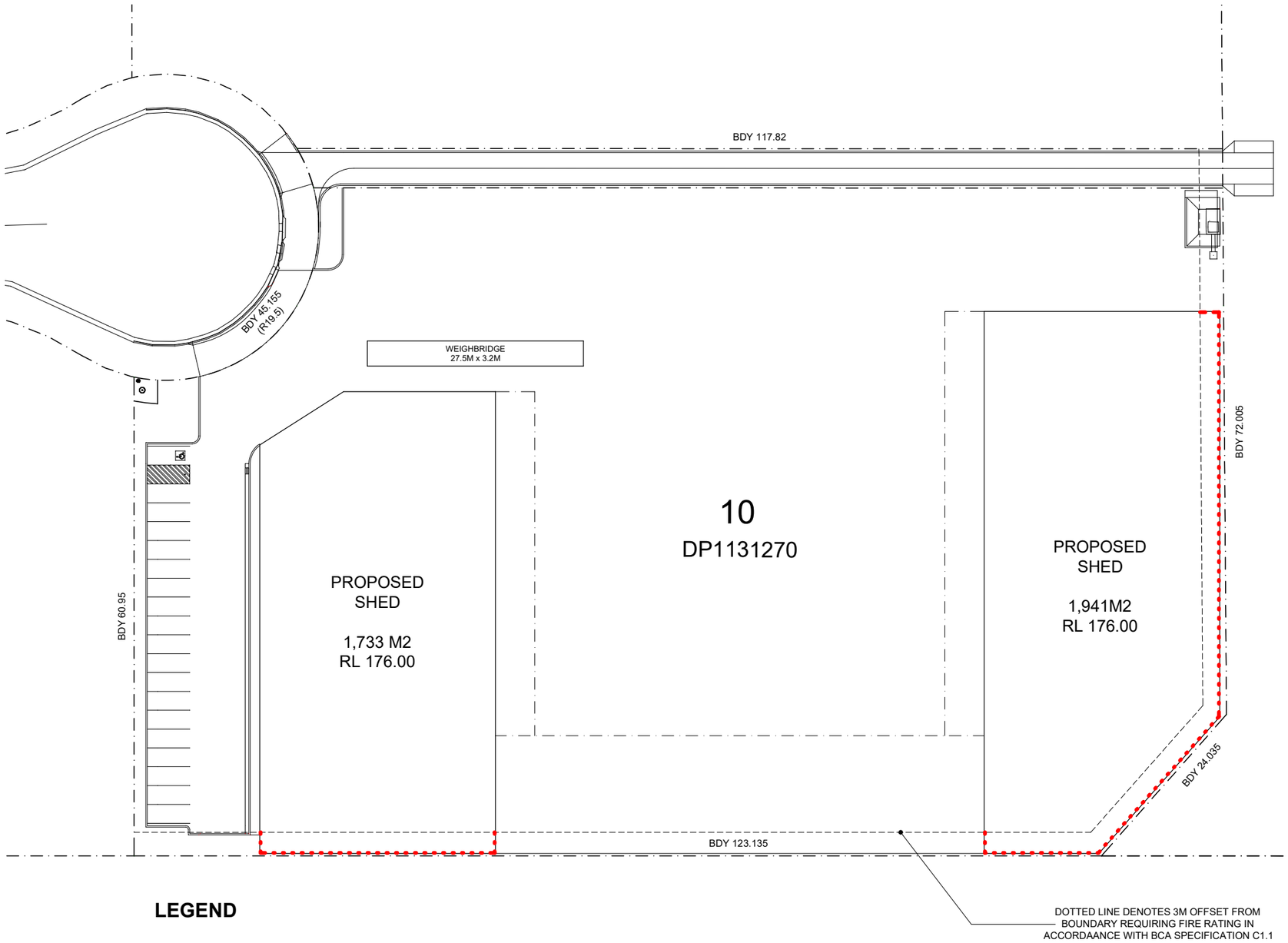
Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	-	TR

Drawing Name: Bulk Earthworks Heat Map

Drawing No:	Revision:
DA-14	A

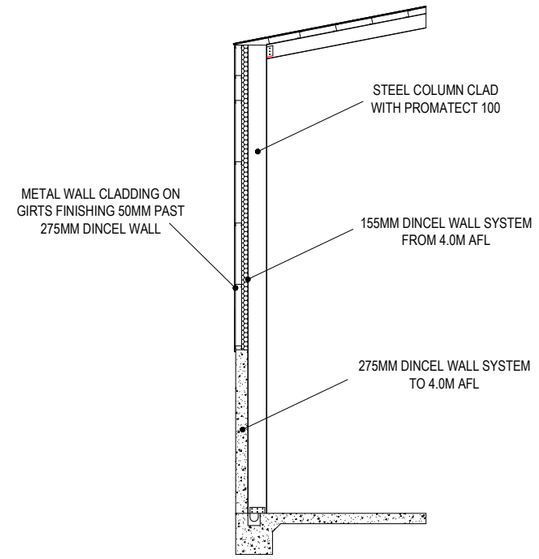


LEGEND

90 / 90 / 90 RATED WALL

FIRE WALL PLAN

SCALE 1:600



FIRE WALL DETAILS

SCALE 1:150

EXTERNAL WALL

REQUIRED RATING - 90/90/90

DINCEL 155 RATING - 90/90/90
DINCEL 275 RATING - 240/240/240

THEREFORE PROPOSED EXTERNAL WALL SYSTEM CAN ACHIEVE COMPLIANCE WITH BCA.

EXTERNAL COLUMNS

REQUIRED RATING - 90/-/-

STEEL COLUMN ENCASE WITH PROMATECT 100 BOARD
- UP TO 150/-/-

THEREFORE PROPOSED EXTERNAL COLUMNS CAN ACHIEVE COMPLIANCE WITH BCA.

NOTES:

1. BUILDING TO CONSIST OF TYPE C CONSTRUCTION IN ACCORDANCE WITH CLAUSE C1.1
2. EXTERNAL WALLS WITHIN 3M OF BOUNDARIES SHALL BE FIRE RATED TO 90/90/90
3. EXTERNAL COLUMNS WITHIN 3M OF BOUNDARIES SHALL BE FIRE RATED TO 90/-/-

Revision	Date	Details
B	17.12.21	Building RL updated
A	04.11.21	For Information

Drawings By:

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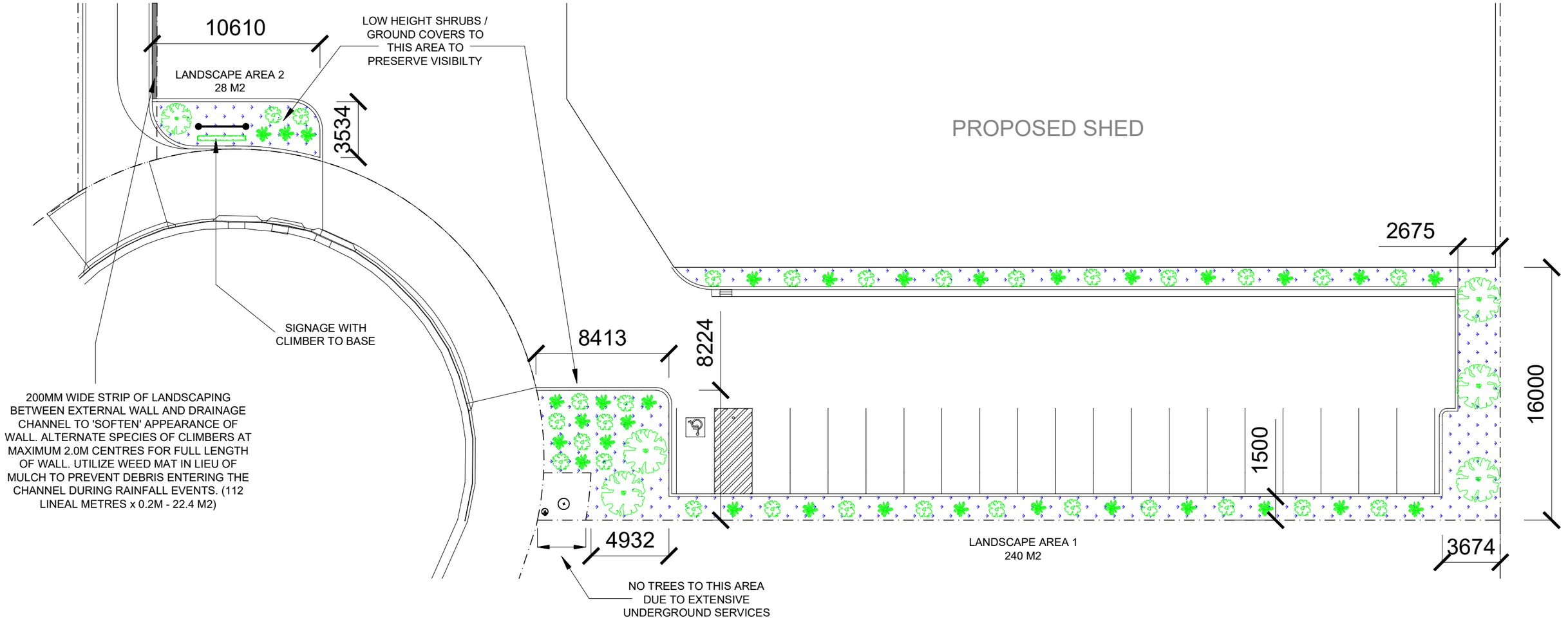
Project:		
Lot 10 DP 11312870 Glen Munro Road, Muswellbrook		
Size:	Scale:	Drawn By:
A3	-	TR
Drawing Name:		
Fire Wall Plan		
Drawing No:		Revision:
DA-15		B



PROPOSED PLANTING

SHRUBS / GROUND COVERS

- Gymea Lily *Doryanthes excelsa*
- Kangaroo Paw *Anigozanthos hybrid*
- Blue Flax Lily *Dianella caerulea*
- Tussock Grass *Poa labillarderi*
- Mat Rush (Katrinus) *Lomanada longifolia*

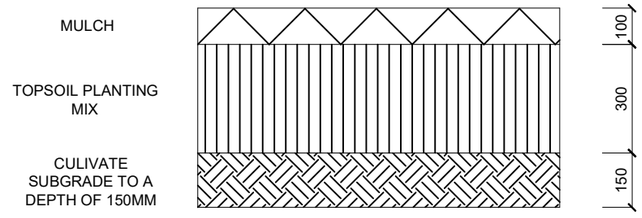
Woodchip mulch to garden bed

TREES

- Tea-Tree *Cordyline australis*

CLIMBERS

- Star Jasmine *Trachelospermum jasminoides*



TYPICAL PLANTER DETAIL

Revision	Date	Details
C	11.03.23	Climbers updated, lily spelling corrected
B	20.12.21	For Information
A	05.11.21	For Information

Drawings By:

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Project: Lot 10 DP 11312870 Glen Munro Road, Muswellbrook

Size:	Scale:	Drawn By:
A3	-	TR

Drawing Name: Landscaping Plan

Drawing No:	Revision:
DA-16	C