

WASTE MANAGEMENT PLAN

AirTrunk Data Centre

Prepared for:

A W Edwards Pty Limited
Level 1
131 Sailors Bay Road
Northbridge NSW 2063

PREPARED BY

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
2 Lincoln Street
Lane Cove NSW 2066 Australia
(PO Box 176 Lane Cove NSW 1595 Australia)
T: +61 2 9427 8100
E: sydney@slrconsulting.com www.slrconsulting.com

BASIS OF REPORT

This report has been prepared by SLR Consulting Australia Pty Ltd with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with A W Edwards Pty Limited (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

DOCUMENT CONTROL

Reference	Date	Prepared	Checked	Authorised
630.12671-R01-v0.5	11 December 2018	Celine El-Khoury	Andrew Quinn	DRAFT

CONTENTS

1	INTRODUCTION	5
1.1	Site Identification	5
1.2	Objectives	6
1.3	Review of SWMMP	6
2	BETTER PRACTICE FOR WASTE MANAGEMENT AND RECYCLING.....	7
2.1	Waste Management Hierarchy.....	7
2.2	Benefits of Adopting Better Practice	7
3	WASTE LEGISLATION AND GUIDANCE	8
4	DEVELOPMENT DESCRIPTION.....	10
5	SITE PREPARATION AND CONSTRUCTION WASTE AND RECYCLING MANAGEMENT.....	11
5.1	Targets for Recycling.....	11
5.2	Waste Streams.....	11
5.3	Estimated Site Preparation Waste Quantities	13
5.4	Estimated Construction Waste Quantities	14
5.5	Waste Avoidance	15
5.8	Contaminated / Hazardous Waste.....	17
5.9	Signage	17
5.10	Site Inductions	18
5.11	Monitoring and Reporting.....	18
6	OPERATIONAL WASTE AND RECYCLING MANAGEMENT	19
6.1	Targets for Resource Recovery.....	19
6.2	Waste Streams and Classifications	19
6.3	Waste Management Overview	20
6.4	Waste Servicing.....	21
6.5	Estimated Operational Waste Quantities.....	21
6.5.1	Additional operational waste.....	21
6.6	Waste Storage.....	22
6.6.1	Garbage Room Location and access	22
6.6.2	Garbage Room Size	23
6.6.3	Garbage Room Features	23

6.6.4	Garbage Room Maintenance	24
6.7	Waste Avoidance, Re-use and Recycling.....	24
6.7.1	Waste Avoidance	24
6.7.2	Re-use	24
6.7.3	Recycling.....	24
6.8	Bulky or Hazardous Waste Management.....	25
6.9	Signage	25
6.10	Communication Strategies	25
6.11	Monitoring and Reporting.....	26

DOCUMENT REFERENCES

TABLES

Table 1	Waste legislation and guidance.....	8
Table 2	Potential waste types, classifications and management methods – construction waste.....	11
Table 3	Construction waste generation rates	14
Table 4	Anticipated types and estimated quantities of construction waste.....	14
Table 5	Potential waste types, classifications and management methods – operational waste.....	19
Table 6	Estimated quantities of operational waste and recycling.....	21
Table 7	Minimum number of bins required for weekly operational waste storage areas	23

FIGURES

Figure 1	Site location.....	5
Figure 2	Waste management hierarchy.....	7
Figure 3	Proposed layout for the Development	10
Figure 4	Examples of NSW EPA labels for waste skips/bins.....	18
Figure 5	Example of bin labels for operational waste.....	25

APPENDICES

- Appendix A Archtural Drawings
- Appendix B Council's Appendix A – Plans and Drawings (All Developments)

1 Introduction

SLR Consulting Australia Pty Ltd (SLR) was engaged by A W Edwards Pty Limited (Client) to prepare a Site Waste Minimisation and Management Plan (SWMMMP) in support of a Development Application (DA) to Lane Cove Council for the proposed “AirTrunk Data Centre” (the Development) at Lane Cove West, NSW.

This SWMMMP applies to waste generated from the site preparation, construction and operational stages of the Development and was prepared using architectural drawings provided by the Client (**Appendix A**).

Further details of the Development are provided in **Section 4**. Waste management for the site preparation and construction stages is described in **Section 5**. Waste management for the operational stage is described in **Section 6**. The provisions contained in this WMP may be subject to review upon modification of operational procedures.

1.1 Site Identification

The Development is located at 1 Sirius Road, Lane Cove West, NSW 2066 and comprises the property title Lot 1 on DP 1151370 (the site). The site (Figure 1) is within the local government area of Lane Cove Council (Council).



Source: Adapted from SIX Maps: <https://maps.six.nsw.gov.au/>

Figure 1 Site location

1.2 Objectives

The objectives of this SWMMP are to:

- Identify potential wastes likely to be generated at the site during site preparation, construction works and operation.
- Help implement safe and practical options for waste collection from the Development by Council and/or private waste servicing contractors.
- Encourage waste avoidance through design, ordering and construction.
- Provide advice on how such wastes should be handled, processed and disposed of, re-used or recycled in accordance with Council requirements, relevant Australian Codes and Standards and better practice waste minimisation principles.

1.3 Review of SWMMP

This SWMMP is not a static document. It is a working document that requires review and updating to ensure ongoing suitability for the proposed on-going operations at the site.

This SWMMP shall be reviewed and updated:

- to remain consistent with waste and / or landfill regulations and guidelines
- should changes be made to site waste and recycling management, or
- to take advantage of new technologies, innovations and methodologies for waste or recycling management.

Changes made to the SWMMP, as well as the reasons for the changes made, shall be documented by the site operator as part of the review process.

Copies of the original SWMMP, as well as all future versions of the SWMMP, shall be retained by the site operator.

2 Better Practice for Waste Management and Recycling

2.1 Waste Management Hierarchy

This SWMMP has been prepared in line with the waste management hierarchy (**Figure 2**), which summarises the objectives of the *Waste Avoidance and Resource Recovery Act 2007*.

The waste management hierarchy comprises the following principles, from most to least preferable:

- Waste **avoidance**, prevention or reduction of waste generation. Achievable through better design and purchasing choices.
- Waste **reuse**, reuse without substantially changing the form of the waste.
- Waste **recycling**, treatment of waste that is no longer usable in its current form to produce new products.
- Energy **recovery**, processing of residual waste materials to recover energy.
- Waste **treatment**, reduce potential environmental, health and safety risks.
- Waste **disposal**, in a manner that causes the least harm to the natural environment.

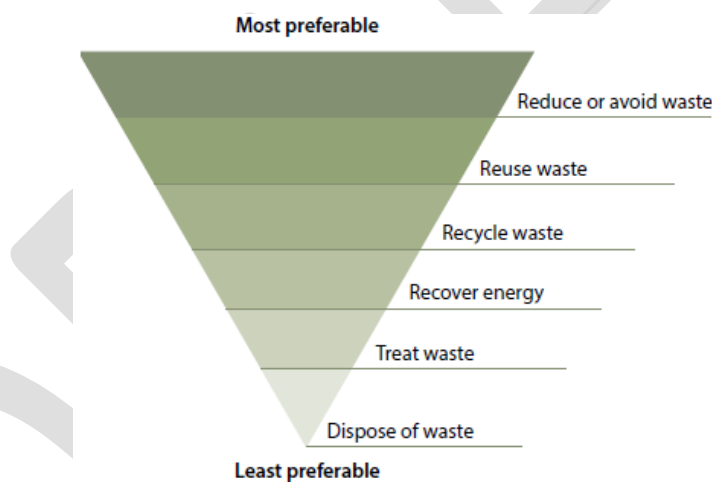


Image from NSW EPA (2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21.

Figure 2 Waste management hierarchy

2.2 Benefits of Adopting Better Practice

Adopting better practice principles in waste minimisation offers significant benefits for organisations, stakeholders and the wider community. Benefits from better practice waste minimisation include:

- Improved reputation of an organisation due to social and environmental responsibility.
- Lowered consumption of non-renewable resources.
- Reduced environmental impact (e.g. pollution) from materials manufacturing and waste treatment.
- Reduced expenses from lower waste disposal.
- Providing opportunities for additional revenue streams through beneficial reuse.

3 Waste Legislation and Guidance

Legislation and guidance documents outlined in **Table 1** should be referred to during all stages of the Development.

Table 1 Waste legislation and guidance

Legislation/Guidance	Objectives
DCP and LEP	
Lane Cove Local Environmental Plan (LEP) 2009 ¹	The Lane Cove Local Environmental Plan (LEP) came into force on 19 February 2010 and provides the legal framework of the Lane Cove DCP, including land use and development permitted in a set zone. The LEP also contains provisions to conserve local heritage and protect sensitive land.
Lane Cove City Council's Development Control Plan 2009 (Amendment 2 – 9 December 2011) ²	The Lane Cove Development Control Plan 2009 (DCP) supports provision of the LEP planning controls by providing detailed planning and design guidelines. The DCP has been prepared in accordance with Section 72 of the <i>Environmental Planning and Assessment Act 1979</i> and Part 3 of the <i>Environmental Planning and Assessment Regulation 2000</i>. This Site Waste Management and Minimisation Plan (SWMMP) specifically addresses Part Q – Waste Management and Minimisation of the DCP and sets out the waste management and servicing requirements for a proposed developed in Council's Local Government Area. The waste management requirements focus on four key features: • Avoiding unnecessary resource consumption. • Recovering resources for reuse. • Recovering resources for recycling or reprocessing. • Disposing of residual waste (as a last resort).
Other	
Building Code of Australia (BCA) and relevant Australian Standards	The BCA has the aim of achieving nationally consistent, minimum necessary standards of relevant health and safety, amenity and sustainability objectives efficiently.
Council of Australian Governments National Construction Code 2016	The National Construction Code 2016 sets the minimum requirements for the design, construction and performance of buildings throughout Australia.
NSW EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012	These better practice guidelines present information on waste minimisation and resource recovery as well as information on commonly used waste management provisions. The guidelines also provide benchmarks for assessing waste production rates within Australia.
NSW EPA (2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21	The <i>NSW Waste Avoidance and Resource Recovery Strategy 2014-21</i> is aimed at ultimately "improving environment and community well-being by reducing the environmental impact of waste and using resources more efficiently" by presenting a framework intended to avoid and reduce waste generation, increase recycling, divert more waste from landfill, manage problem wastes better, reduce litter and reduce illegal dumping.
NSW EPA Resource Recovery Orders and Resource Recovery Exemptions	The NSW EPA has issued a number of resource recovery orders and resource recovery exemptions under the POEO (Waste) Regulation 2014 for a range of wastes that may be recovered for beneficial re-use. These wastes typically include those from demolition and construction works, as well as operational wastes such as food waste. • Resource recovery orders present conditions which generators and processors of waste must meet to supply the waste material for beneficial re-use. • Resource recovery exemptions contain the conditions which consumers must meet to use waste for beneficial re-use.

¹ <https://www.legislation.nsw.gov.au/#/view/EPI/2010/49>

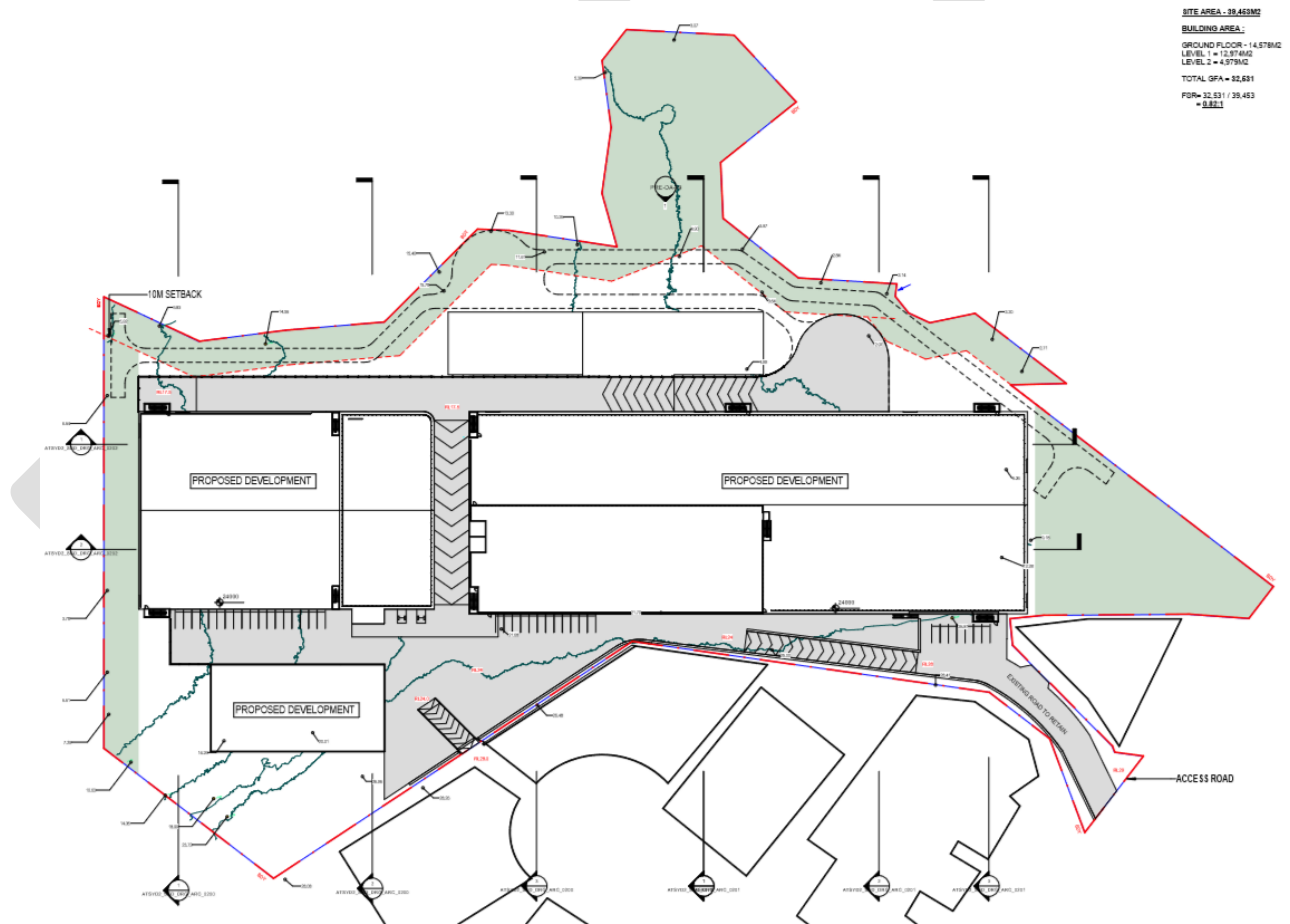
² <http://www.lanecove.nsw.gov.au/Development/DevelopmentControls/Pages/LEPandDCP.aspx>

Legislation/Guidance	Objectives
NSW EPA's Waste Classification Guidelines 2014	The NSW EPA <i>Waste Classification Guidelines</i> assists waste generators to effectively manage, treat and dispose of waste to ensure the environmental and human health risks associated with waste are managed appropriately and in accordance with the <i>POEO Act 1997</i> and is associated regulations.
POEO (Waste) Regulation 2014	The <i>POEO (Waste) Regulation 2014</i> contains provisions relating to the waste levy, waste tracking and management requirements for certain waste types, payment schemes for local Councils and consumer packaging recycling.
<i>Protection of the Environment Operations Act (POEO) 1997 and Amendment Act 2011</i>	The <i>POEO Act 1997</i> and <i>POEO Amendment Act 2011</i> are administered by the NSW Environment Protection Authority (NSW EPA) to enable the NSW Government to establish instruments for setting environmental standards, goals, protocols and guidelines. They outline the regulatory requirements for lawful disposal of wastes generated during the demolition, construction and operational phases of a development, as well as the system for licencing waste transport and disposal.
<i>Waste Avoidance and Resource Recovery Act 2001</i>	The <i>Waste Avoidance and Resource Recovery Act 2001</i> aims to promote waste avoidance and resource recovery and repeals the <i>Waste Minimisation and Management Act 1995</i>. Specific objectives of the <i>Waste Avoidance and Resource Recovery Act 2001</i> include: • encouraging efficient use of resources • minimising the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste • ensuring industry and the community share responsibility in reducing/dealing with waste, and • efficiently funding of waste/resource management planning, programs and service delivery. As of 2016, the addition to the Act of Part 5 defines the legislative framework for the "Return and Earn Container Deposit Scheme" whereby selected beverage containers can be returned to State Government authorities for a monetary refund.

4 Development Description

At present, the majority of the site is vacant land (**Figure 1**). The proposed work for the Development (**Figure 3**) is anticipated to comprise:

- Site preparation (clearing, grubbing and earthworks) for installation of services, foundation slabs and so forth.
- Placement of three underground fuel stores, three water storage areas, a pump room and a plant room.
- Construction of the Development, consisting of:
 - A ground floor consisting of an equipment transport area and six data halls with circulation corridors in between
 - A first floor consisting of six data halls with circulation corridors in between
 - A second floor consisting of a data hall surrounded by a corridor, three roof plant areas, a loading dock and two levels of office.



Adapted from Greenbox Architecture Pty Ltd, drawing ATSYD2_SSD_DRG_ARC_0050

Figure 3 Proposed layout for the Development

5 Site Preparation and Construction Waste and Recycling Management

5.1 Targets for Recycling

The performance of each new development should contribute to the following target from the NSW EPA (2014) *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*:

- 75 % of total construction and demolition waste recycled, increasing to 80 % by 2021.

It is anticipated that the waste minimisation measures in the following sections will assist the Development to meet this target. Waste reporting and audits can be used to determine the actual percentage of wastes that are being, or have been, recycled during the site preparation and construction stages of the Development.

5.2 Waste Streams

The site preparation and construction activities are anticipated to generate the following broad waste streams:

- Site clearance and excavation wastes
- Construction waste
- Packaging waste
- Work compound waste from on-site employees

A summary of likely waste types generated from site preparation and construction activities, along with their waste classifications and proposed management methods, is provided in **Table 2**.

For further information on how to determine a waste's classification refer to the NSW EPA (2014) *Waste Classification Guidelines*³. Further information on managing site preparation and construction wastes is available from the NSW EPA website⁴ and Council's DCP.

Table 2 Potential waste types, classifications and management methods – construction waste

Waste Types	NSW EPA Waste Classification	Proposed Reuse / Recycling / Disposal Method
Site Preparation and Construction		
Green waste	General solid waste (non-putrescible) (garden waste)	Off-site recycling
"Clean" fill	To be classified subject to the results of testing	Beneficial re-use on-site or off-site, if assessed to be suitable
Contaminated fill	To be classified subject to the results of testing	Off-site treatment or disposal to landfill
Excavated natural material (ENM) or Virgin excavated natural material (VENM)	To be classified subject to the results of testing	Beneficial re-use on-site or off-site, if assessed to be suitable
Construction		

³ Available online from <http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm>

⁴ <http://www.epa.nsw.gov.au/your-environment/waste/industrial-waste/construction-demolition>

Waste Types	NSW EPA Waste Classification	Proposed Reuse / Recycling / Disposal Method
Sediment fencing, geotextile materials	General solid waste (non-putrescible)	Reuse at other sites where possible or disposal to landfill
Concrete	General solid waste (non-putrescible)	Off-site recycling for filling, levelling or road base
Bricks and pavers	General solid waste (non-putrescible)	Off-site recycling; Cleaned for reuse, rendered over or crushed for landscaping or driveway use
Gyprock or plasterboard	General solid waste (non-putrescible)	Off-site recycling or returned to supplier
Sand or soil	General solid waste (non-putrescible)	Off-site recycling
Metals such as fittings, appliances and bulk electrical cabling	General solid waste (non-putrescible)	Off-site recycling
Timber	General solid waste (non-putrescible)	Off-site recycling; <i>Treated</i> : reused for formwork, bridging, blocking, propping or second hand supplier; <i>Untreated</i> : reused for floorboards, fencing, furniture, mulched second hand supplier
Doors, Windows, Fittings	General solid waste (non-putrescible)	Off-site recycling at second hand supplier
Insulation material	General solid waste (non-putrescible)	Off-site disposal
Glass	General solid waste (non-putrescible)	Off-site recycling; glazing or aggregate for concrete production
Asbestos	Hazardous waste	Removal and off-site disposal by specialist contractors
Fluorescent light fittings and bulbs	Hazardous waste	Off-site recycling or disposal; contact <i>FluoroCycle</i> for more information ⁵
Paint	Hazardous waste	Off-site recycling, Paintback collection ⁶ or disposal
Synthetic Rubber or carpet underlay	General solid waste (non-putrescible)	Off-site recycling; reprocessed and used in safety devices and speed humps
Carpet	General solid waste (non-putrescible)	Off-site recycling or disposal; reused for landscaping, insulation or equestrian uses
Plant Maintenance		

⁵ <http://www.fluorocycle.org.au/> or <http://www.environment.gov.au/settlements/waste/lamp-mercury.html>

⁶ <https://www.paintback.com.au/>

Waste Types	NSW EPA Waste Classification	Proposed Reuse / Recycling / Disposal Method
Empty oil and other drums or containers, such as fuel, chemicals, paints, spill clean ups	Hazardous waste: Containers were previously used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming. General solid waste (non-putrescible): Containers have been cleaned by washing or vacuuming.	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility Note: Discharge to sewer subject to Trade Waste Agreement with local Council
Air filters and rags	General solid waste (non-putrescible)	Off-site disposal
Oil filters	Hazardous waste	Off-site recycling
Batteries	Hazardous waste	Off-site recycling; Contact the Australian Battery Recycling Initiative ⁷ for more information
Packaging		
Packaging materials, including wood, plastic (including stretch wrap or LLPE), cardboard and metals	General solid waste (non-putrescible)	Off-site recycling
Wooden or plastic crates / pallets	General solid waste (non-putrescible)	Reused for similar projects, returned to suppliers, or off-site recycling. Contact <i>Business Recycling</i> for more information ⁸
Work Compound and Associated Offices		
Food Waste	General solid (putrescible) waste	Donate (if suitable) ⁹ or compost on site. Alternatively dispose to landfill with general garbage
Recyclable beverage containers (glass and plastic bottles, aluminium cans), steel cans	General solid waste (non-putrescible)	Co-mingled recycling at off-site licensed facility or at a local NSW container deposit scheme 'Return and Earn' off-site licensed facility ¹⁰
Clean paper and cardboard	General solid waste (non-putrescible)	Paper and cardboard recycling at off-site licensed facility
General domestic waste generated by workers (soiled paper and cardboard, food stuffs, polystyrene)	General solid waste (non-putrescible) mixed with putrescible waste	Disposal at landfill

5.3 Estimated Site Preparation Waste Quantities

The site has a total area of 39,453 m², of which the Development will occupy 32,531 m².

⁷ <http://www.batteryrecycling.org.au/home>

⁸ <http://businessrecycling.com.au/search/>

⁹ <http://www.ozharvest.org/>, <https://www.foodbank.org.au/>, <https://www.secondbite.org/> or <https://www.exodusfoundation.org.au/>

¹⁰ <http://returnandearn.org.au/>

The preliminary drawings for the Development show that the site preparation will entail both cut and fill work. The cut and fill quantities were not available at the time of preparation of this plan.

As the site is currently vacant, site preparation waste would be primarily green waste, excavated fill, soil and / or rock.

Care should be taken to minimise site disturbance and limit unnecessary excavation.

All excavated spoil is to be classified by an appropriately experienced environmental consultant and separated into contaminated materials, if any, uncontaminated fill or ENM. Refer to **Section 5.7** for management of stockpiles. Uncontaminated fill or ENM should be retained on site and managed appropriately for beneficial re-use. Contaminated material, if any, should be sent for off-site treatment if feasible. Disposal of contaminated fill to off-site landfills is to be considered as a last resort.

5.4 Estimated Construction Waste Quantities

The Development proposes to comprise three operational floors as mentioned in **Section 4** and a roof level.

While 'Appendix B: Waste/Recycling Generation Rates' of Council's DCP provides waste generation rates for construction phase, it requires estimations of the quantities of the construction materials being brought to site. These are not yet available.

In the absence of construction waste quantities, SLR has adopted the 'Office' waste generation rates (**Table 3**) from Appendix A of The Hills Development Control Plan 2012 for estimating the type and quantities of waste generated from construction of the Development (**Table 4**).

Table 3 Construction waste generation rates

Rate Type	Floor Area (m ²)	Waste Material (tonnes)						
		Timber	Concrete	Bricks	Gyprock	Sand / Soil	Metal	Other
Office	1,000	5.1	18.8	8.5	8.6	8.8	2.75	5

The construction wastes in **Table 4** have been estimated using:

- floor areas provided in the preliminary drawing ATSYD2_SSD_DRG_ARC_0050 by Greenbox Architecture Pty Ltd, and
- waste generation rates from Appendix A of The Hills Development Control Plan 2012.

Table 4 Anticipated types and estimated quantities of construction waste

Development Component	Area (m ²)	Waste types and quantities (tonnes)						
		Timber	Concrete	Bricks	Gyprock	Sand/Soil	Metal	Other
Ground Floor	14,578	75	275	125	130	130	45	75
Level 1	12,974	70	245	115	115	115	40	65
Level 2	4,979	30	95	45	45	45	15	25
	Totals	175	615	285	290	290	100	165

Tonnages rounded up to the nearest 5 tonnes.

Council's DCP requires architectural drawings to show details of the storage areas for demolition and construction waste. This includes the size and location of areas, heavy vehicle access to the areas, excavation areas, storage bins and signage. Council's checklist is provided in **Appendix B**, which will aid in checking the drawings against Council's requirement.

At the time of preparing this plan, architectural drawings with waste storage details were not available.

5.5 Waste Avoidance

In accordance with Council's DCP and better practice waste management, the Building Designer should:

- Select materials with low embodied energy properties that suit the Development, such as:
 - prefabricated components and recycled materials, such as recycled steel and glass-wool insulation
 - concrete with slag and fly ash content
 - fittings and furnishings that incorporate recycled materials and have been certified as sustainable or environmentally friendly by a recognised third party certification scheme.
- Reduce the use of PVC.
- Use paints, floor coverings and adhesives with low volatile organic compound content.
- Choose construction materials with a longer lifespan and/or high potential for re-use.
- Use low formaldehyde wood products, post-consumer reused timber, Forest Stewardship Council-certified timber, wood plastic composite or recycled plastic timber substitute.
- Avoid the use of unsustainable timber imports such as western red cedar, oregon, meranti, luan or merbau.
- Select pre-finished materials.
- Centralise wet areas and minimise piping where possible.
- Design for deconstruction, rather than demolition.

The Building Contractor should:

- Estimate required volumes of materials to reduce over-purchasing and excess materials.
- Arrange delivery of materials on an 'as needed' basis to mitigate material degradation by weathering or moisture damage.
- Reduce packaging waste by:
 - returning packaging to suppliers where possible and practicable
 - purchasing in bulk
 - requesting cardboard or metal drums rather than plastics
 - requesting metal straps rather than shrink wrap
 - using returnable packaging such as pallets and reels.
- Reduce unnecessary excavation and site disturbance.
- Ensure subcontractors are informed of and implement site waste management procedures.

5.6 Re-use, Recycling and Disposal

The Building Contractor should:

- Sort and segregate site preparation and construction wastes to ensure efficient recycling of wastes (see also **Section 5.7.1**).

- Store wastes on site appropriately to prevent cross-contamination and/or mixing of different waste types (see also **Sections 5.7.1**).
- Re-use formwork where appropriate.
- Recycle/dispose of waste oil in an appropriate manner.
- Retain roofing material cut-offs for re-use.
- Retain used crates for storage purposes unless damaged.
- Recycle cardboard, glass and metal wastes.
- Return packaging to suppliers where possible/practicable.
- Recycle/dispose of solid waste timber, brick, concrete, asphalt and rock, where such waste cannot be re-used on site, to an appropriately licenced construction and demolition (C&D) waste recycling facility or an appropriately licenced landfill.
- Dispose of all asbestos and/or hazardous wastes in accordance with SafeWork NSW and NSW EPA requirements.
- Deliver batteries and florescent lights to drop off-site recycling facility/centre.

5.7 Waste Segregation, Storage and Servicing

5.7.1 Waste Segregation and Storage

Waste materials produced from site preparation and construction activities are to be segregated and stored separately on site, with clear signage identifying the purpose of different storage areas. It is anticipated that the site will have available space provided by the Building Contractor for separate storage in separate skip bins and/or appropriately managed stockpiles, of the following waste types:

- Bricks, concrete and scrap metal.
- Metal/steel (if any, in a condition suitable for recycling at metal recycling facilities).
- Timber,
- Glass.
- Hardstand rubble.
- Excavation spoil (uncontaminated, if present).
- Contaminated excavation spoil (if present).
- Hazardous waste (if present).
- Paper/cardboard.
- Recyclable general waste.
- Non-recyclable general waste.

If there is insufficient space onsite for full segregation of waste types, the Building Contractor is to consult with waste/recycling collection facilities to confirm which waste types may be co-mingled prior to removal from the site.

Areas designated for waste storage should:

- allow unimpeded access by site personnel and waste disposal contractors

- not be located on footpaths, public reserves and street gutters without Council approval
- employ adequate environmental management controls (e.g. consideration of slope, drainage and proximity relative to waterways/stormwater outlets/vegetation) to prevent off-site migration of waste materials and/or contamination from the waste
- not present hazards to human health or the environment.

5.7.2 Waste Servicing and Record Keeping

The Building Contractor is to:

- arrange for suitable waste collection contractors to remove the site preparation and construction waste from site
- ensure waste bins are not filled beyond recommended filling levels
- ensure that all bins and loads of waste materials leaving site are covered
- maintain waste disposal documentation detailing, at a minimum:
 - Descriptions and estimated amounts of all waste materials removed from site.
 - Details of the waste and recycling collection contractor(s) and facilities receiving the waste or recyclables.
 - Records of waste and recycling collection vehicle movements, for example date and time of loads removed, licence plate of collection vehicles, disposal dockets from receiving facility.
 - Waste classification documentation for materials disposed to off-site recycling or landfill facilities.
- ensure lawful waste disposal records are readily accessible for inspection by regulatory authorities such as Council, SafeWork NSW or NSW EPA
- remove waste during hours approved by Council.

5.8 Contaminated / Hazardous Waste

Contaminated and / or hazardous materials, where identified, are to be removed by appropriately licenced contractors and transported to facilities lawfully able to accept such materials for treatment and / or disposal in accordance with NSW EPA regulations and the relevant SafeWork NSW Work Health and Safety legislation.

Where unexpected materials are encountered which are, or are suspected of being, contaminated or hazardous, the following shall be undertaken as a minimum:

- Work in the vicinity of the suspect material is to stop immediately and access to the area restricted.
- The Building Contractor's unexpected finds protocol, if available, shall be implemented.
- The Site Manager is to contact a qualified hazardous materials assessor and / or environmental consultant, as applicable, to arrange an assessment of the suspect material and advise on subsequent management procedures.

5.9 Signage

Standard signage is to be posted in all waste storage and collection areas. All waste containers should be labelled correctly and clearly to identify stored materials.

Signs approved by the NSW EPA for labelling of waste materials are available online¹¹ and should be used where applicable. A selection of signs prepared by NSW EPA is provided in **Figure 4**.



Figure 4 Examples of NSW EPA labels for waste skips/bins

5.10 Site Inductions

Waste management measures and procedures are to be included in the site induction for all personnel working at the site. With respect to waste management, the site induction is to include, at a minimum:

- An outline of this SWMMP
- Legal obligations
- Emergency response procedures on site
- Waste storage locations and separation of waste
- Litter management in transit and on site
- Implications of poor waste management practices
- Correct use of spill kits and
- Responsibility and reporting, including identification of personnel responsible for on-site waste management and individual responsibilities.

5.11 Monitoring and Reporting

Records of volumes or tonnages of waste re-used, recycled or disposed to landfill are to be maintained by the Building Contractor. Additionally, dockets and receipts verifying recycling and/or disposal in accordance with the SWMMP must be retained and presented to the regulatory authorities such as Council, SafeWork NSW or NSW EPA if requested.

Daily visual inspections of waste storage areas will be undertaken by site personnel to identify and rectify any issues concerning waste management at the site, as well as identifying opportunities to improve waste management at the site. A written record of these inspections, which will include observations made and the results of any remedial actions taken, is to be undertaken and retained by the Building Contractor as part of the construction environmental management documentation.

¹¹ NSW EPA approved waste materials signage <http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm>

6 Operational Waste and Recycling Management

6.1 Targets for Resource Recovery

The waste management performance of each new development should contribute to the overall NSW State target for recycling, which is expected to increase from 57 % for commercial/industrial waste to 70 % (by 2021 to 2022) of the total waste generation per capita (NSW EPA (2014) *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*).

It is anticipated that the waste minimisation measures in the following sections will assist the Development to meet this target. Waste reporting and audits can be used to determine the actual percentages of waste that are, or have been, recycled during operation.

6.2 Waste Streams and Classifications

Operation of the Development is anticipated to generate the following broad waste streams:

- General waste and commingled recycling
- Food and organic wastes
- Bulk packaging wastes, including polystyrene and cardboard boxes
- E-wastes
- Bulky waste items, such as furniture and
- Plant and general maintenance wastes.

Potential waste types, their associated waste classifications, and management methods are provided in **Table 5**.

For further information on how to determine a waste's classification, refer to the NSW EPA (2014) *Waste Classification Guidelines*.¹²

Table 5 Potential waste types, classifications and management methods – operational waste

Waste Types	NSW EPA Classification	Proposed Reuse / Recycling / Disposal Method
Work Compound and Associated Offices		
Clean office paper	General solid (non-putrescible) waste	Paper recycling at off-site licensed facility
Cardboard / bulky cardboard boxes	General solid (non-putrescible) waste	Cardboard recycling at off-site licensed facility
Recyclable beverage containers (glass and plastic bottles, aluminium cans), tin cans	General solid (non-putrescible) waste	NSW container deposit scheme 'Return and Earn'; container recycling at off-site licensed facility
Food waste	General solid (putrescible) waste	Donate, if suitable; alternatively compost on or off-site or dispose to landfill with general garbage

¹² Available online from <http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm>

Waste Types	NSW EPA Classification	Proposed Reuse / Recycling / Disposal Method
Batteries	Hazardous waste	Off-site recycling; can be taken to the Lane Cove Civic Centre, Lane Cove Woolworths and Lane Cove Coles; alternatively contact the Australian Battery Recycling Initiative for more information
Mobile Phones	Hazardous waste	Off-site recycling; can be taken to a number of locations in the Lane Cove Councils area, through the Mobile Muster program. Contact Mobile Muster for more information
Stationery	General solid (non-putrescible) waste	Off-site recycling or disposal to landfill
Bulky polystyrene	General solid (non-putrescible) waste	Off-site recycling or disposal at landfill
Furniture	General solid (non-putrescible) waste	Off-site reuse or disposal to landfill
E-waste	Hazardous waste	Off-site recycling
Printer toners and ink cartridges	Hazardous waste	Off-site recycling; free disposal box or bags and pickup service exists for printer toners and ink cartridges
General garbage (including non-recyclable plastics)	General solid (putrescible and non-putrescible) waste	Disposal at landfill
Spent smoke detectors ¹³	General solid (non-putrescible) waste OR Hazardous waste (some commercial varieties)	Disposal to landfill, or off-site disposal at licensed facility
Glass (other than containers)	General solid (non-putrescible) waste	Off-site recycling
Light bulbs / fluorescent tubes	Hazardous waste	Off-site recycling or disposal; contact FluoroCycle for more information
Air-conditioning parts and filters	General solid (non-putrescible) waste	Off-site recycling or disposal to landfill
Cleaning chemicals, solvents, area wash downs, empty oil / paint drums / chemical containers	Hazardous waste if containers used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming. General solid (non-putrescible) waste if containers cleaned by washing or vacuuming.	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility. Discharge to sewer likely to be subject to Trade Waste Agreement with Sydney Water.

6.3 Waste Management Overview

General and recycling waste generation will primarily occur in the office areas. Waste that will be generated in the data halls, loading dock and circulation areas includes e-waste and packaging waste, which will be handled either through a separate contract for e-waste collection and recycling or by returning packaging materials to the product suppliers.

The operational waste management for the office areas is proposed to comprise:

- Three labelled bins to be stored in the garbage room and labelled for general waste, paper and cardboard recycling and recyclable containers.

¹³ The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) require that when more than 10 smoke alarms (particularly americium-241 sources) are collected for bulk disposal they must be treated as radioactive waste and the requirements of the National Health and Medical Research Council's Code of practice for the near-surface disposal of radioactive waste in Australia (1992) must be met.

- The three bins include one general waste bin of 1100 L capacity and two recycling bins of 660 L capacity each.
- General waste and recycling bins are to be initially collected from office areas and transferred daily, by cleaners, to the garbage room.
- The waste and recycling bins will be wheeled by Building Management or nominated personnel from the garbage room, to an area of hardstand in the loading dock for collection by a Council or a private waste contractor.

6.4 Waste Servicing

SLR anticipates that waste servicing of the Development would be provided by a private waste contractor. If a private waste contractor is engaged, a valid waste and recycling collection contract is required to demonstrate disposal at a waste facility lawfully able to accept it. Written evidence of the valid contract is to be kept on site.

6.5 Estimated Operational Waste Quantities

For the purposes of this assessment, SLR has adopted the general waste and recycling rates for 'office' as presented in Council's Appendix B - Waste/Recycling Generation Rates for Ongoing Operation, specifically:

- Office: 10 L of waste and 10 L of recycling per 100 m² of floor area per day.

The estimated quantities of operational waste generated by the offices in the Development are shown in **Table 6**. Operational waste generation from the data halls, loading dock and circulation areas have not been included as these primarily constitute e-waste and packaging waste which are handled separately and are discussed in **Section 6.5.1**.

Quantities shown in **Table 6** are based on:

- Office floor areas provided by the Greenbox Architecture Pty Ltd in an email titled 'RE: 630.12671 Air Trunk Data Centre WMP' and dated 10 December 2018
- Council's waste and recyclable material generation rate (listed above)
- A week comprising seven days of operation and
- General recycling consisting of approximately 60% paper and cardboard, and 40% recyclable containers¹⁴.

Table 6 Estimated quantities of operational waste and recycling

Location	Area (m ²)	Waste (L / day)	Paper and Cardboard Recycling (L / day)	Recyclable Containers (L / day)	Waste (L / week)	Paper and Cardboard Recycling (L / week)	Recyclable Containers (L / week)
Offices	2,800	280	170	115	1,960	1,190	850

Tonnages rounded up to nearest 10 tonnes.

6.5.1 Additional operational waste

In addition to the estimated quantities of waste and recycling listed in **Table 6**, the Development is anticipated to produce:

- Minimal quantities of green landscaping waste

¹⁴ <https://www.epa.nsw.gov.au/~media/EPA/Corporate%20Site/resources/warrlocal/140442-audits-2011.ashx>

- Significant quantities of electronic waste or e-waste and
- Cardboard packaging waste from electronic products for the data halls

Less than 50 L of green garden organic landscaping waste is estimated to be generated per week. This waste will be taken by a landscaping contractor who will dispose of it at a garden organics processing facility such as Kimbriki.

The Development is likely to generate significant quantities of e-waste, which could exceed 240 L per week, such as computer parts, keyboards, and cabling. For this reason, a waste collection and recycling contract should be established to collect all e-waste for recycling and ensure it is not landfilled.

Packaging waste for electronic products will be returned to the supplier.

6.6 Waste Storage

Council's DCP requires architectural drawings to show details of the waste storage areas. This includes a garbage room of suitable size, a collection point for the emptying of bins, the route of access to the collection point for cleaners, and the route that collection vehicles will take to access the collection point. Council's checklist is provided in **Appendix B**, to aid in checking the drawings against Council requirement.

At the time of preparing this plan, architectural drawings showing garbage room details were not available. Further details on garbage room specifications are shown in the sections below.

6.6.1 Garbage Room Location and access

In accordance with Council's DCP, SafeWork NSW Work Health and Safety measures and better practice waste management, waste storage areas are to:

- Be constructed in accordance with the requirements of the National Construction Code 2016 (NCC) and ensuring impervious floors and ceilings, and fire safety and resistant provisions
- Have smoke detectors be installed in accordance with Australian Standards and connected to the fire prevention system of the building
- Located in areas are within close proximity to servicing vehicle entrance and are easy to maintain;
- Located in areas that are convenient, safe and functional to users and servicing collection staff alike;
- Located so that servicing vehicles can enter and exit the premises in a forward direction with minimal reversing;
- Have access paths for wheeling bins between storage and collection that are level and free from steps;
- Have access ramps of a suitable gradient, so that access for the purpose of the storage and collection of waste and recycling bins, can occur in accordance with SafeWork NSW Work Health and Safety requirements.
- Located to minimise negative noise and odour impacts;
- Located in areas that are not visible from the street or public domain;
- Located in areas that are not adjoining onsite employee recreation areas;
- Have access driveways for the purpose of the collection of waste which must have suitable strength to support collection vehicles;
- Be integrated with the use, form and arrangement of the Development; and

- Be designed so that litter and contamination of the stormwater drainage system is avoided.

In addition to a central waste storage area where waste and recycling is collected by a private waste servicing contractor, Council's DCP states that a waste and recycling cupboard must also be provided in every kitchen area in the Development. The cupboard must be designed for the storage of at least a single day of waste and to include separate waste and recyclable bins.

6.6.2 Garbage Room Size

Council's DCP requires the waste and recycling storage area to be adequate enough to hold the amount of operational waste and recycling generated between collections. Furthermore, the building must have provision to separate waste and recyclable material.

In the absence of readily available Council data for dimensions of bins of capacity 660 L and 1,100 L, SLR has adopted bin dimensions from the City of Sydney 'Guidelines for Waste Management in New Developments'¹⁵.

Estimates of the number of bins required for weekly storage of operational waste and recycling generated by the office occupancy (**Table 7**) are based on:

- Estimated quantities of operational waste and recycling (**Table 6**)
- Waste being stored in 1,100 L bins for servicing by waste collection contractor(s)
- Recycling being stored in 660 L bins for servicing by waste collection contractor(s)
- Collection frequency of three times per week for all bin types and
- Bin dimensions listed in the City of Sydney 'Guidelines for Waste Management in New Development'.

To allow for easy and safe movement of bins into and out of the bin storage area, the bin area should provide a floor area of at least 200% of the total minimum bin area. This provision has been applied to the recommended storage area below (**Table 7**). This can also act as a contingency in the event of spikes in waste generation.

Table 7 Minimum number of bins required for weekly operational waste storage areas

Location	Bins required			Total number of bins	Recommended Storage Area (m ²)
	Garbage	Recycling Paper and Cardboard	Recyclable Containers		
Offices	1 x 1,100 L	1 x 660 L	1 x 660 L	3	10

6.6.3 Garbage Room Features

Council's DCP and good practice waste management require the garbage room to have the following features:

- The design of the garbage room is to compliment the design of the Development. The materials and finishes inside the room are to be of similar style and quality to the rest of the Development
- The floor must be smooth and durable
- The room is to be bounded by durable walls or fences that extend to the height of any bins kept within

¹⁵

https://www.cityofsydney.nsw.gov.au/__data/assets/pdf_file/0009/307269/WasteManagementGuidelines_240818_AccessibleForms.pdf

- The room is to have a durable door, designed to open both inwards and outwards. A sign is to be placed on the door indicating that it must be closed when not in use. The door is to be large enough to allow for each entry of waste and recycling bins
- The room is to be suitably enclosed and maintained to avoid polluted wastewater runoff from entering the stormwater system and
- All waste and recycling bins are to have securely fitted lids to avoid any overflow of waste.

6.6.4 Garbage Room Maintenance

The garbage room should be maintained as per the below requirements in accordance with Council's DCP and better practice waste management:

- The garbage room is to be regularly maintained. The floor is to be graded so that any water used for cleaning is directed to a sewer authority approved drainage connection located on site;
- The garbage room is to be cleaned with hot and cold water provided through a centralised mixing valve. The hose is to be located in an easily accessible area with no obstruction by waste containers; and
- Waste and recycling bins are to be cleaned in an area draining to a sewer authority approved drainage connection.

6.7 Waste Avoidance, Re-use and Recycling

6.7.1 Waste Avoidance

Waste avoidance measures include:

- Returning packaging materials like cardboard to the suppliers through the services of the supplier delivery trucks, allowing the reduction of waste further along the supply chain
- Providing ceramic cups, mugs, crockery and cutlery rather than disposable items
- Presenting all waste reduction initiatives to staff as part of their induction program and
- Leasing equipment and machinery rather than outright purchase and disposal.

6.7.2 Re-use

Establish systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

6.7.3 Recycling

Recycling opportunities include:

- Providing separate receptacles for general waste, recycling and paper and cardboard throughout public areas, as well as within staff areas, to encourage source-separation of waste streams
- Separating, by a reasonable distance, the storage areas for recyclables from the general waste storage areas to avoid cross contamination;
- Paper recycling trays provided in staff areas for scrap paper collection and recycling
- Printer toners and ink cartridges collected in allocated bins for appropriate contractor recycling and
- Development of 'buy recycled' purchasing policy.

6.8 Bulky or Hazardous Waste Management

Sufficient space will be provided within the Development for the storage of large and / or bulky items and hazardous wastes that cannot be disposed of in the general waste or recyclable streams. This would include broken pallets, furniture, shelving, monitors, batteries, fluorescent tubes and smoke detectors.

Building management may consider organising a separate casual collection service for as required, to remove bulky waste items, or engaging a contractor to collect and transport these items for reuse, recycling or disposal.

6.9 Signage

Appropriate signage is to be installed to clearly identify waste management procedures and provisions to staff and visitors. Key signage considerations are:

- Clear and correct labelling on all waste and recycling bins, indicating the correct type(s) of waste that can be placed into a given bin (see **Figure 5** for examples);
- Signposts and/or directions to location of waste storage areas;
- Clear signage in all waste storage areas to instruct users how to correctly source separate waste and recycling;
- Maintaining a consistent style colour scheme and system for signs throughout the Development; and
- Emergency contact information for reporting issues associate with waste or recycling management.

Coloured and labelled bin lids are necessary for identifying bins. All signage should conform to the relevant Australian Standard and, for bins, use labels provided by the NSW EPA¹⁶.



Figure 5 Example of bin labels for operational waste

6.10 Communication Strategies

Waste management initiatives and management measures should be clearly communicated to the Development's managers, tenants and cleaners. Benefits of providing this communication include:

¹⁶ NSW EPA waste signs/posters <http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm>

- Improved satisfaction with services
- Increased ability and willingness to participate in recycling
- Improved amenity and safety
- Improved knowledge and awareness through standardisation of services
- Increased awareness or achievement of environmental goals and targets
- Reduced contamination of recyclables stream which may incur a collection contractor penalty fee
- Increased recovery of recyclables and organics material, if implemented and
- Greater contribution to state-wide targets for waste reduction and resource recovery.

To realise the above benefits, the following communication strategies should be considered by the Building Managers:

- Use consistent signage and colour coding throughout the Development
- Ensure all tenants are informed of correct waste separation and management procedures
- Provide directional signage to show locations and routes to waste storage areas
- Clearly label general and comingled waste bins to ensure no cross contamination and to identify the types of waste that may be disposed of in each bin and
- Educate all employees and site contractors, ensuring compliance with this SWMMP.

6.11 Monitoring and Reporting

Monitoring is recommended to ensure waste and recycling is being managed effectively for the Development.

Monitoring of bins and bin storage areas should be conducted, at minimum:

- Every week, within the first two months of operation and
- Every six months, thereafter.

Any deficiencies identified in the waste management system, including unexpected waste volumes or new waste streams, are to be rectified by the Development's management as soon as practicable.

Quantities of waste and recycling, including dockets and/or receipts associated with disposal of waste and recycling, should be recorded by the Development's management to assist reviews of waste and recycling management. Records of waste disposal, including written evidence of a valid contract with a licenced waste contractor, should also be available if required by regulatory authorities, for example, Lane Cove Council, NSW EPA and SafeWork NSW.

APPENDIX A

Architectural Drawings

DRAFT

SITE AREA - 39,453M2

BUILDING AREA :

GROUND FLOOR - 14,578M2
LEVEL 1 = 12,974M2
LEVEL 2 = 4,979M2

TOTAL GFA = 32,531

FSR= 32,531 / 39,453
= 0.82:1

Issue Date Description

Project Manager

Services Design

GREENBOX

+61 2 8069 8930

LEVEL 3
40 KING ST
SYDNEY NSW 2000 AUSTRALIA

GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098

ISO 9001 CERTIFIED QUALITY SYSTEM

- Use written dimensions only
- Do not scale from drawing
- Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings.
- All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
- Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
- Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489

Client

Project
Project Name
1 SIRIUS ROAD LANE COVE WEST

Drawn By
PL

Scale
1 : 500 @ A1

Checked By
DW

Approved By
AO

Date

Job Number
180095

Project Status

PRELIMINARY

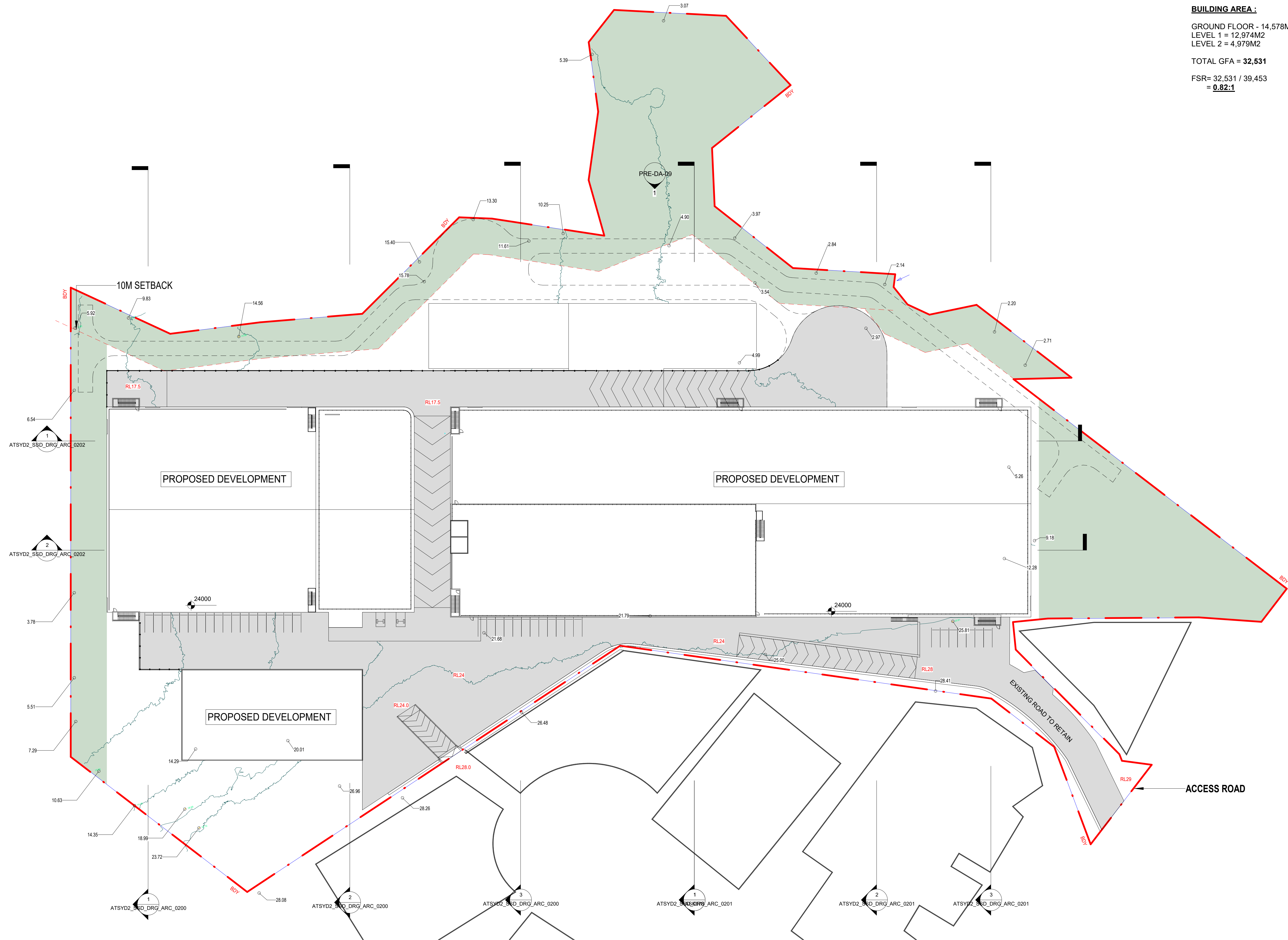
Drawing Title

MASTER PLAN

Drawing Number

Issue

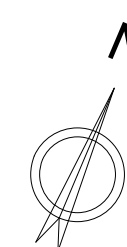
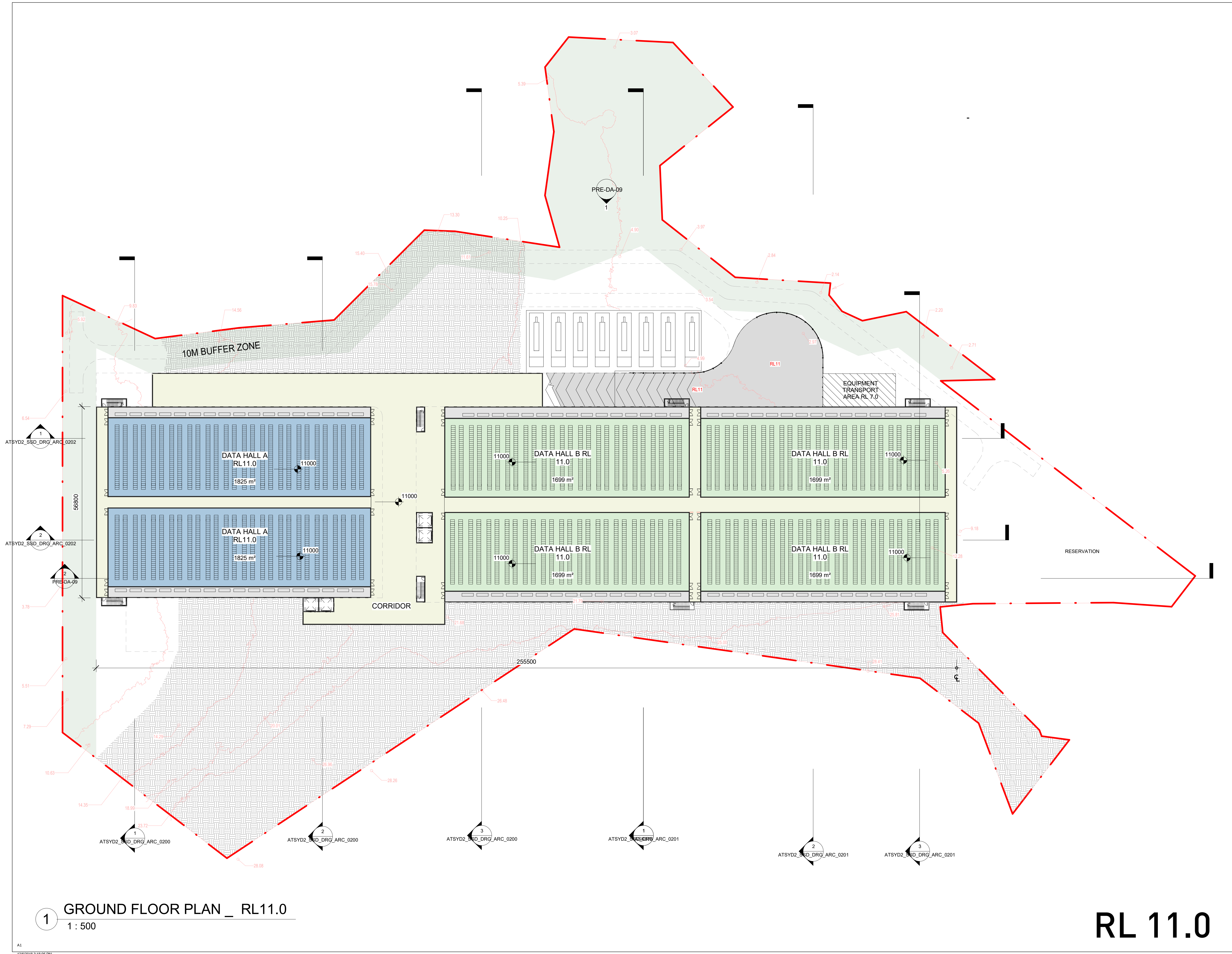
ATSYD2_SSD_DRG_ARC_0050





RL 6.5

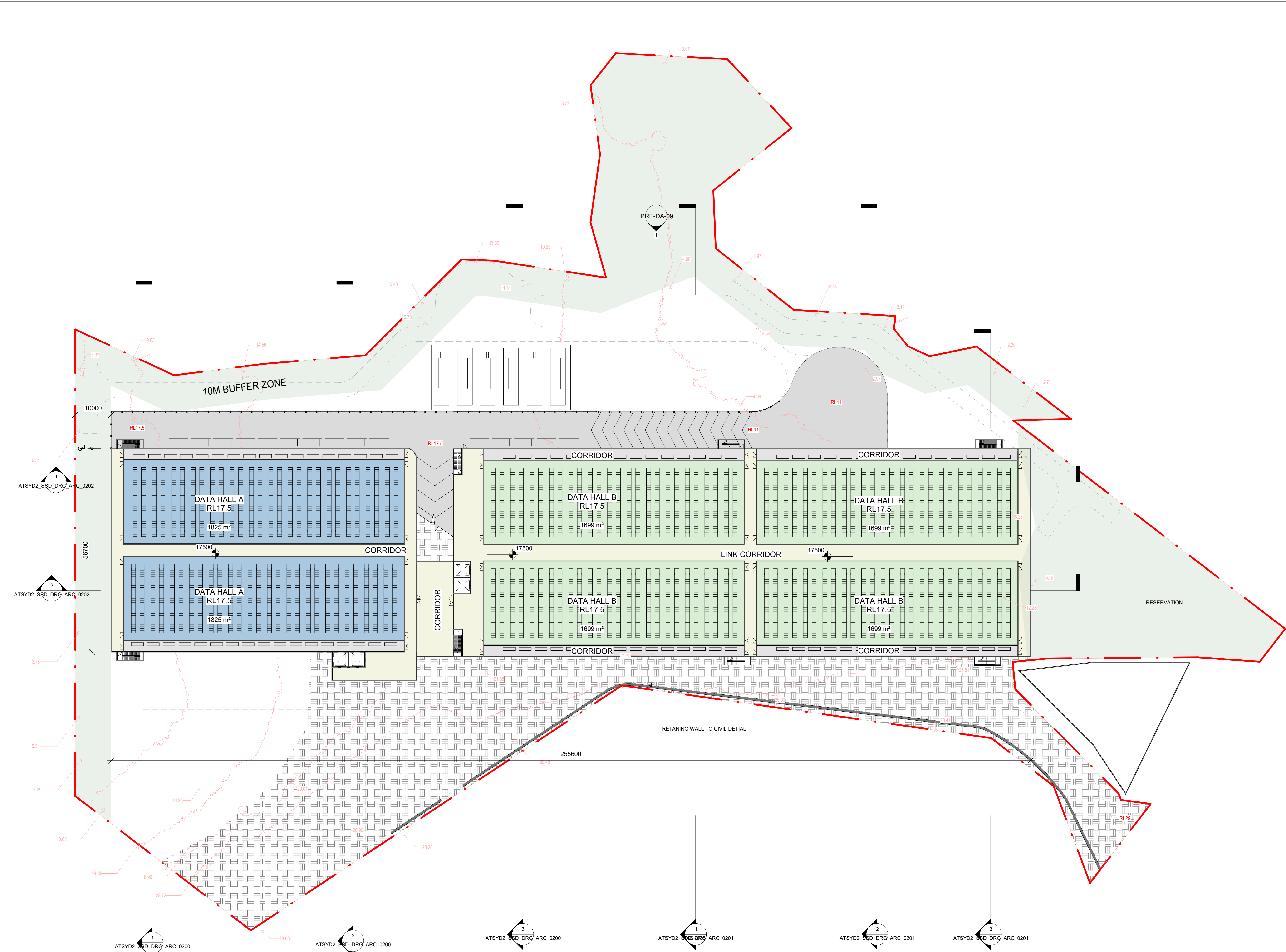
ATSYD2 SSD DRG ARC 0100



Issue	Date	Description
Project Manager		
Services Design		
GREENBOX +61 2 8069 8930 LEVEL 3 40 KING ST SYDNEY NSW 2000 AUSTRALIA GREENBOX ARCHITECTURE PTY LTD ABN: 79 139 779 098 ISO 9001 CERTIFIED QUALITY SYSTEM - Use written dimensions only - Do not scale from drawing - Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings - All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards - Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd - Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489 Client		
Project		
Project Name 1 SIRIUS ROAD LANE COVE WEST		
Drawn By PL	Scale 1 : 500 @ A1	
Checked By DW	Approved By AO	
Date	Job Number 180095	
Project Status SSD		
Drawing Title GROUND FLOOR PLAN _ RL11.0		
Drawing Number	Issue	
ATSYD2_SSD_DRG_ARC_0101		

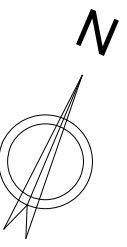
1 GROUND FLOOR PLAN _ RL11.0
1 : 500

RL 11.0



Issue	Date	Description
Project Manager		
Services Design		
GREENBOX +61 2 8069 8930 LEVEL 3 40 KING ST SYDNEY NSW 2000 AUSTRALIA GREENBOX ARCHITECTURE PTY LTD ABN: 79 139 779 098 ISO 9001 CERTIFIED QUALITY SYSTEM		
- Use written dimensions only - Do not scale from drawing - Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings - All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards - Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd - Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489 Client		
Project		
Project Name		
1 SIRIUS ROAD LANE COVE WEST		
Drawn By	Scale	
PL	1 : 500 @ A1	
Checked By	Approved By	
DW	AO	
Date	Job Number	
	180095	
Project Status		
SSD		
Drawing Title		
FIRST FLOOR PLAN _ RL17.5		
Drawing Number	Issue	
ATSYD2_SSD_DRG_ARC_0102		

RL 17.5



Issue Date Description

Project Manager

Services Design

GREENBOX

+61 2 8069 8930

LEVEL 3
40 KING ST
SYDNEY NSW 2000 AUSTRALIA

GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098

ISO 9001 CERTIFIED QUALITY SYSTEM

- Use written dimensions only
- Do not scale from drawing
- Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings.
- All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
- Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
- Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489

Client

Project
Project Name
1 SIRIUS ROAD LANE COVE WEST

Drawn By
PL

Scale
1 : 500 @ A1

Checked By
DW

Approved By
AO

Date

Job Number
180095

Project Status

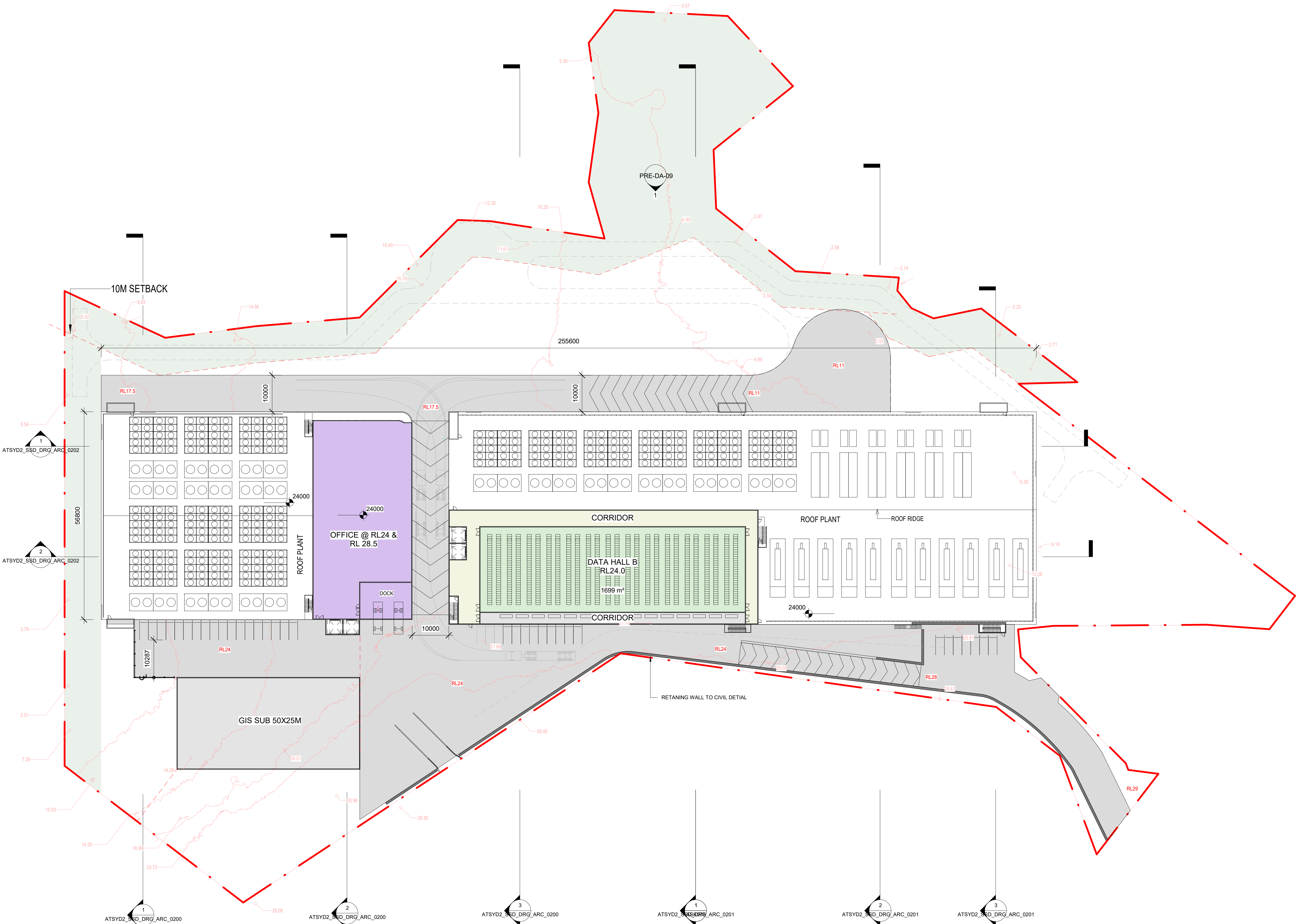
SSD

Drawing Title
SECOND FLOOR PLAN _ RL24.0

Drawing Number

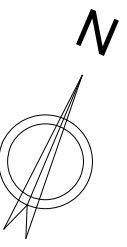
Issue

ATSYD2_SSD_DRG_ARC_0103



1 SECOND FLOOR PLAN _ RL 23.0
1 : 500

RL 24.0



Issue	Date	Description
-------	------	-------------

Project Manager

Services Design

GREENBOX

+61 2 8069 8930

LEVEL 3
40 KING ST
SYDNEY NSW 2000 AUSTRALIA

GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098

ISO 9001 CERTIFIED QUALITY SYSTEM

- Use written dimensions only
- Do not scale from drawing
- Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings.
- All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
- Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
- Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489

Client

Project
Project Name
1 SIRIUS ROAD LANE COVE WEST

Drawn By	Scale
PL	1 : 500 @ A1

Checked By	Approved By
DW	AO

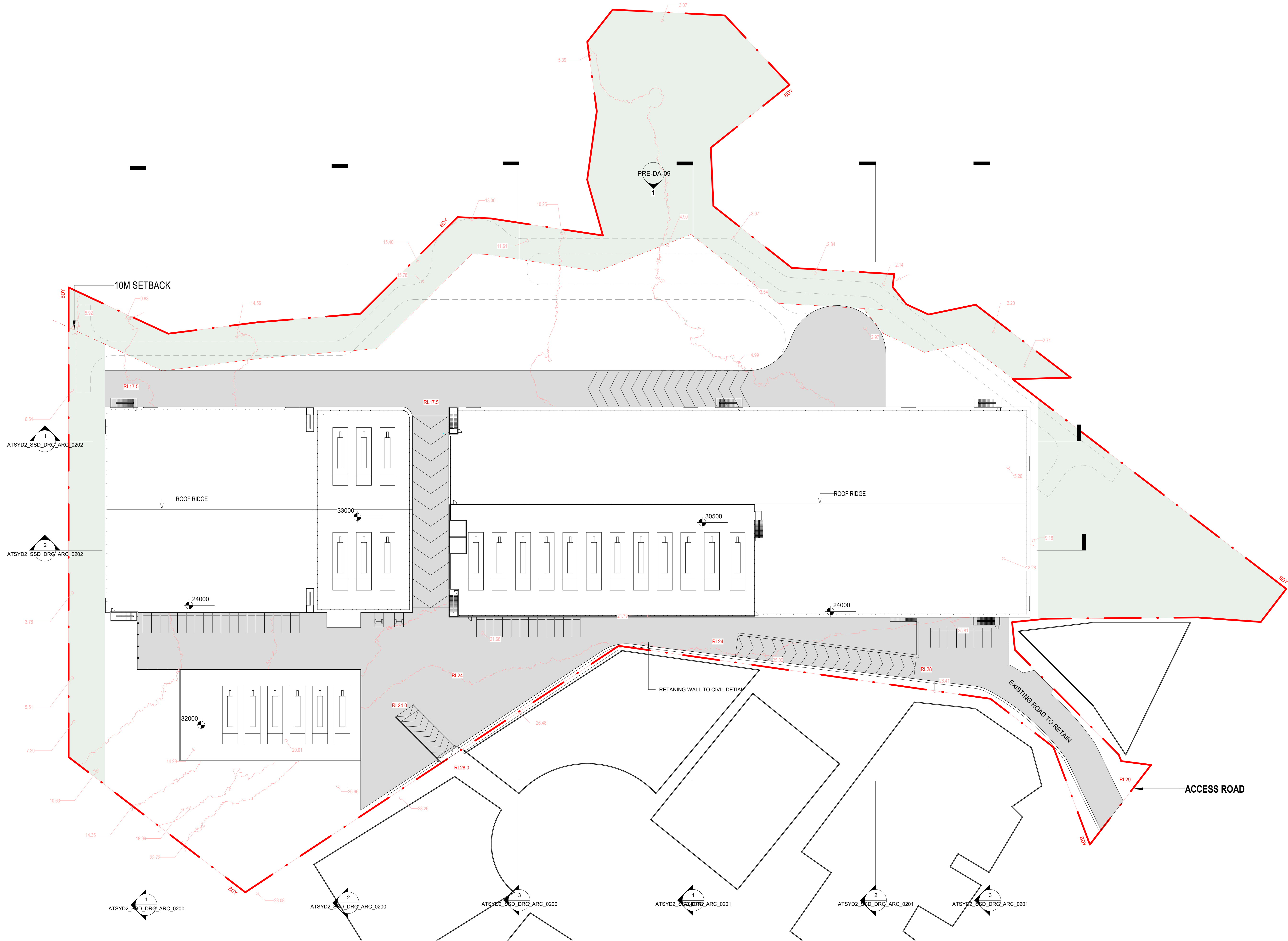
Date	Job Number
	180095

Project Status

SSD

Drawing Title
ROOF PLAN _RL 30.5

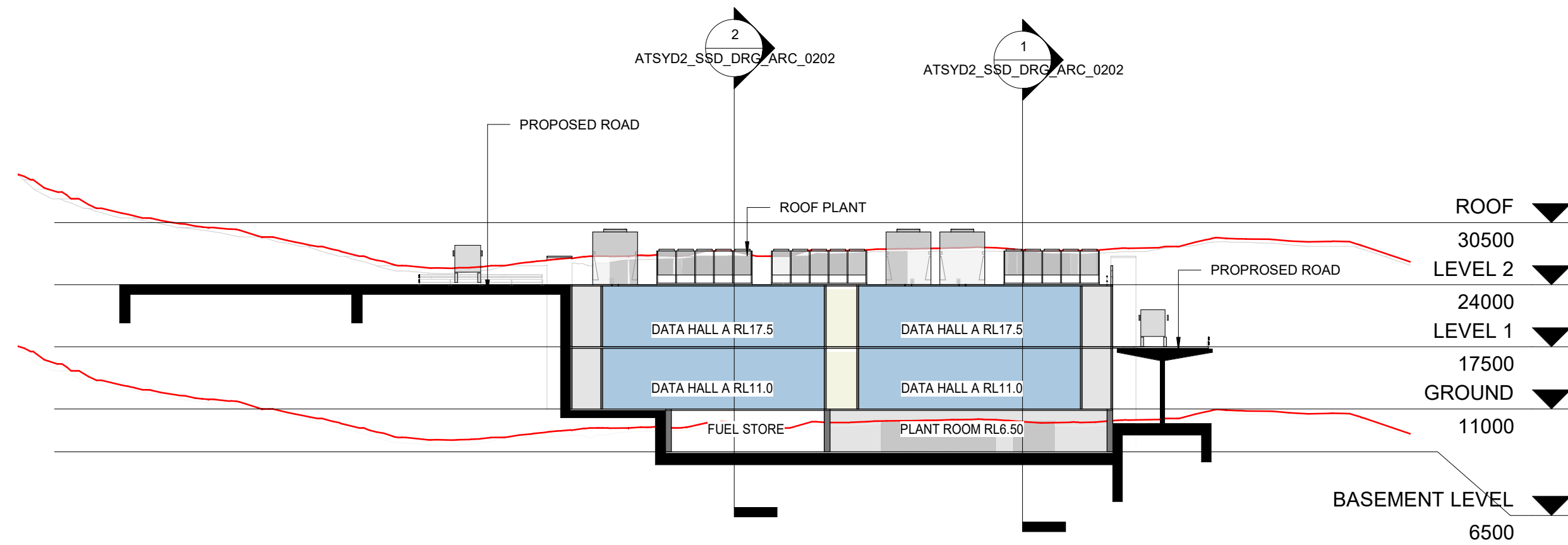
Drawing Number	Issue
ATSYD2_SSD_DRG_ARC_0104	



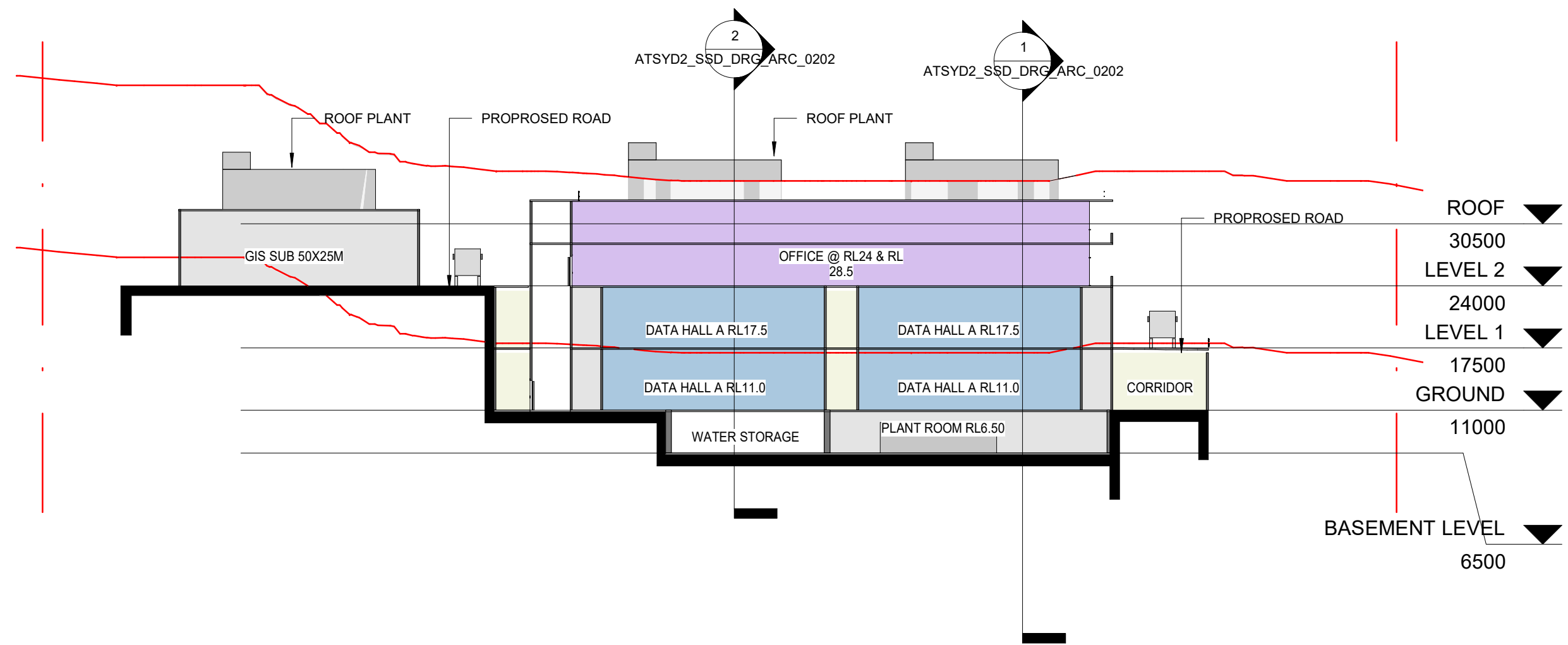
1 ROOF PLANT LAYOUT
SCALE: 1 : 500

RL 30.5

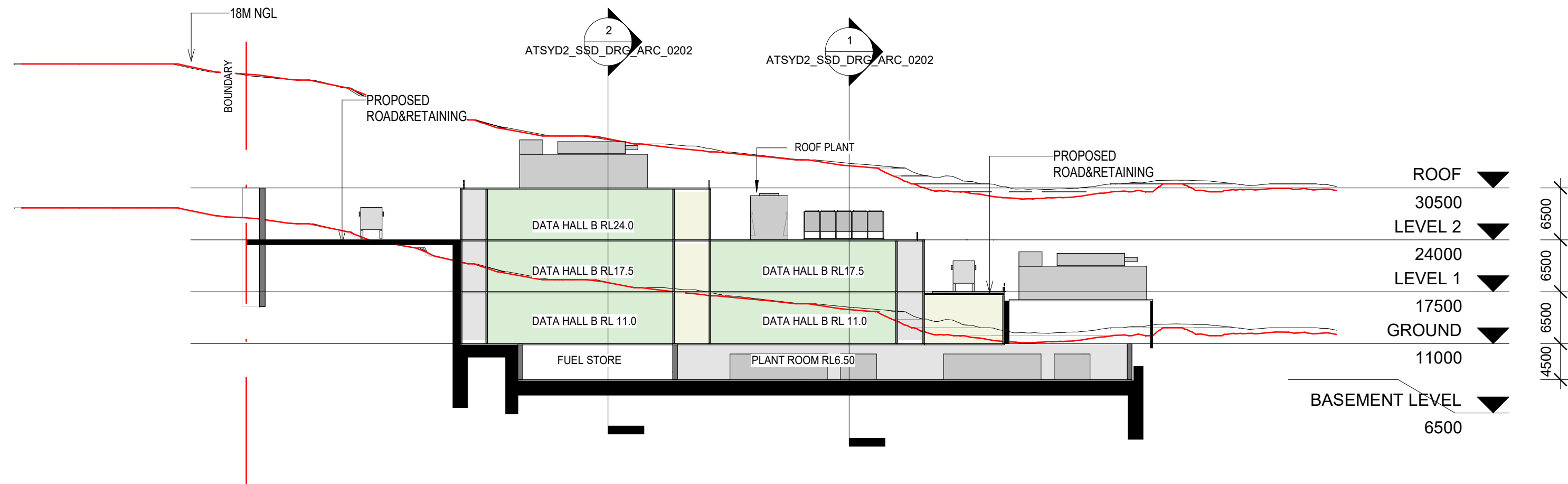
1 WESTERN HALLS- SECTION 1
1 : 500



2 WESTERN HALLS - SECTION 2
1 : 500



3 CENTRAL HALLS - SECTION 1
1 : 500



Issue	Date	Description
-------	------	-------------

Project Manager

Services Design

GREENBOX

+61 2 8069 8930
LEVEL 3
40 KING ST
SYDNEY NSW 2000 AUSTRALIA
GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098
ISO 9001 CERTIFIED QUALITY SYSTEM

- Use written dimensions only
- Do not scale from drawing
- Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings.
- All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
- Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
- Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489

Client

Project
Project Name
1 SIRIUS ROAD LANE COVE WEST

Drawn By	Scale
PL	1 : 500 @ A1

Checked By	Approved By
DW	AO

Date	Job Number
	180095

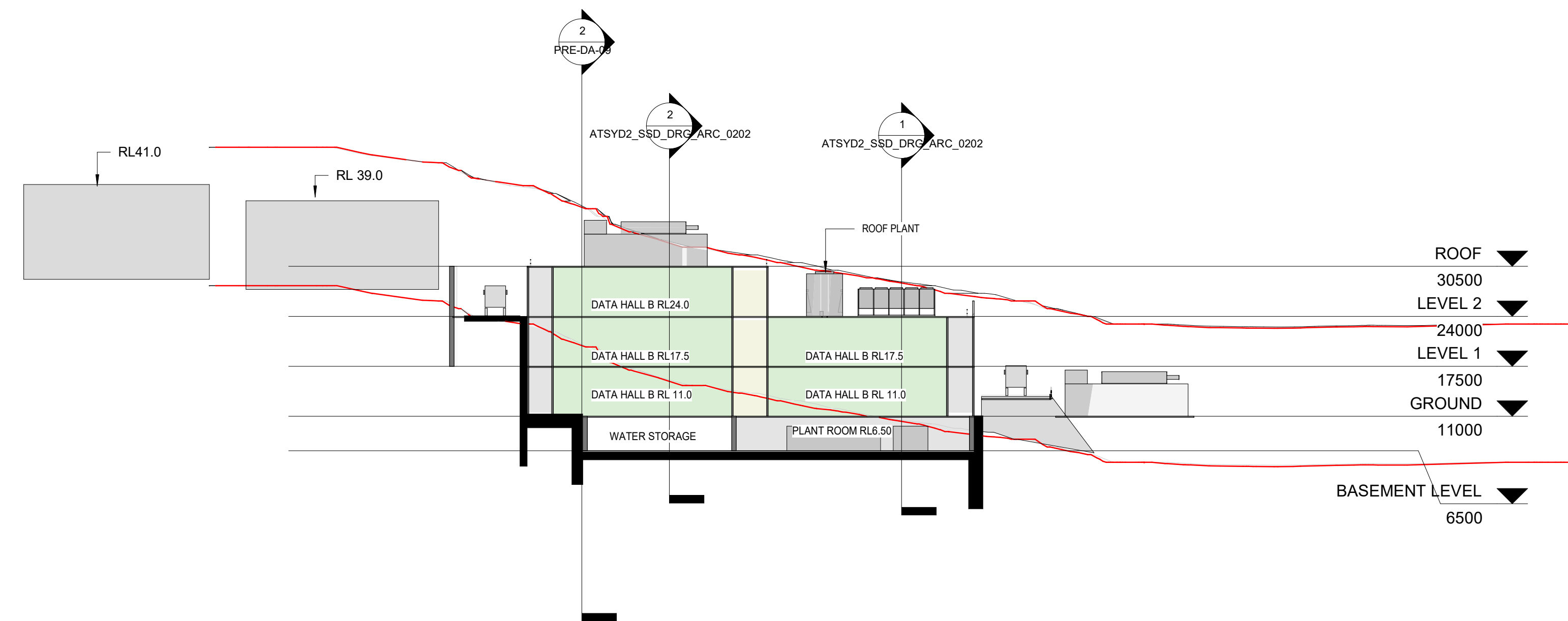
Project Status
SSD

Drawing Title
SECTIONS 1

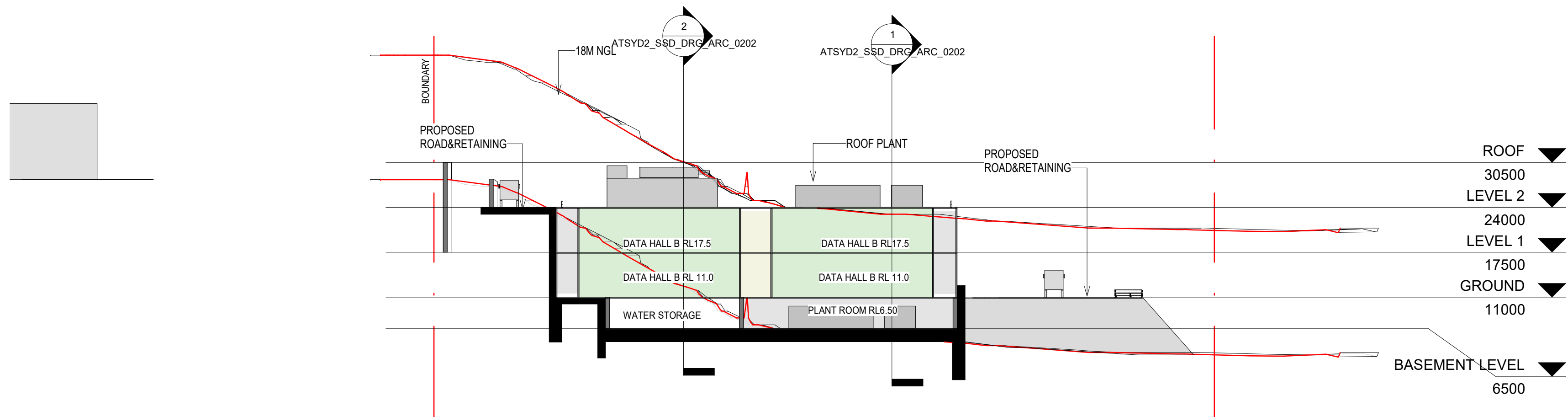
Drawing Number	Issue
ATSYD2_SSD_DRG_ARC_0200	

96MW

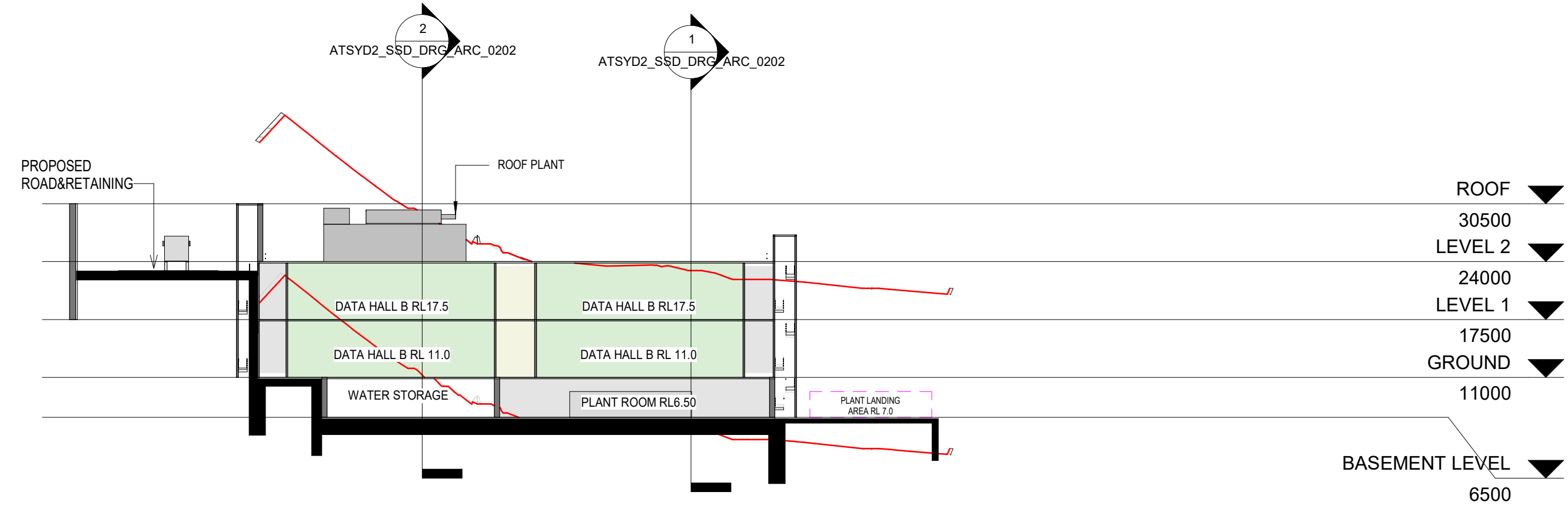
1 CENTRAL HALLS - SECTION 2
1 : 500



2 EASTERN HALLS - SECTION 1
1 : 500

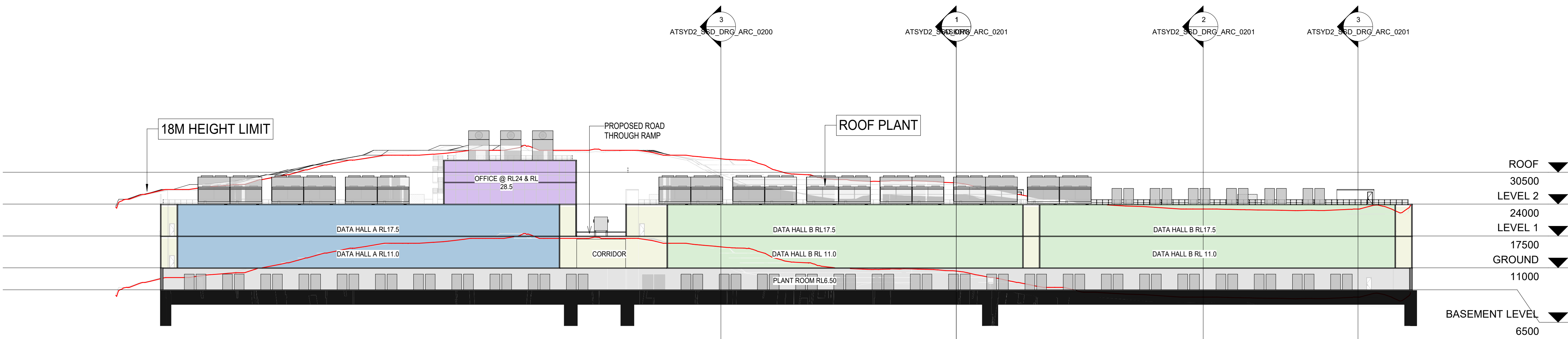


3 EASTERN HALLS - SECTION 2
1 : 500

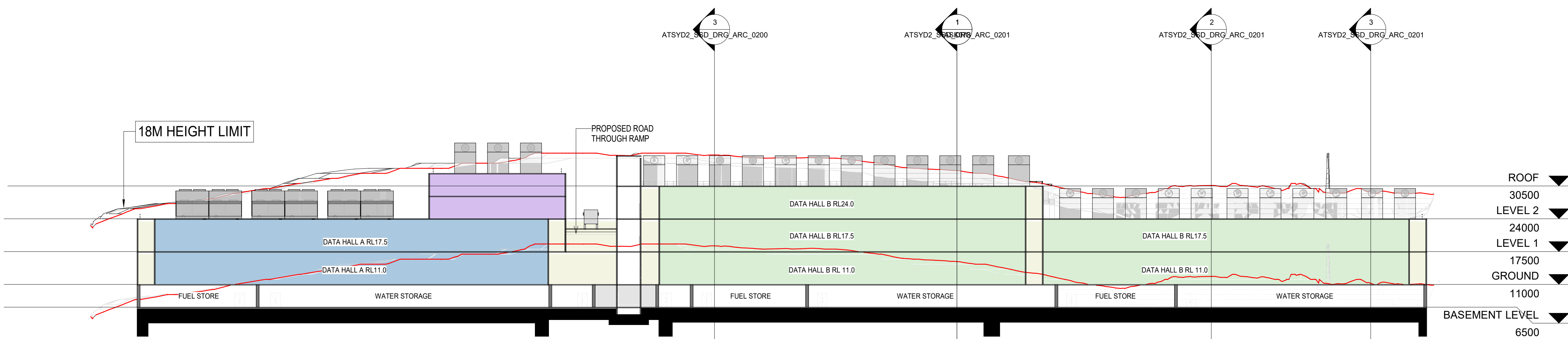


Issue	Date	Description
Project Manager		
Services Design		
GREENBOX +61 2 8069 8930 LEVEL 3 40 KING ST SYDNEY NSW 2000 AUSTRALIA GREENBOX ARCHITECTURE PTY LTD ABN: 79 139 779 098 ISO 9001 CERTIFIED QUALITY SYSTEM		
- Use written dimensions only - Do not scale from drawing - Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings - All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards - Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd - Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489		
Client		
Project		
Project Name		
1 SIRIUS ROAD LANE COVE WEST		
Drawn By	Scale	
PL	1 : 500 @ A1	
Checked By	Approved By	
DW	AO	
Date	Job Number	
	180095	
Project Status		
SSD		
Drawing Title		
SECTIONS 2		
Drawing Number	Issue	
ATSYD2_SSD_DRG_ARC_0201		

96MW



1 LONG SECTION 1
1 : 500



2 LONG SECTION - 2
1 : 500

96MW

Issue	Date	Description
-------	------	-------------

Project Manager

Services Design

GREENBOX

+61 2 8069 8930

LEVEL 3
40 KING ST
SYDNEY NSW 2000 AUSTRALIA

GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098

ISO 9001 CERTIFIED QUALITY SYSTEM

- Use written dimensions only
- Do not scale from drawing
- Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings.
- All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
- Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
- Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489

Client

Project
Project Name
1 SIRIUS ROAD LANE COVE WEST

Drawn By	Scale
PL	1 : 500 @ A1

Checked By	Approved By
DW	AO

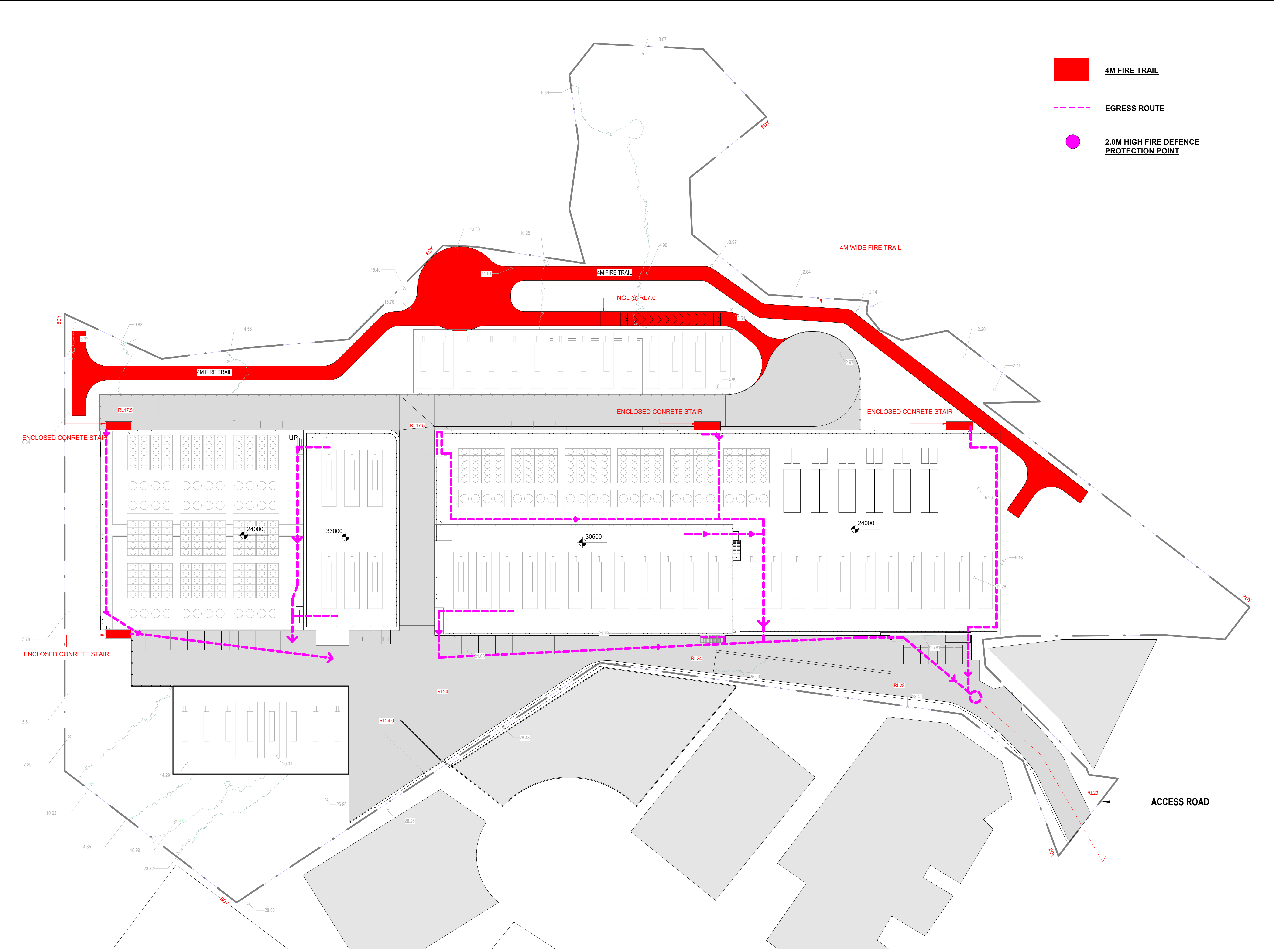
Date	Job Number
	180095

Project Status

SSD

Drawing Title
LONG SECTIONS

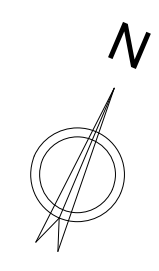
Drawing Number	Issue
ATSYD2_SSD_DRG_ARC_0202	



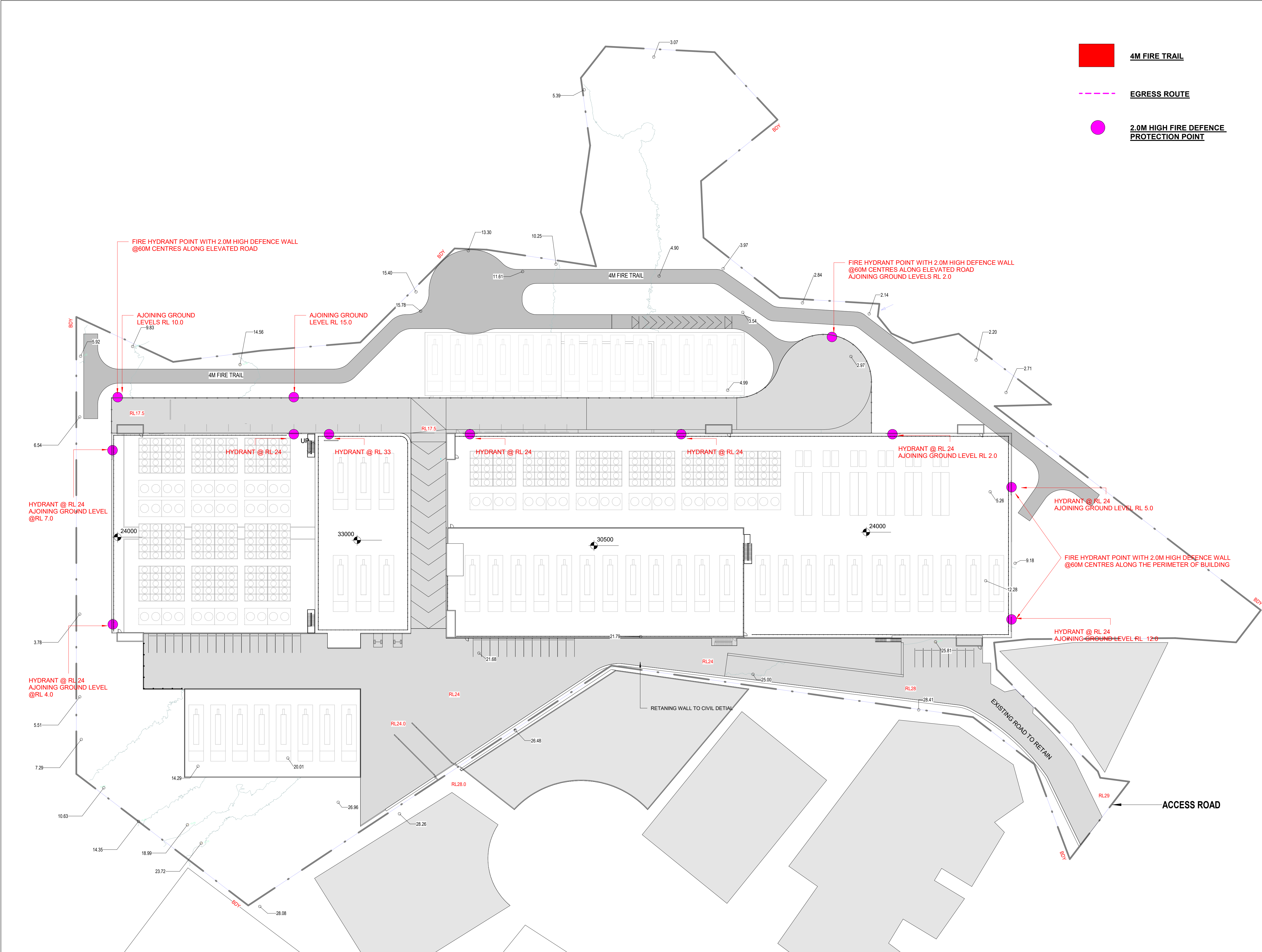
4M FIRE TRAIL

EGRESS ROUTE

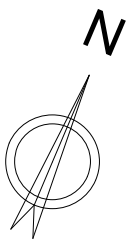
2.0M HIGH FIRE DEFENCE
PROTECTION POINT



Issue	Date	Description
Project Manager		
Services Design		
GREENBOX +61 2 8069 8930 LEVEL 3 40 KING ST SYDNEY NSW 2000 AUSTRALIA GREENBOX ARCHITECTURE PTY LTD ABN: 79 139 779 098 ISO 9001 CERTIFIED QUALITY SYSTEM - Use written dimensions only - Do not scale from drawing - Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings. - All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards - Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd - Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489		
Client		
Project Project Name 1 SIRIUS ROAD LANE COVE WEST		
Drawn By	PL	Scale 1 : 500 @ A1
Checked By	DW	Approved By AO
Date		Job Number 180095
Project Status	SSD	
Drawing Title	MASTER PLAN - EGRESS DIAGRAM	
Drawing Number	ATSYD2_SSD_DRG_ARC_0900	



- 4M FIRE TRAIL
- EGRESS ROUTE
- 2.0M HIGH FIRE DEFENCE PROTECTION POINT



Issue Date Description

Project Manager

Services Design

GREENBOX

+61 2 8069 8930
LEVEL 3
40 KING ST
SYDNEY NSW 2000 AUSTRALIA
GREENBOX ARCHITECTURE PTY LTD
ABN: 79 139 779 098
ISO 9001 CERTIFIED QUALITY SYSTEM

- Use written dimensions only
- Do not scale from drawing
- Contractors shall confirm all dimensions on-site prior to commencing any work or producing any shop drawings.
- All materials to be used in accordance with the manufacturer's specifications and instructions and shall comply with the relevant Australian Standards
- Copyright of this drawing and design remain the property of Greenbox Architecture Pty Ltd
- Nominated Architect - Gerard Page; NSW reg No.7247, NZ reg No.3715, Vic reg No.17664, SA reg No.3061, QLD reg No.4538, WA reg No.2489

Client

Project
Project Name
1 SIRIUS ROAD LANE COVE WEST

Drawn By
PL

Scale
1 : 500 @ A1

Checked By
DW

Approved By
AO

Date
Job Number
180095

Project Status
SSD

Drawing Title
MASTER PLAN - HYDRANT POINT

Drawing Number
Issue
ATS2D2_SSD_DRG_ARC_0901

1
A1
MASTER PLAN - PROTECTION BARRIER
1 : 500

APPENDIX B

Council's Appendix A – Plans and Drawings (All Developments)

DRAFT

Plans and Drawings (All Developments)

- The following checklists are designed to help ensure SWMMPs are accompanied by sufficient information to allow assessment of the application.
- Drawings are to be submitted to scale, clearly indicating the location of and provisions for the storage and collection of waste and recyclables during:
 - Demolition
 - construction
 - ongoing operation.

Demolition

Refer to Section 3.1 of Part Q of the DCP for specific objectives and measures.

Do the site plans detail/indicate:

	Tick Yes
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	

Construction

Refer to Section 3.2 of Part Q of the DCP for specific objectives and measures.

Do the site plans detail/indicate:

	Tick Yes
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	

Ongoing Operation

Refer to Section 4 of Part Q of the DCP for specific objectives and measures.

Do the site plans detail/indicate:

	Tick Yes
Space	
Size and location(s) of waste storage areas including ■ Main garbage and recycling storage rooms ■ Garbage and recycling interim storage rooms with chute access point in each floor ■ Individual waste & recycling cupboards in each dwelling ■ Bulky waste storage room	
Space provided for access to and the maneuvering of bins/equipment	
Any additional facilities	
Access	
Access route(s) to deposit waste in storage room/area	
Access route(s) to collect waste from storage room/area	
Bin carting grade	
Location of final collection point including ■ Path of travel ■ Provision of off-street collection	
Clearance, geometric design and strength of internal access driveways and roads	
Direction of traffic flow for internal access driveways and roads	
Amenity	
Aesthetic design of waste storage areas	
Signage – type and location	
Construction details of storage rooms/areas (including floor, walls, doors, ceiling design, sewer connection, lighting, ventilation, security, wash down provisions etc)	

ASIA PACIFIC OFFICES

BRISBANE

Level 2, 15 Astor Terrace
Spring Hill QLD 4000
Australia
T: +61 7 3858 4800
F: +61 7 3858 4801

MACKAY

21 River Street
Mackay QLD 4740
Australia
T: +61 7 3181 3300

ROCKHAMPTON

rockhampton@slrconsulting.com
M: +61 407 810 417

AUCKLAND

68 Beach Road
Auckland 1010
New Zealand
T: +64 27 441 7849

CANBERRA

GPO 410
Canberra ACT 2600
Australia
T: +61 2 6287 0800
F: +61 2 9427 8200

MELBOURNE

Suite 2, 2 Domville Avenue
Hawthorn VIC 3122
Australia
T: +61 3 9249 9400
F: +61 3 9249 9499

SYDNEY

2 Lincoln Street
Lane Cove NSW 2066
Australia
T: +61 2 9427 8100
F: +61 2 9427 8200

NELSON

5 Duncan Street
Port Nelson 7010
New Zealand
T: +64 274 898 628

DARWIN

5 Foelsche Street
Darwin NT 0800
Australia
T: +61 8 8998 0100
F: +61 2 9427 8200

NEWCASTLE

10 Kings Road
New Lambton NSW 2305
Australia
T: +61 2 4037 3200
F: +61 2 4037 3201

TAMWORTH

PO Box 11034
Tamworth NSW 2340
Australia
M: +61 408 474 248
F: +61 2 9427 8200

NEW PLYMOUTH

Level 2, 10 Devon Street East
New Plymouth 4310
New Zealand
T: +64 0800 757 695

GOLD COAST

Ground Floor, 194 Varsity Parade
Varsity Lakes QLD 4227
Australia
M: +61 438 763 516

PERTH

Ground Floor, 503 Murray Street
Perth WA 6000
Australia
T: +61 8 9422 5900
F: +61 8 9422 5901

TOWNSVILLE

Level 1, 514 Sturt Street
Townsville QLD 4810
Australia
T: +61 7 4722 8000
F: +61 7 4722 8001