

**PROPOSED SELF STORAGE DEVELOPMENT
1-3 RICKETTY STREET, MASCOT**

TRAFFIC AND PARKING ASSESSMENT REPORT

Report for Canal Aviv Pty Ltd ATF the Canal Aviv Trust

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1. INTRODUCTION

This report has been prepared to accompany a development application to Botany Bay Council for a proposed Self-Storage development at 1-3 Ricketty Street, Mascot. The location is shown in the aerial below.

The report is based on information provided by Canal Aviv Trust, its consultants and a site inspection and on that information only.

This report -

- reports existing site conditions
- provides details of the proposed self-storage development
- assesses the adequacy of parking for the proposed self-storage development; and
- assesses traffic generation of the proposed development and its impact on the road network.

2. PROPOSED DEVELOPMENT

Existing Site & Background

The site is located at the northern side of Ricketty Street alongside the Alexandra Canal which adjoins its western boundary. It comprises Lots 24 and 25 DP 515070 and Lot 1 DP 551509 (which lot incorporates the existing access-way between the buildings and Ricketty Street plus some parking). The site is known as 1-3 Ricketty Street.

The site is quadrilateral in shape with a frontage of 63.64 metres to Ricketty Street and about 140 metres in depth; it has an area of 11,478 m² including the existing access-way. The site survey is shown below.

The existing access-way from Ricketty Street is along the eastern boundary of the site. It is about 130 metres in length and currently serves only the 2 properties, the subject of the development.

The access-way is to be excised from the site to form a new road, Venice Street, as part of the WestConnex road network development. This is illustrated in the WestConnex drawing below. The Roads and Maritime Services (RMS) has already compulsorily acquired this strip of land for this purpose. A further part of the property is to become a cycleway to be established by Council. Both excisions are excluded from the site proposed to be developed as a self-storage facility. The site area to be developed thence becomes 8,947 m².

The site is currently occupied by two buildings, the southern one a 1 and 2 storey brick building and the northern one a 1 and 2 storey concrete building. The buildings are currently used with a high component of office space and the remainder industrial warehousing, largely logistics handling involving a large number of trucks. There is considerable space within the existing site for parking with some 74 car parking spaces and space for parking up to 38 trucks of semi-trailer size.

The areas of these buildings are –

	GFA (gross floor area)	Office space	Warehouse space
Southern Building	2,058 m ²	1,016 m ²	1,042 m ²
Northern Building	2,226 m ²	508 m ²	1,718 m ²
Totals	4,284 m ²	1,524 m ²	2,760 m ²

The site is surrounded by commercial and industrial developments with an occasional retail development, e.g. cafe.

The site has access via the existing access-way (to be the new Venice Street) only to Ricketty Street. It has no direct access to Ricketty Street.

The existing access-way is about 8 metres wide, widening to an 18 metres wide gutter crossing at Ricketty Street to facilitate left turn entry to the site. The planned Venice Street is to have a carriageway width of 7 metres between kerbs.

Access from Ricketty Street is restricted by a narrow raised median kerb across the entry to the site, to left-in, left-out only.

Proposed Development

It is proposed that the two existing buildings and related site works be demolished.

It is then proposed to build two new self-storage buildings each with 7 levels. The southern building is to be established in stage 1 and will contain the administration area, amenities and meeting rooms with the remainder self-storage units.

The northern building is to be established in stage 2 and will be all self-storage units.

Building areas are –

	GFA	NLA	Administration
Southern Building stage 1	13,093 m ²	9,972 m ²	134 m ²
Northern Building stage 2	11,837 m ²	8,883 m ²	0
Totals	24,930 m ²	18,855 m ²	134 m ²

Three sets of stairs and 2 lifts in each new building provide access between floors for moving people and goods for storage.

8 marked parking spaces are proposed at the entry to the site, including one disabled space, for new customers; these are outside the security gate. 30 parking spaces are provided within the secure area for patrons of the self-storage unit, customers picking up boxes and the like and staff; these include 16 spaces designated as loading dock areas (8 in the stage 1 building and 8 in the stage 2) and 14 spaces alongside the wide aisles adjacent to the buildings (4 in the stage 1 building and 10 in the stage 2).

Security gates limit and manage entry into the storage unit buildings.

Entry to the site is proposed only from the new Venice Street with a combined entry/exit to the southern end of the site for customer entry and exit and entry for storage unit patrons and staff to the secure storage area. Two separate exits, one for each building, provide access back to the proposed Venice Street for patrons of the storage units and staff.

Drawings of the proposed new self-storage development are shown below - Drawings 16-102-DA01/Q, DA04/A, DA11/H, DA41/C, DA21/F and DA42/C, below. The truck turning path for the largest truck expected to visit, a 12.5 metres truck, is shown on Drawing 16-102 DA100/A below. Also shown is the swept path for a 19 m semitrailer, in case a vehicle of that size seeks to access the site on occasions, Drawing 16-102 DA101/A below.

The Drawing 16-102 SK202/A below shows the access arrangement at Stage 1 when the southernmost self-storage building is completed but the existing northernmost building remains in use. This also shows the truck turning swept path for a 12.5 m truck, the expected maximum size truck expected to use this existing building.

3. PARKING ASSESSMENT

Existing Kerbside Parking Restrictions

Ricketty Street carries a “No Stopping” kerbside parking restriction past the site.

The on-site access-way carries no parking restrictions but it is expected with the 7 metres carriageway proposed on Venice Street kerbside parking would be fully restricted.

Criteria for Parking for Self-Storage Facilities

The Botany Bay Council Development Control Plan (DCP)¹ 2013 indicates parking requirements for various land uses including self-storage facilities, which was discussed at the pre-development application meeting of 8th February 2017. That meeting elicited the following information;

“The site is zoned B7 – Business Park under Botany Bay Local environmental Plan 2013 (BBLEP 2013). ‘Self-storage units’ and ‘storage units’ are not listed as prohibited within the B7 zoning and are therefore permitted with consent in the zone and are defined as follows:

Self-storage units mean premises that consist of individual enclosed compartments for storing goods or materials (other than hazardous or offensive goods or materials).

Storage premises means a building or place used for the storage of goods, materials, plant or machinery for commercial purposes and where the storage is not ancillary to any industry, business premises or retail premises on the same parcel of land, and includes self-storage units, but does not include a heavy industrial storage establishment or warehouse or distribution centre.”

and

“Under Part 3A.2 Parking provisions of specific uses C2 Table1, Self-storage units or storage premises are required to provide 2 spaces, plus 1 space per 80 m² of GFA (Gross Floor Area).”

This information indicated a requirement for an ultimate development of 260 spaces !

However traditional Self-storage facilities have a very low parking demand.

Hence it appears that the Council parking requirement is related more to warehousing type facilities.

Therefore, to provide a more reliable guide to peak parking demand at these facilities, a study was commissioned by the Self-Storage Association of Australia Pty Ltd to provide better guidance on parking needs.

Aurecon Australia Pty Ltd undertook the study² of self-storage facilities in cities and towns in NSW, Queensland, South Australia, Victoria and Western Australia for the Self-Storage Association of Australia Pty Ltd and recommended parking for self-storage facilities related to maximum leasable area (MLA) as set out below.

Note “MLA” is the same area as “NLA” referred to above.

¹ Botany Bay Development Control Plan (DCP) 2013, Part 3 General Provisions, Section 3A Parking and Access. City of Botany Bay Council 2013 (now part of Bayside Council)

² Study Results and Findings, Self-Storage Facility Traffic and Parking Study. Prepared for Self-Storage Association of Australia, Aurecon Australia Pty Ltd, 8 July 2009, Reference 388511443, www.aurecongroup.com.au

Table 5-7: Recommended Number of Parking Spaces per MLA (m²)

MLA	Office Parking	Storage Area Parking*	Staff Parking	Trailer/Ute Parking	Total Parking Spaces
0-3,000 m ²	1	2	2	1	6
3,000 m ² -6,000 m ²	2	5	2	1	10
6,000 m ² – 9,500 m ²	3	5	2	1	11

*Note: Ranch style sites will not require designated storage area parking as vehicles in these sites will park in aisles adjacent to their storage units; similarly “mixed” sites may require less designated storage area parking if they have a significant number of drive up storage units in a ranch style arrangement.

This requirement is borne out by parking assessed and provided at numerous self-storage facilities in Sydney. In this respect, the busier the establishment the greater the parking need and hence should be related to the higher end of the scale in the table above, e.g. 11 spaces for 6,000 m² MLA whereas quieter locations require a lesser number of spaces and should be related to the lower end of the scale e.g. 6 spaces for 3,000 m² MLA.

Parking Required

The proposed Mascot facility will have NLAs of 9,972 m² on completion of the southern self-storage building in stage 1 and 18,855 m² on completion of the northern building in stage 2. On the basis of the Self-Storage Association of Australia *Self-Storage Facility Traffic and Parking Study*, discussed above, the higher end of the scale for this inner city site of 11 spaces for a self-storage facility of 6,000 m² MLA has been adopted.

This yields on a pro-rata basis a requirement for 9,972 m² NLA/6,000 m² NLA x 11 spaces = 18.3, say 19 parking spaces for stage 1 and 18,855 m² NLA/6,000 m² NLA x 11 spaces = 34.6, say 35 for stage 2 when both buildings are in place.

Usually for Sydney sites a staff of two operates the self-storage facility.

Parking Provided

For the completed development to stage 2, 8 parking spaces are proposed outside the security gate for new customers (including 1 disabled space) and 30 inside the security gate for patrons, customers picking up boxes and the like and staff, 16 marked as loading dock spaces and 14 spaces alongside buildings, a total of 38 spaces. 20 spaces are proposed with the stage 1 building.

The 14 parking spaces proposed for patrons of self-storage units, located alongside the wide aisles adjacent to the buildings, is a usual arrangement for self-storage facilities. In this proposal the aisle space between the new buildings is a minimum of 9 metres; that on the southern side of the southern building is a minimum of 7.13 metres width; that along the Canal varies between 6.145 and 11.465 metres width and that alongside the proposed Venice Street is a minimum of 7.75 metres wide. The aisle alongside the Canal behind the northern building is a minimum of 8.1 metres wide; that on the northern side of the northern building varies between 6.026 and 9.385 metres wide and that alongside the proposed Venice Street varies between 8.1 and 9.74 metres wide. All aisles are for one-way movement.

The wide aisles alongside the Canal behind the buildings also provides access to the loading dock areas at both buildings, 8 spaces at the southern building and 4 spaces at the northern building; while the aisle alongside the proposed Venice Street provides access to the 8 visitor parking spaces at the southern building and the 4 loading dock spaces at the northern building.

These aisles and marked spaces are able to accommodate the up to 14 parked vehicles required above without impeding traffic movement.

In addition the wide aisles between buildings could accommodate additional vehicles if required.

The marked parking spaces provided externally for customers and the ample spaces alongside buildings within the secure self-storage area meet the requirement assessed under the criteria above for visitor parking, staff parking and parking for storage unit patrons and are considered adequate for the proposed new self-storage facility proposed.

4. TRAFFIC ASSESSMENT

Road Hierarchy

Venice Street providing access to the site is to be a newly established local road. It links the site to Ricketty Street which provides access therefrom to the arterial road network and thence all points in Sydney. It also has a planned link to Gardeners Road.

Ricketty Street is a State road. It links the site to the east, where it becomes Gardeners Road, and onwards to the eastern suburbs of Sydney and to the west to the Princes Highway.

Princes Highway is a north-south highway and State Road, linking the site north to the Sydney CBD and south to Rockdale, Sutherland and ultimately Wollongong.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are:

- A 60 km/h speed limit on Ricketty Street past the site.
- A 50 km/hr speed limit on local roads including the proposed new Venice Street.

Existing Traffic Conditions

Ricketty Street is a 4 lane undivided road with no kerbside parking. But there is a narrow raised median past the right-of-way access (future Venice Street) to the site restricting access to left-in, left-out only to the site from Ricketty Street. It is relatively straight past the site with a slight downgrade from the bridge over the Canal but has a curve left to the east just past the site.

Venice Street is planned as a 2-lane, 2-way road past the site, 7 metres wide, probably with no kerbside parking. It is relatively straight and level past the site.

Ricketty Street north of the Canal Bridge was recorded by RMS in 2017 as carrying on weekdays an average of 33,056 vehicles per day (vpd), 2-way, with 15,075 vpd eastbound and 17,981 westbound; weekend traffic was 15% lower.

Weekday peak hour flows were 5,065 vehicles per hour (vph) eastbound and 3,024 vph westbound in the a.m. peak hour and 2,268 vph eastbound and 5,104 vph westbound in the p.m.

Traffic on the access-way from Ricketty Street to the site in the weekday peak hours can be assessed from the site generation of the existing buildings on site using the Roads and Maritime Services (RMS) *Guide to Traffic Generating Developments*³ and the Update of May 2013⁴

This Guide and Update indicate traffic generations as set out below -

- Office and Commercial (Guide)
 - Evening peak hour vehicle trips = 2 per 100m² GFA
- Office blocks (Update)
 - Morning peak hour vehicles trips, 1.6 per 100 m² GFA
 - Evening peak hour vehicles trips, 1.2 per 100 m² GFA

³ Guide to Traffic Generating Developments, Version 2.2. Roads & Traffic Authority (RTA) October 200

⁴ Technical Direction, Guide to Traffic Generating Developments , Updated traffic surveys, RMS, May 2013

- Warehouses (Guide)
 - Morning peak hour vehicles trips = 0.5 per 100 m² GFA
- Business Parks and Industrial estates (Update)
 - Morning peak hour vehicles trips, 0.52 per 100 m² GFA
 - Evening peak hour vehicles trips, 0.56 per 100 m² GFA

Using the above traffic generations, weekday peak hour traffic generation for the existing buildings is assessed as set out below.

It is assumed 90% of traffic enters the site in the a.m. peak hour and 10% departs with the reverse in the p.m.

- A.m. peak hour – 1,524 m² office space x 1.6/100 m² + 2,760 m² warehouse x 0.52/100 m² = 38.8, say 39 vehicle trips per hour (vtp), 35 vph arriving and 4 vph departing.
- P.m. peak hour– 1,524 m² office space x 1.2/100 m² + 2,760 m² warehouse x 0.56/100 m² = 33.8, say 34 vtp, 3 vph arriving and 31 vph departing.

On this basis traffic on the access-way to the site would be –

- A.m. peak hour – 39 vph 2-way, 35 vph in, 4 vph out
- P.m. peak hour – 34 vph 2-way, 3 vph in, 31 vph out.

Access Arrangements

The existing access-way feeds into a widened bitumen sealed area with parking both sides past the southern building. The driveway thence passes through a 6.4 metres wide gate into a very wide bitumen sealed area fronting the northern building, which is used for car and truck parking.

The access-way provides access to the two properties abovementioned only, at present. With the proposal to establish Venice Street to replace the existing access-way, the new street will be extended to the property alongside to the north linking to a cul-de-sac on that property; but a narrow roadway will link the cul-de-sac to the existing Gardiners Road narrow roadway which connects to the full width Gardiners Road which is a State Road. This is illustrated on the RMS drawing below.

The Truck turning path drawing below shows the swept path for the largest truck expected to visit the site, a 12.5 m truck. However also shown is the swept path for a 19 m semitrailer in case, as now occurs, a vehicle of this size seeks to enter the site.

There is clear sight to and from the proposed combined entry/exit to the site, back to Ricketty Street of 55 metres and about 100 metres to the proposed cul-de-sac in Venice Street. There is clear sight to and from the proposed northernmost exit crossing from the site back to Ricketty Street of about 125 metres and to the roundabout of 32 metres with sight beyond along the Gardiners Road extension of 52 metres.

Likewise there is clear sight from the existing access-way (proposed Venice Street) junction with Ricketty Street along Ricketty Street to the west to Canal Road bridge, of some 100 metres.

These distances may be compared with the minimum sight distance required by AS/NZ 2890.1 (2004) of –

Frontage road speed	desirable sight distance	minimum sight distance
50 km/hr	69 metres	45 metres
60 km/hr	83 metres	65 metres

Traffic Generation

The Roads and Maritime Services (RMS) Guide to Traffic Generating Developments, usually the best guide to traffic generation potential of developments, does not indicate traffic generation for self-storage facilities.

However the Aurecon Australia Pty Ltd study also estimated traffic generation for the entire site for self-storage facilities of various leasable areas of storage space related to maximum leasable area (MLA) as shown below.

Table 5-8: Estimated traffic generation range for whole site

Daily	Weekday Trips	Weekend Trips
0-3,000 m ²	60 to 130	40 to 100
3,000 m ² -6,000 m ²	110 to 220	80 to 160
6,000 m ² -9,500 m ²	160 to 260	120 to 260
AM Peak Hour		
0-3,000 m ²	5 to 15	
3,000 m ² -6,000 m ²	10 to 20	
6,000 m ² -9,500 m ²	15 to 30	
PM Peak Hour		
0-3,000 m ²	5 to 20	
3,000 m ² -6,000 m ²	10 to 20	
6,000 m ² -9,500 m ²	20 to 30	
Business Peak Hour		
0-3,000m ²		10 to 30
3,000 m ² -6,000 m ²		10 to 30
6,000 m ² -9,500 m ²		20 to 40

In this case the range of traffic generation indicated in peak hours, is better represented by the lower generation figure in inner city areas as motorists tend to avoid the peak hours for these optional attendance time facilities and the higher figures for outer city or country and regional cities; the range also relates to the size of facility.

Also peak movements in weekday a.m. and p.m. appear to be very similar.

However for estimated purposes the higher figure of 30 vehicle trips per hour (vtpH) has been adopted for a self-storage facility of 9,500 m² MLA in the weekday peak hours.

On a pro-rata basis this yields a weekday peak hour movement for this facility when stage 1 is completed of $9,972 \text{ m}^2 \text{ NLA} / 9,500 \text{ m}^2 \text{ NLA} \times 30 \text{ vtpH} = 33 \text{ vtpH}$ and of $18,855 \text{ m}^2 \text{ NLA} / 9,500 \text{ m}^2 \text{ NLA} \times 30 \text{ vtpH} = 60 \text{ vtpH}$ for stage 2 when both buildings are in place.

Impact on Road Network

The greatest impact would be during the weekday peak periods when the self-service facility traffic is reasonably high and traffic on Ricketty Street is greatest. Traffic at weekends is lighter in this commercial/industrial area. It is assumed as a worst case that all traffic enters the site via the access-way from Ricketty Street, (the future Venice Street), from Ricketty Street eastbound and similarly departs via the access-way into the eastbound flow on Ricketty Street.

When stage 1 is completed it is proposed to retain the use of the existing southern building until stage 2 proceeds. This will result in flow on the existing access-way (future Venice Street) of 33 vph from the stage 1 self-storage building in weekday peak hours and 17 vph from the existing northern building in the a.m. peak hour and 16 vph in the p.m. This yields a total flow, two-way, of 50 vph in the a.m. (32 vph entering, 18 vph departing) and 49 vph in the p.m. (18 vph entering, 31 vph departing).

These increases in two-way flow of 50 vph – 39 vph existing = 11 vph in the a.m. peak hour and 49 vph – 34 vph existing = 15 vph in the p.m. would have no significant impact on operation of the access-way or access to and from it to Ricketty Street.

When Stage 2 is completed and both self-storage buildings are in place, the facility will increase traffic on the existing access-way (future Venice Street) road in the a.m. peak hour from 39 vph 2-way to 60 vph, an increase of 21 vph, and in the p.m. from 34 vph to 60 vph, an increase of 26 vph.

These increases will have no significant impact on operation of that access road which is well able to accommodate these relatively small traffic flows.

At stage 2, assuming the weekday a.m. peak flow of 60 vph divides into 30 vph into the site and 30 vph out, this would increase eastbound traffic along Ricketty Street of 5,065 vph by 30 vph an increase of 0.6% which would have no significant impact on Ricketty Street traffic operation. The p.m. peak flow on Ricketty Street is much less and hence the small increase in flow generated from the self-storage facility would have even less impact.

At stage 2, traffic through the intersection of the access-way with Ricketty Street eastbound will increase in the a.m. peak hour from 5,065 vph + 4 vph from the access-way = 5,069 vph to 5,065 + 30 vph = 5,095, an increase of 26 vph or 0.5%, which would have insignificant impact on operation of this intersection.

5. IN SUMMARY

Adequate parking is proposed on site for staff, customers and patrons of the proposed self-storage facility at Mascot. Ready access is available to all parking.

Traffic generated by the facility will have insignificant impact on traffic operation of the access-way leading to the site from Ricketty Street, on Ricketty Street or the intersection between the two.

ILLUSTRATIONS

Site Location

Site Survey

DRAWINGS

Site showing excised portion for new Venice Street

Proposed Site Layout

Demolition Plan

Proposed Southern Building (stage 1) Level 1 Plan

Proposed Southern Building Section

Proposed Northern Building (stage 2) Level 1 Plan

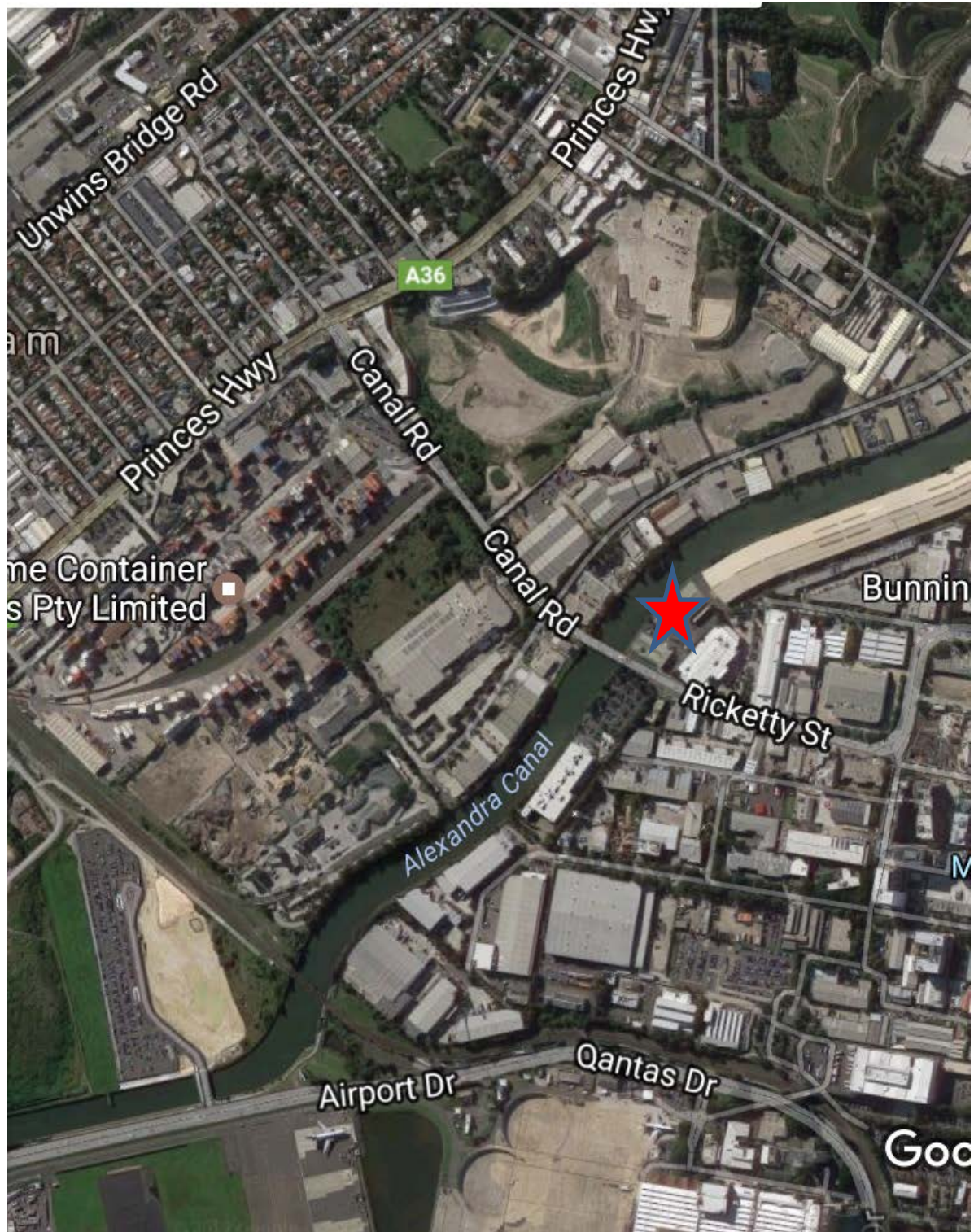
Proposed Northern Building Section

12.5 m Truck Turning Path

19 m Truck Turning Path

Proposed Stage 1 Site Layout
showing truck turning swept path

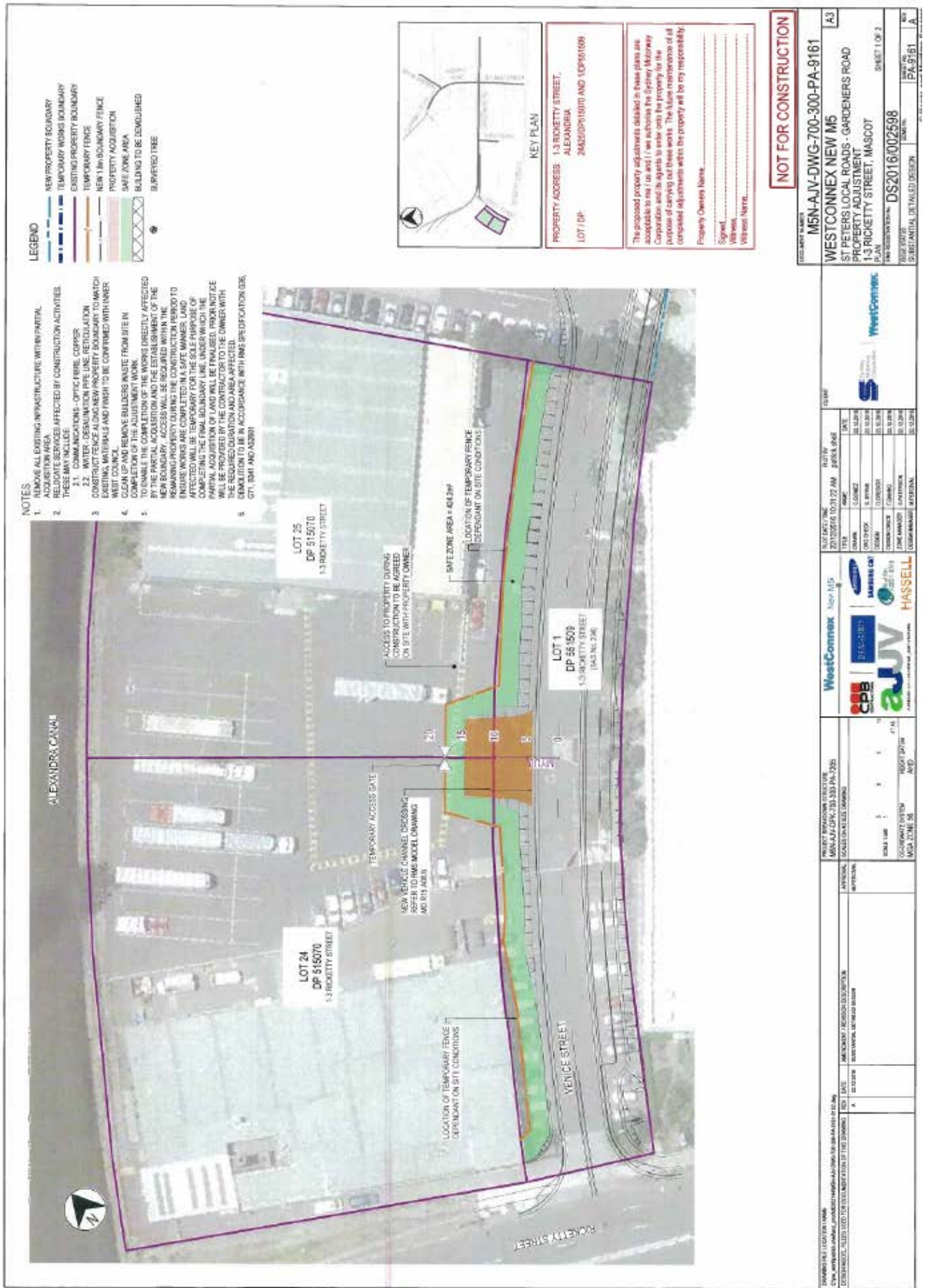
Future Road Layout when Venice Street established



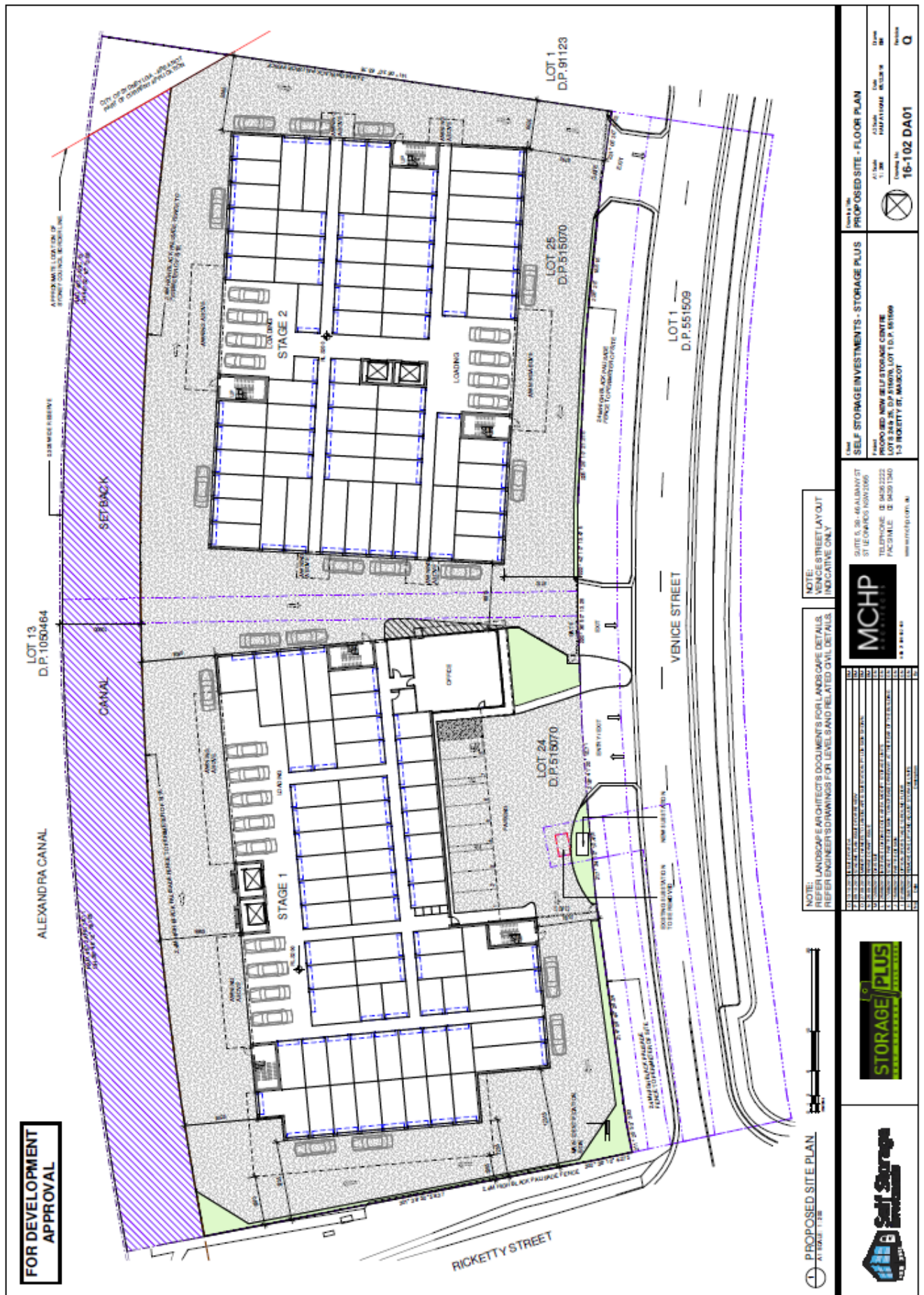
Site Location



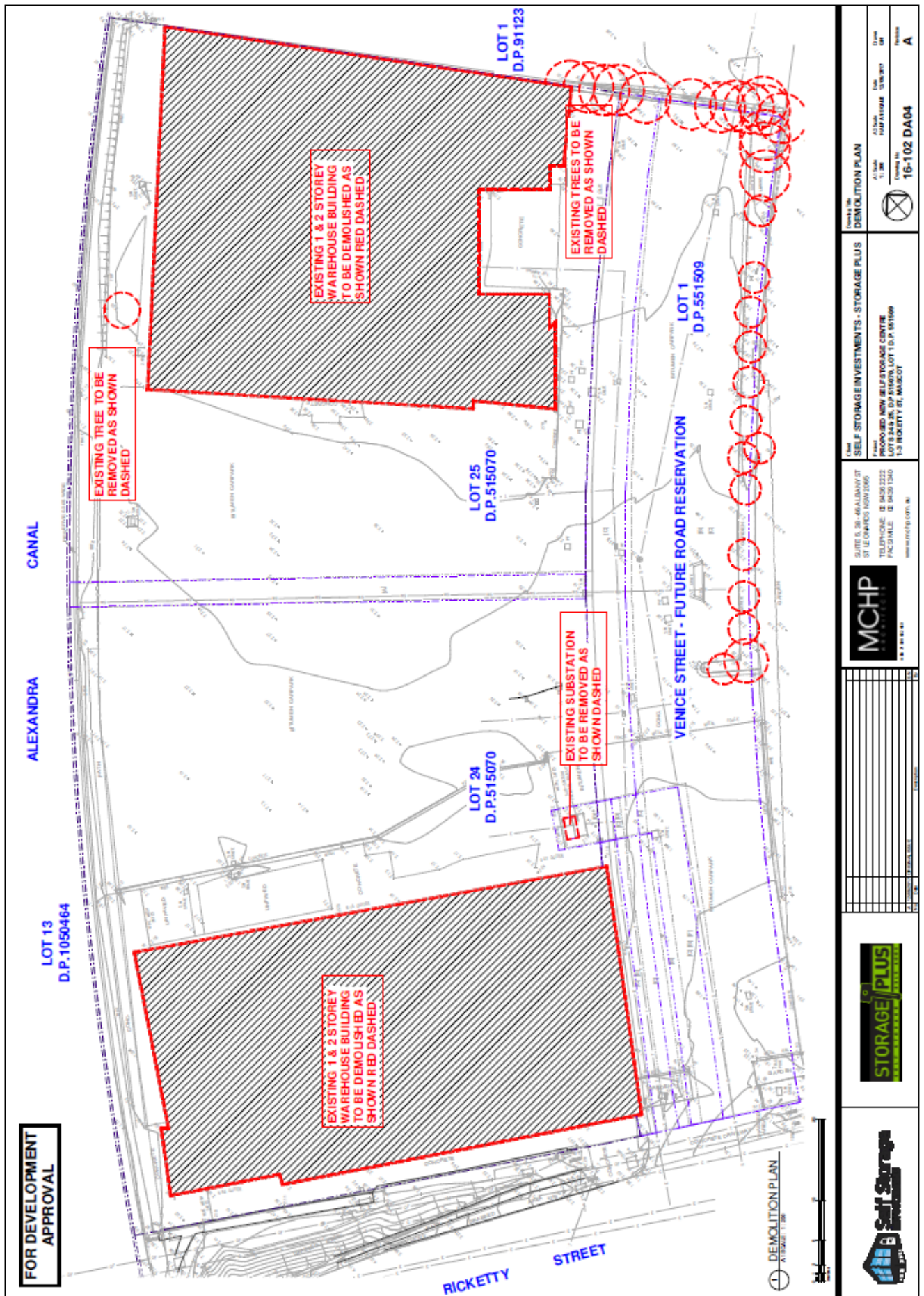
Site Survey



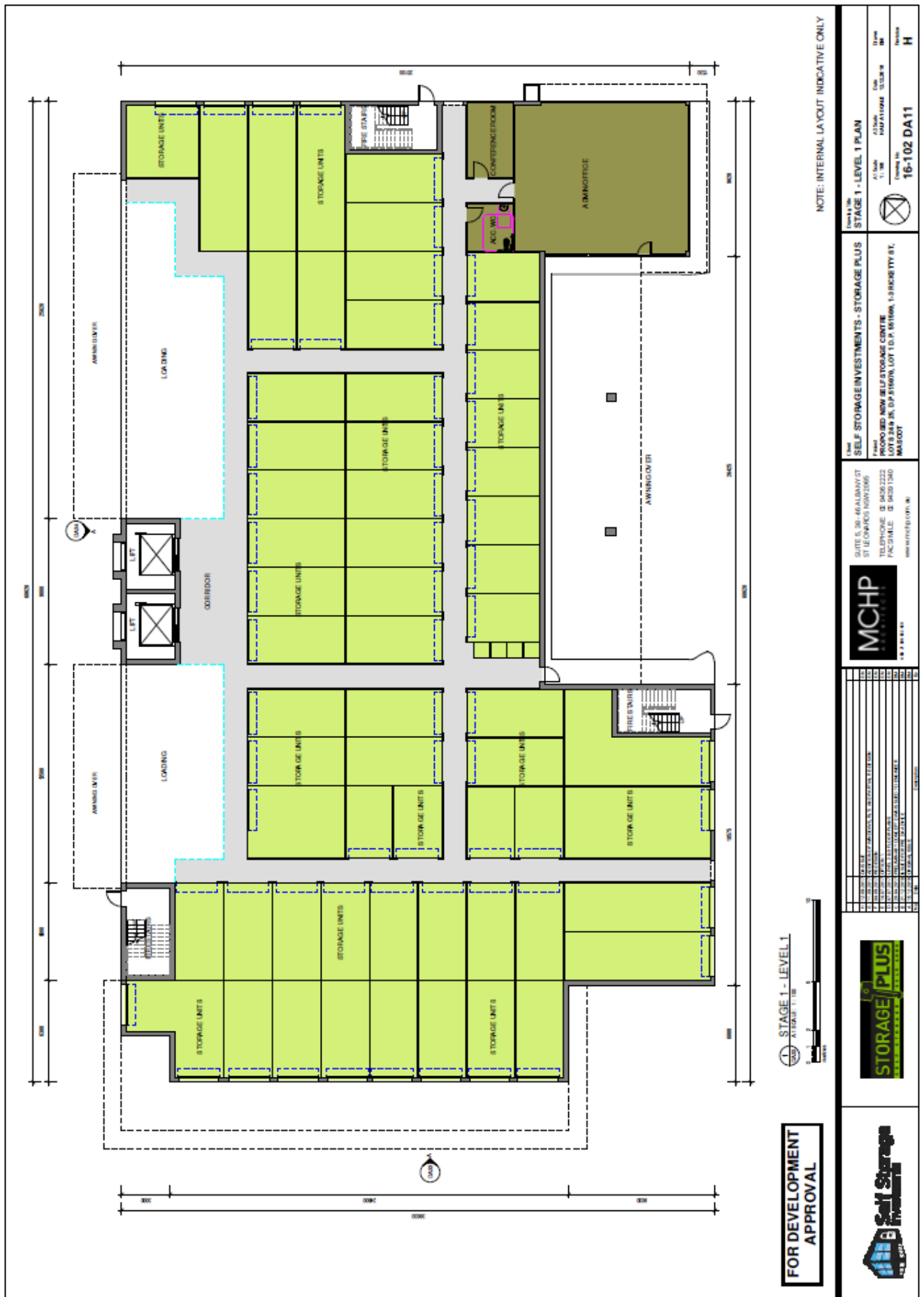
Site showing excised portion for new Venice Street



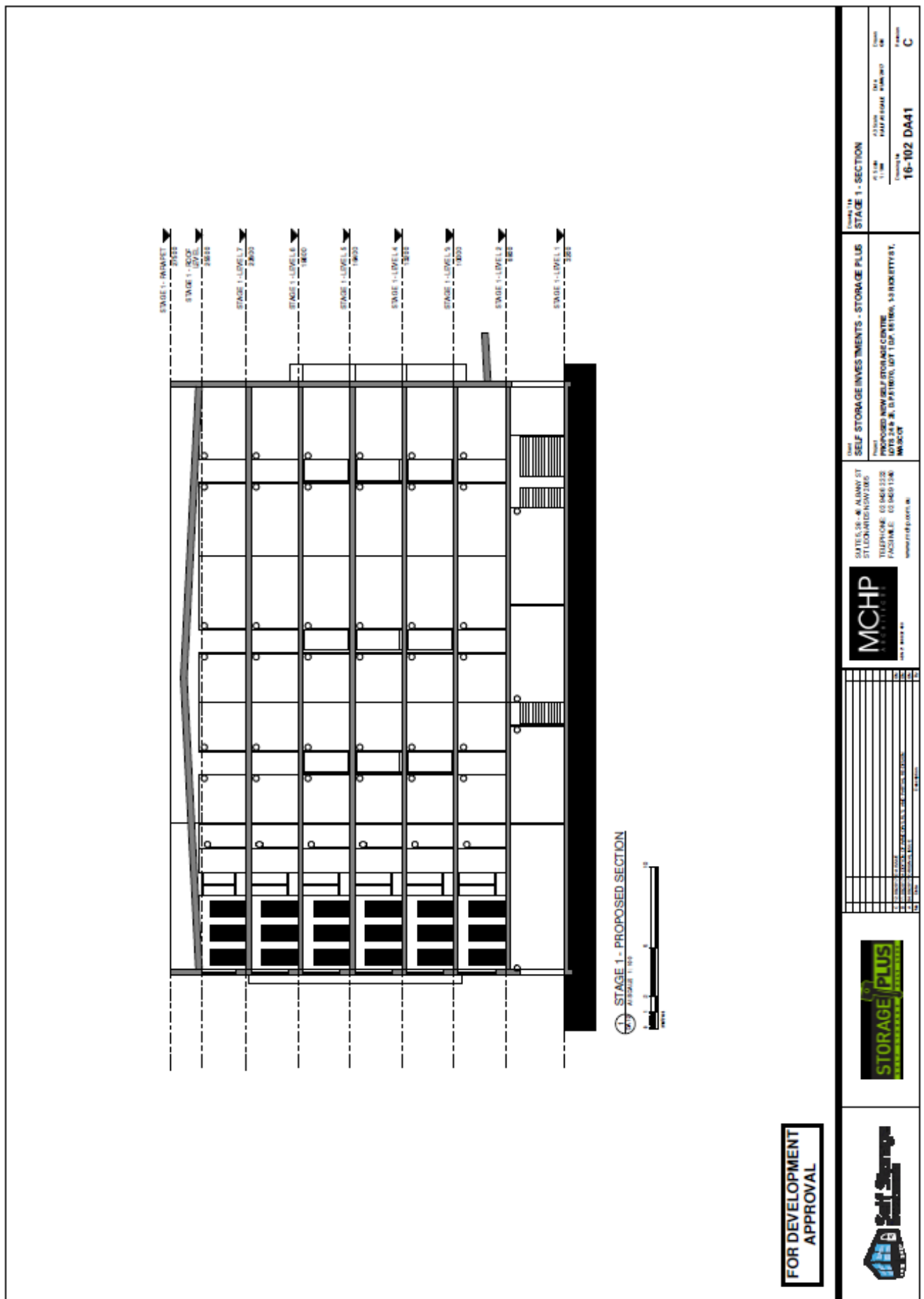
Proposed Site Layout



Demolition Plan



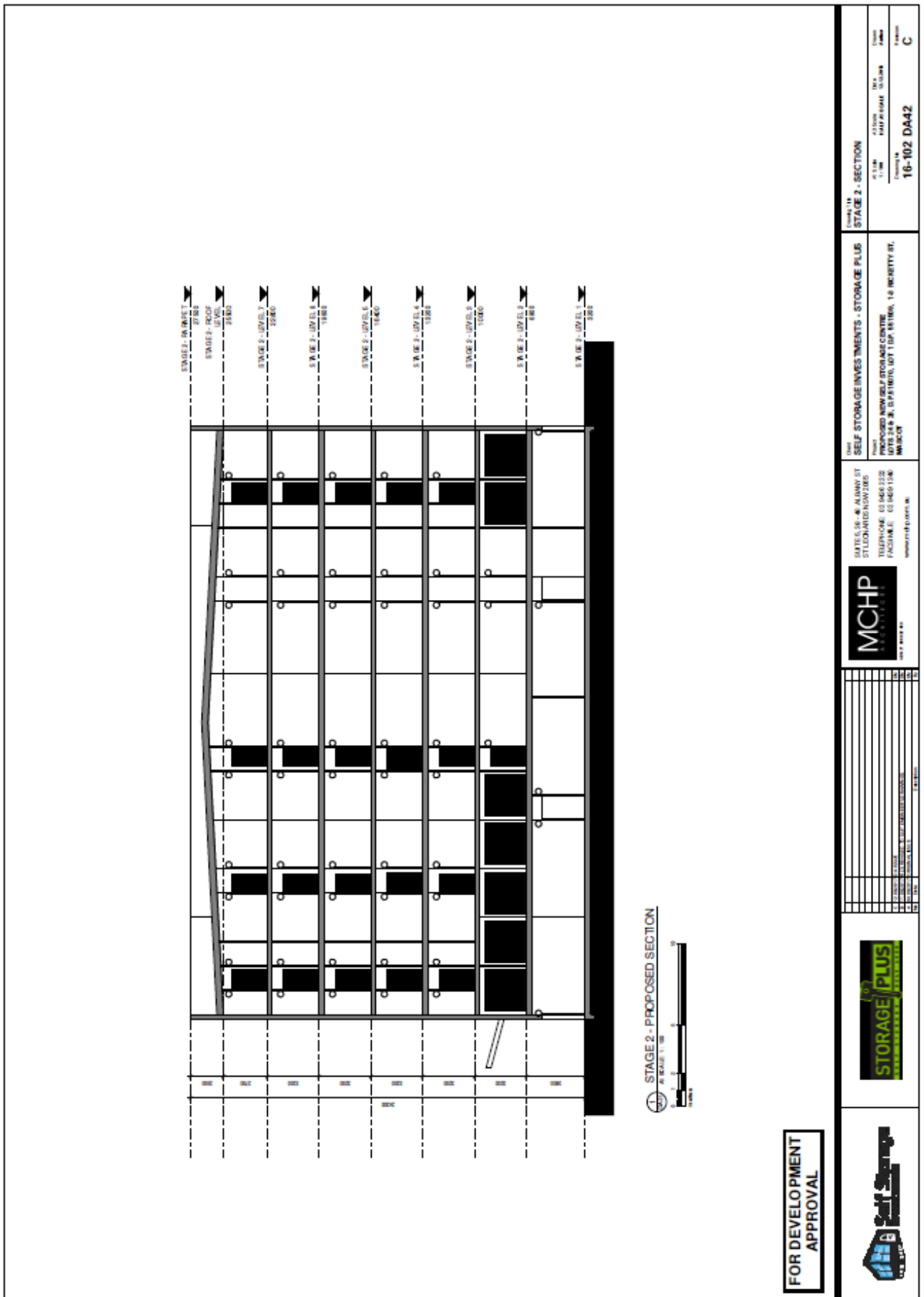
Proposed Southern Building (stage 1) Level 1 Plan



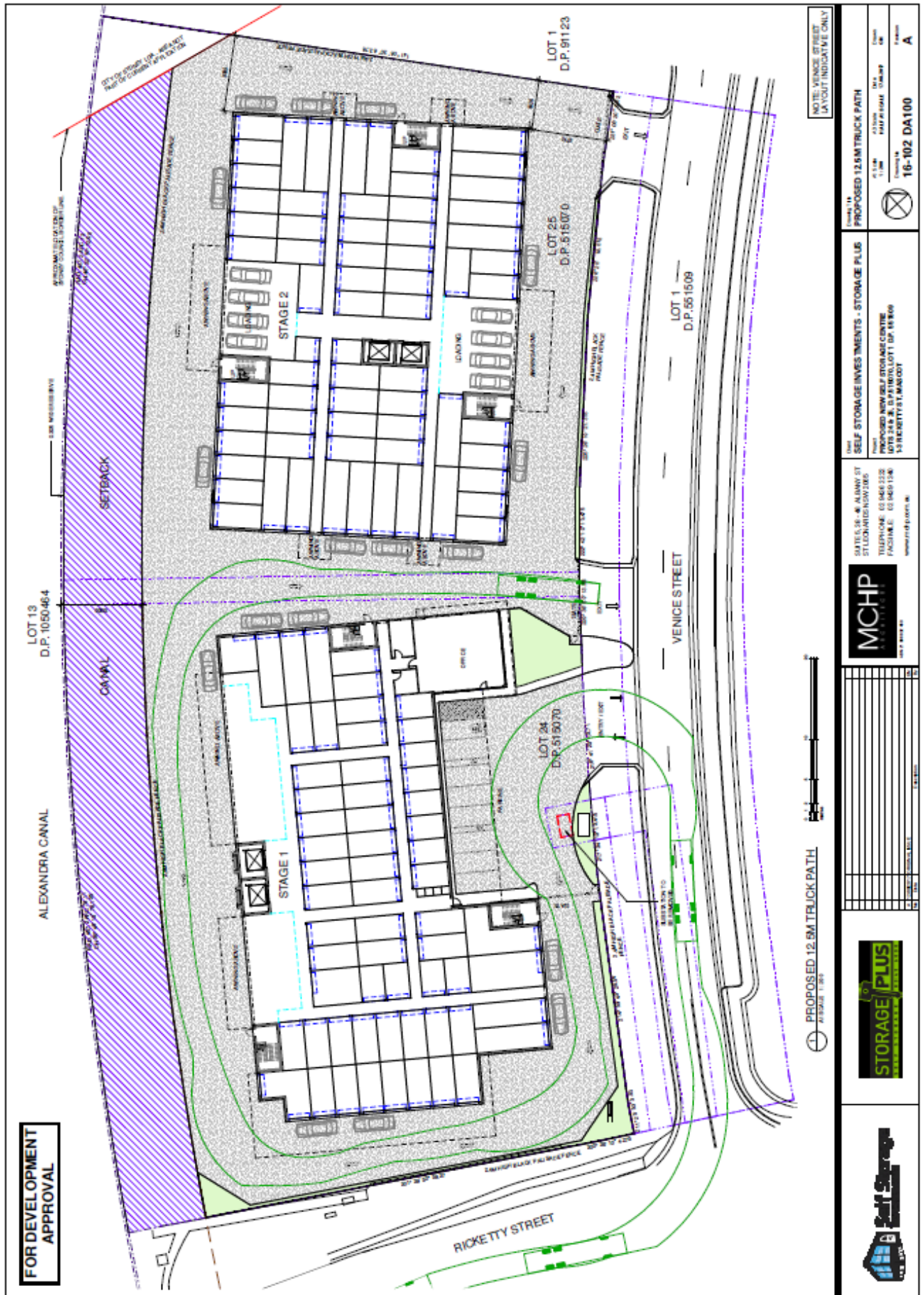
Proposed Southern Building Section



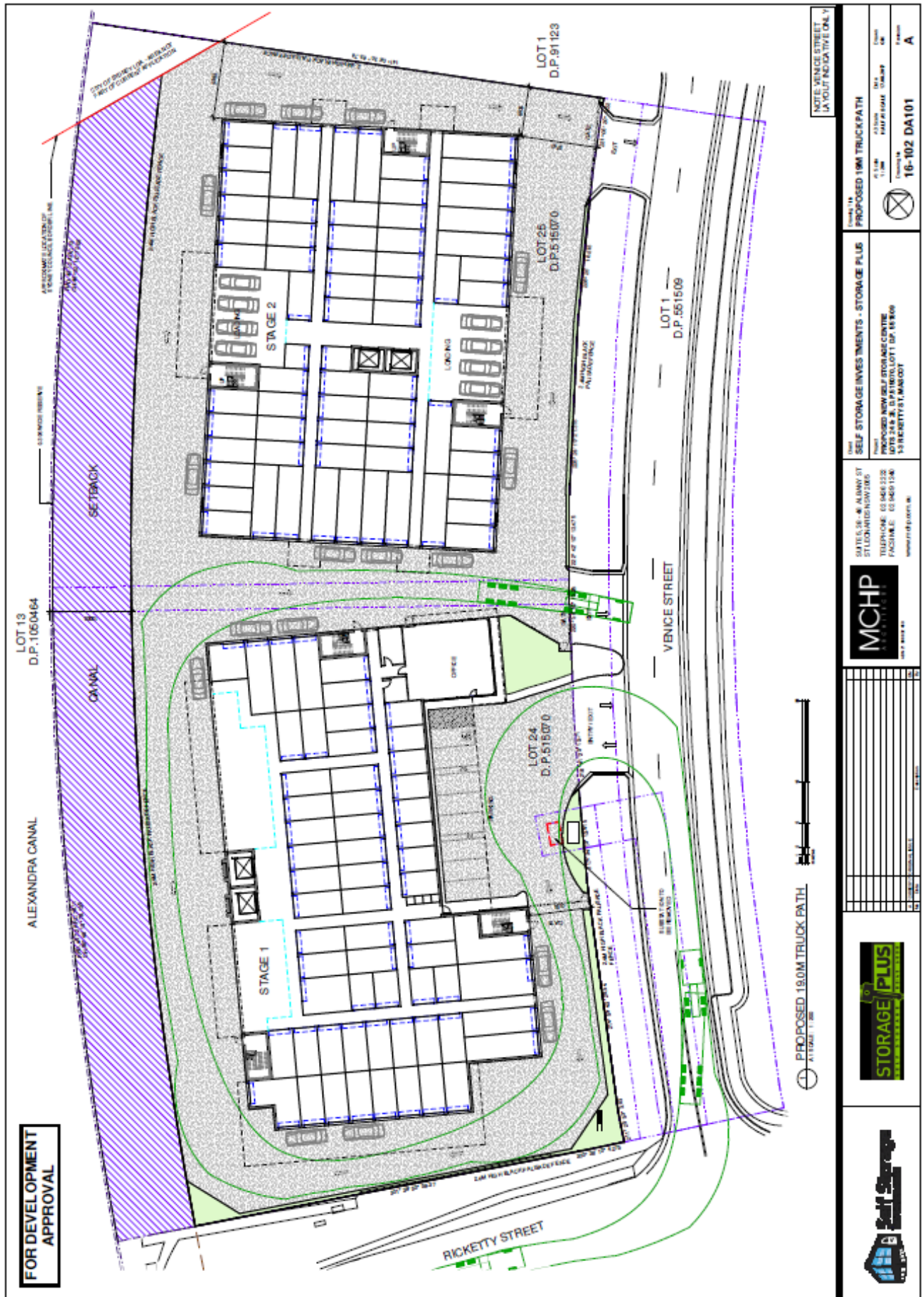
Proposed Northern Building (stage 2) Level 1 Plan



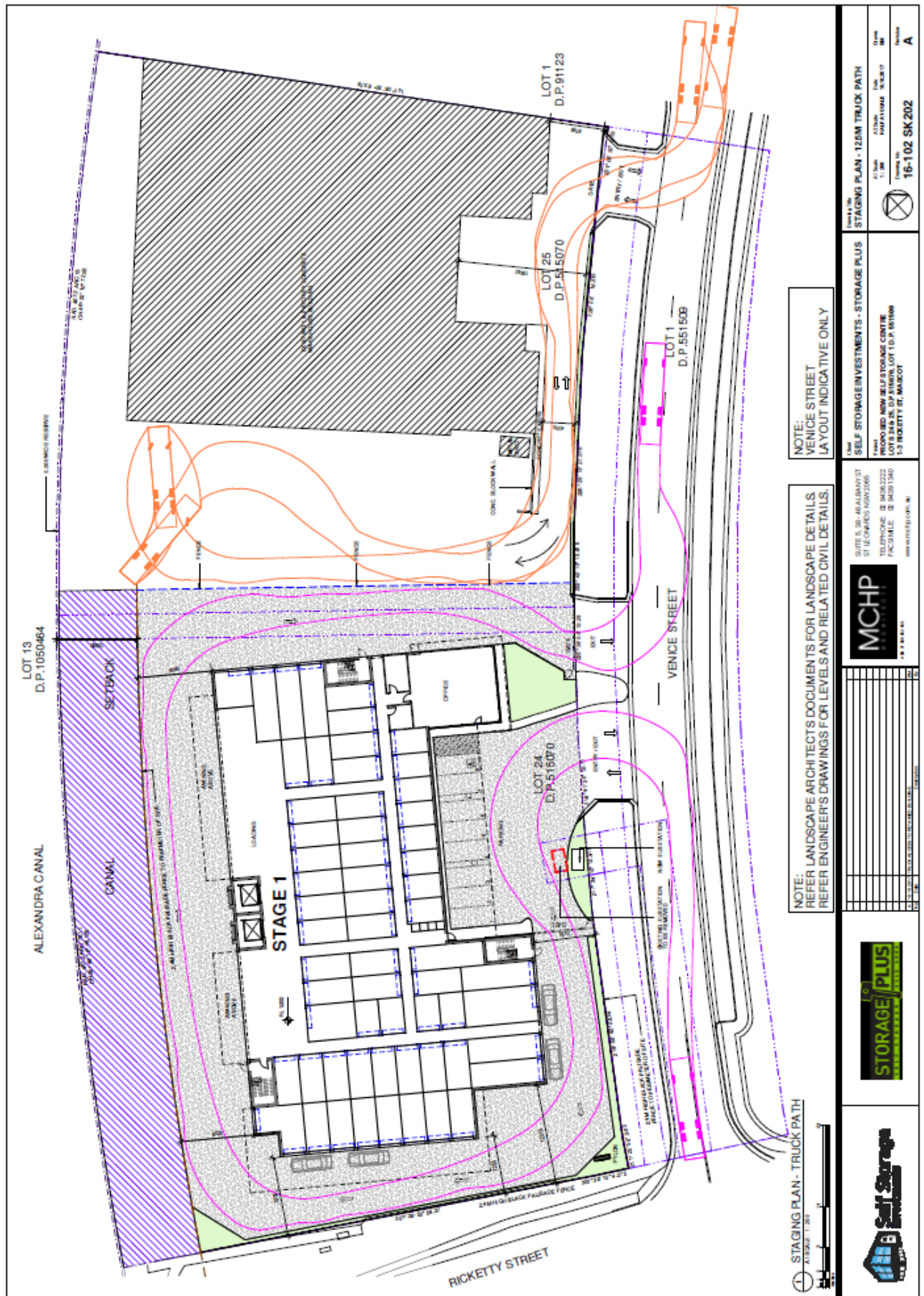
Proposed Northern Building Section



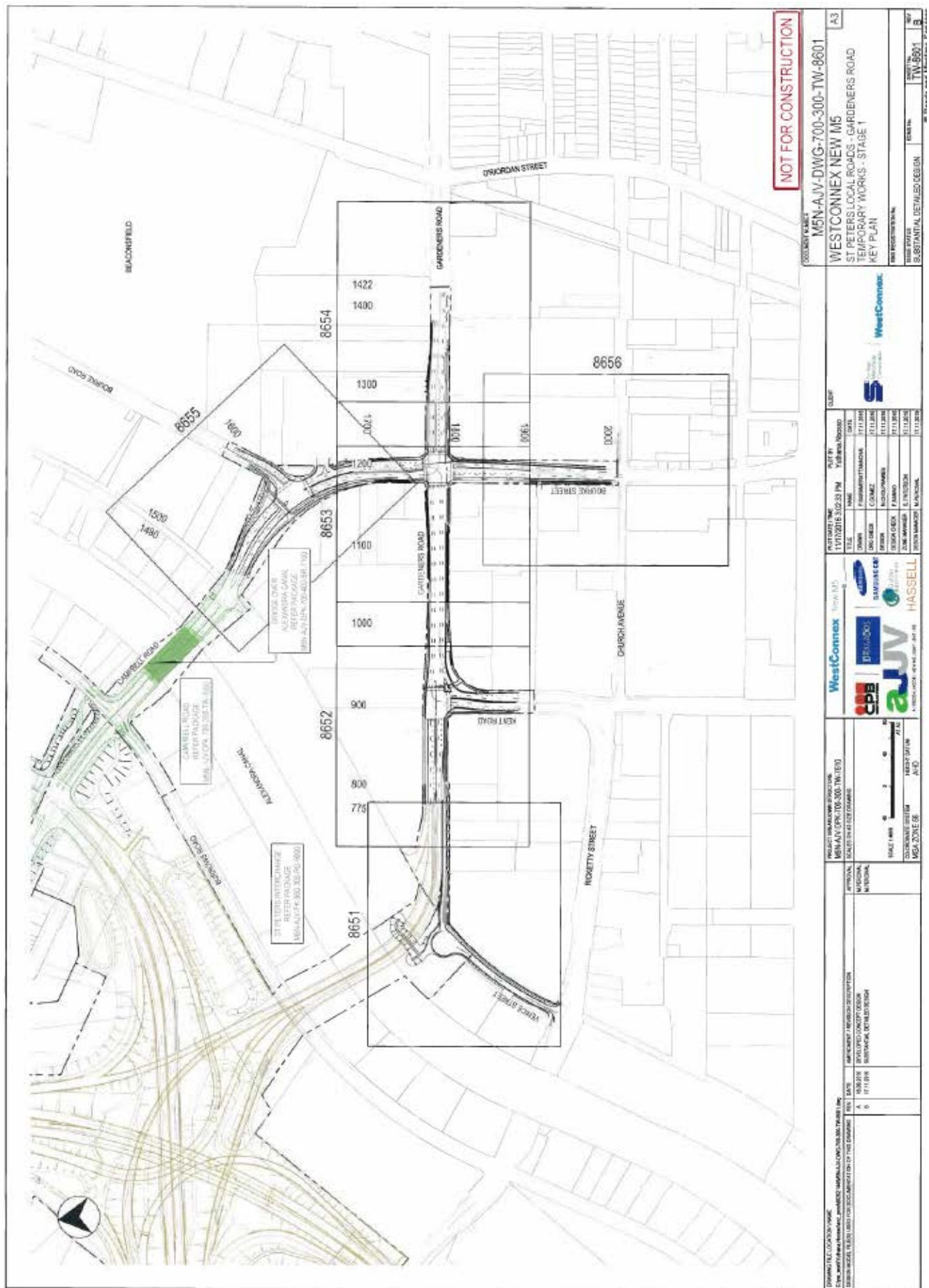
12.5 m Truck Turning Path



19 m Truck Turning Path



Proposed Stage 1 Site Layout showing truck turning swept path



Future Road Layout when Venice Street established