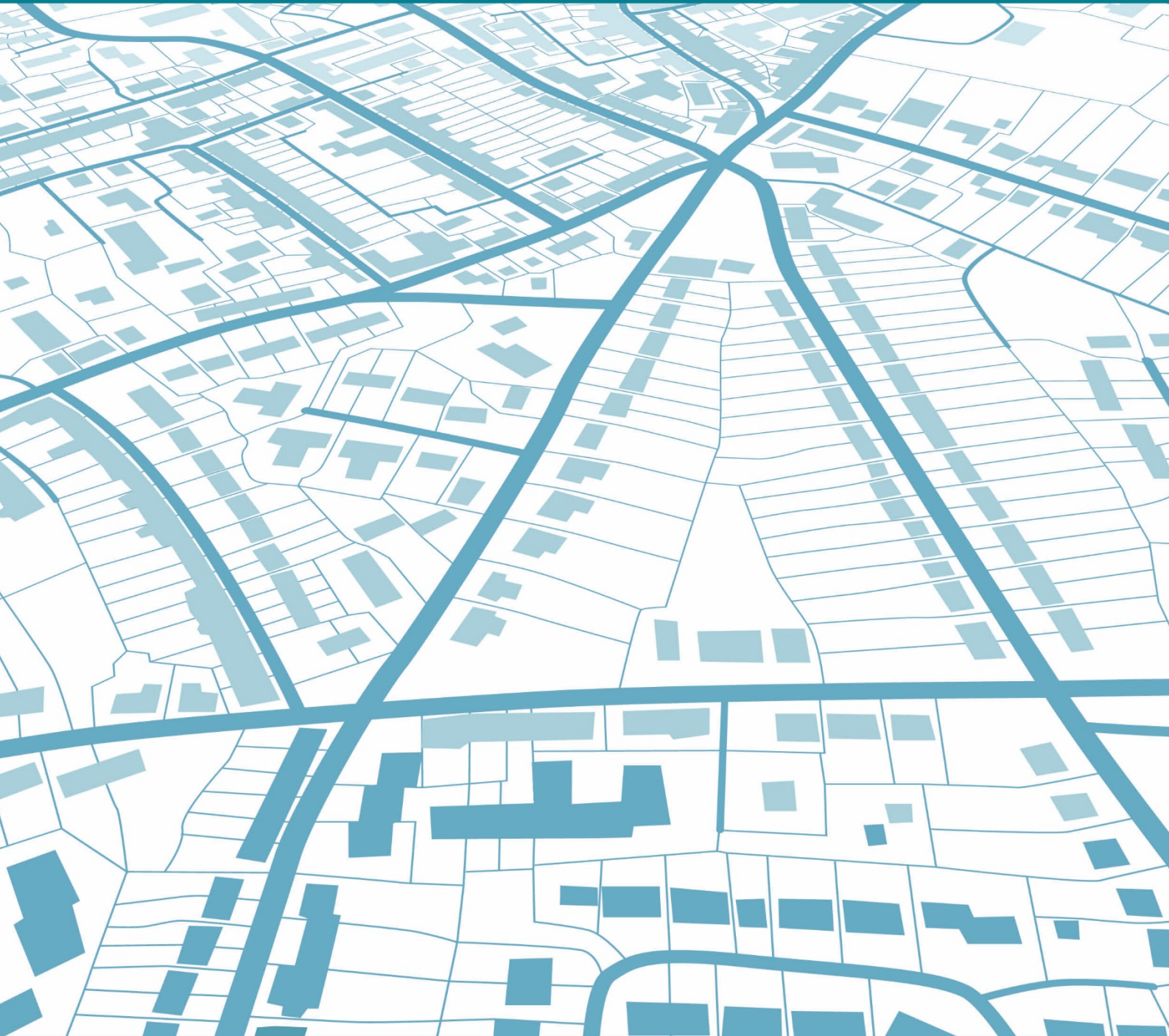




Loreto Normanhurst, 4, 6, 14, 16, 30-62, 24-28 Mount Pleasant Avenue 89 & 91-93 Pennant Hills Road, Normanhurst Construction Pedestrian and Traffic Management Plan

Ref: 004RP/2021
Date: December 2021
Issue: A

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1.0 Introduction

A State Significant Development Application (SSD 8996) has been approved by the Independent Planning Commission for the Stage 1 works of the redevelopment of Loreto Normanhurst School. The site is located at 4, 6, 14, 16, 30-62, 24-28 Mount Pleasant Avenue, 89 and 91-93 Pennant Hills Road, Normanhurst (Figure 1).

This report has been prepared in satisfaction of Consent Conditions № B28(a), C14(b) and C16, for submission of a Construction Pedestrian and Traffic Management Plan as part of the Construction Certificate documentation as follows:

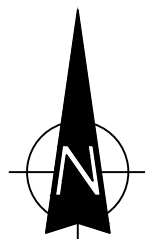
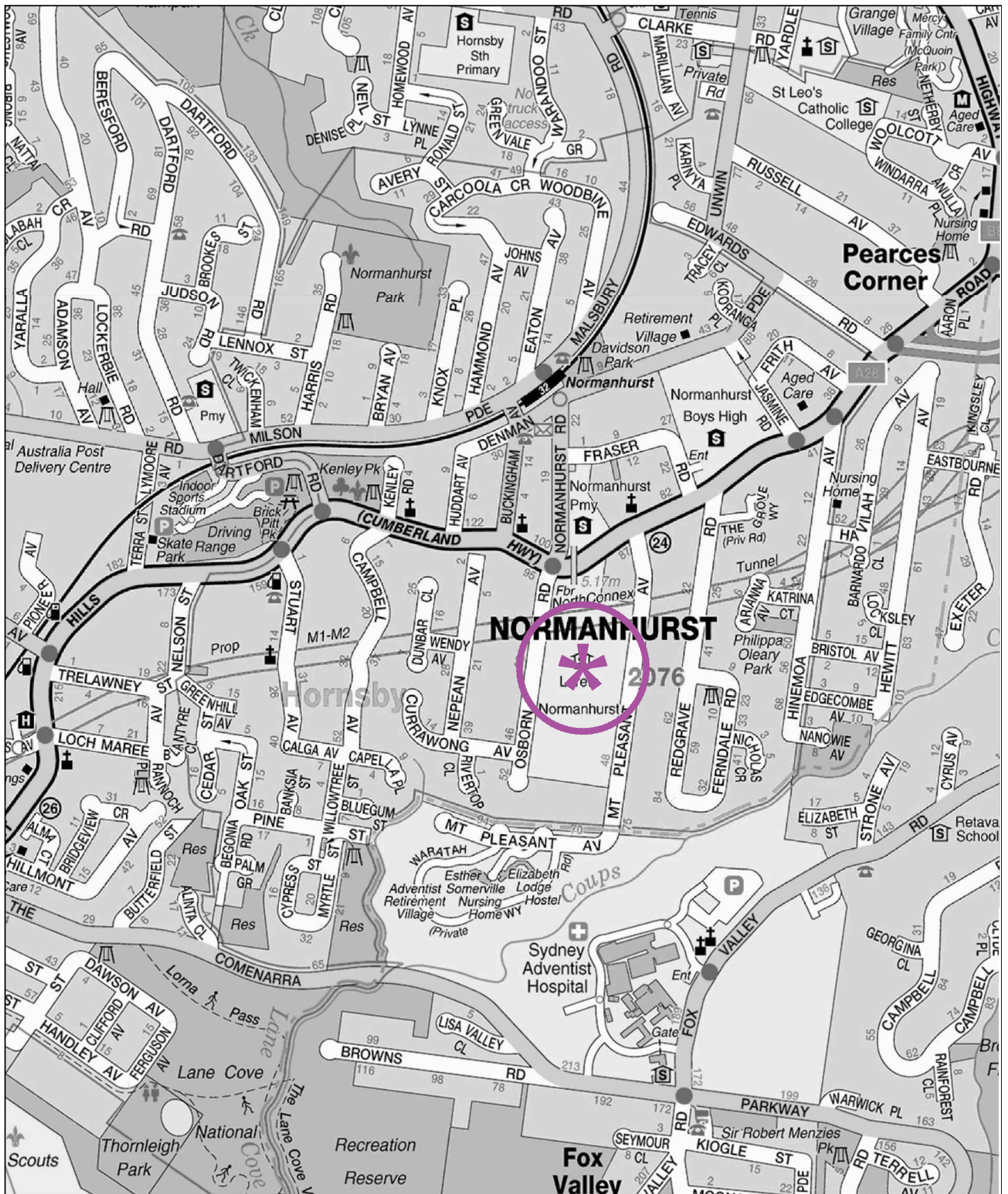
***B28.** Future development application(s) associated with the Concept proposal must include a Construction Management Plan, prepared by a suitably qualified consultant, to provide an analysis and assessment of the impacts of construction including (but not limited to):*

(a) Construction Pedestrian and Traffic Management Plan (CPTMP), prepared in consultation with Transport for NSW (TfNSW), detailing construction vehicles routes and numbers, hours of construction, impacts on on-going school operations, access arrangements, traffic control measures, pedestrian and cyclist links / routes, independent road safety audits on construction related traffic measures and cumulative construction impacts;

***C14.** Prior to the commencement of any construction, the Applicant must submit a Construction Environmental Management Plan (CEMP) to the Certifier and provide a copy to the Planning Secretary. The CEMP must include, but not be limited to, the following:*

(b) Construction Traffic and Pedestrian Management Sub-Plan (condition C16);

***C16.** A Construction Traffic and Pedestrian Management Sub-Plan (CTPMSP) must be prepared to achieve the objective of ensuring safety and efficiency of the road*



LOCATION

FIG 1

network and address, but not be limited to, the following:

- (a) be prepared by a suitably qualified and experienced person(s);*
- (b) be prepared in consultation with Council and TfNSW;*
- (c) include details of predicted number of construction vehicle movements per day and detail of vehicle types, noting that vehicle movements are to be minimised during peak periods;*
- (d) include assessment of potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works;*
- (e) include details of any cumulative impacts due to ongoing construction works on nearby sites;*
- (f) include the measures that are to be implemented to ensure road safety and network efficiency during construction in consideration of potential impacts on general traffic, cyclists and pedestrians and bus services.*
- (g) detail heavy vehicle routes, access and parking arrangements;*
- (h) detail construction vehicle access arrangements and student / staff access to the site during construction works to ensure safe operation of the school at all times; and*
- (i) no existing trees are to be removed to facilitate construction works that are not included in the list of trees permitted to be removed as part of this consent.*

This CTMP has been prepared by an engineer who holds the Roads and Maritime Services Prepare a Work Zone Traffic Management Plan accreditation, detailed as follows:

Chenlong You

Certificate No: 0052080417

Expiry Date: 16/07/2022

The CTMP has also been reviewed and checked by a suitably qualified and experienced civil (traffic) engineer, Meg Kong, with 14 years of professional experience. Meg has completed CTMP for more than 400 sites in Sydney, including the Hornsby Shire Council area.

2.0 Approved Development Scheme

2.1 Site, Context, and Existing Circumstances

The development site (Figure 2) is an irregular shaped consolidation of Lot 5 DP 1218765, Lot 16 DP 6612, Lots 20-23 and 25-36 DP 6612, Lot 1 DP 34834, Lot 1 DP 114580, Lot 3 DP 1217496, Lot 1 - Lot 3 DP 1218765, Lot B DP327538, Lot 1 DP 809066, Lot C DP 366271, Lot D DP 366271, Lot 4 DP1218765, Lot 1 DP136156. The site is bound by Pennant Hills Road to the north, residential dwellings to the northeast, east and west, Mount Pleasant Avenue to the east, and Osborn Road to the west.

Surrounding key uses comprise:

- * Normanhurst Railway Station which is located 400 metres to the north
- * the residential developments

The School currently accommodates up to some 1,150 students and employs some 300 staff.

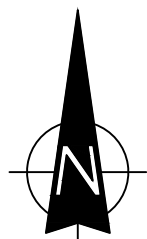
Vehicle access to the site is currently provided as follows:

- 2 two-way car park access driveways along Osborn Road
- Separate ingress/egress driveways to the drop-off/pick up area off Osborn Road
- 1 two-way carpark access driveway along Pennant Hills Road
- 1 two-way carpark access driveway along Mount Pleasant Avenue.

2.2 Approved Development

The approved Stage 1 Works comprise:

- * earthworks and demolition of buildings, structures, removal of 105 trees, landscaping and temporary relocation of the uniform office



SITE

FIG 2

- * staged construction of:
 - o a two to five storey boarding accommodation building for 216 students (125 rooms) and two 3-bedroom staff apartments;
 - o two single storey car parks with sports courts at roof level, amendment of existing parking areas and an increase of 123 parking spaces;
 - o a through site road, five pick-up/drop-off spaces, two bus bays and bicycle parking
 - o a stand-alone electrical substation;
- * staged increase of 500 students; and
- * hard and soft landscaping works including expansion of the existing oval.

Details of the approved development are provided on the architectural drawings prepared by Allen Jack+Cottier Architects which accompany the development application and are reproduced in part in Appendix A.

2.3 Construction Program

A process has been established for completion of the various work processes as follows:

- * Substage No. 1: December 2021 – February 2022
 - o Reconfiguration of the Jack Cottier P3A Osborn Road carpark
 - o Hard and soft landscaping works
- * Substage No. 2: December 2021 – February 2022
 - o Construct through site road (including 3 pick-up/drop-off spaces).
 - o Hard and soft landscaping works
- * Substage No. 3: January 2022– April 2022

- o Reconfiguration of P2 Admin/Chapel and Pennant Hills carparks.
- o Demolition of the existing tennis courts and sheds.
- o Construction of P1A Tennis Court carpark including two new tennis courts.
- o Hard and soft landscaping works

The construction site layouts for the above construction activities, prepared by COWYN are illustrated in figures overleaf.

2.4 Construction Process

Demolition of the existing structures and tree removals on the site will be in the initial phase of the respective construction process, with this activity being preceded with the erection of temporary construction fencing.

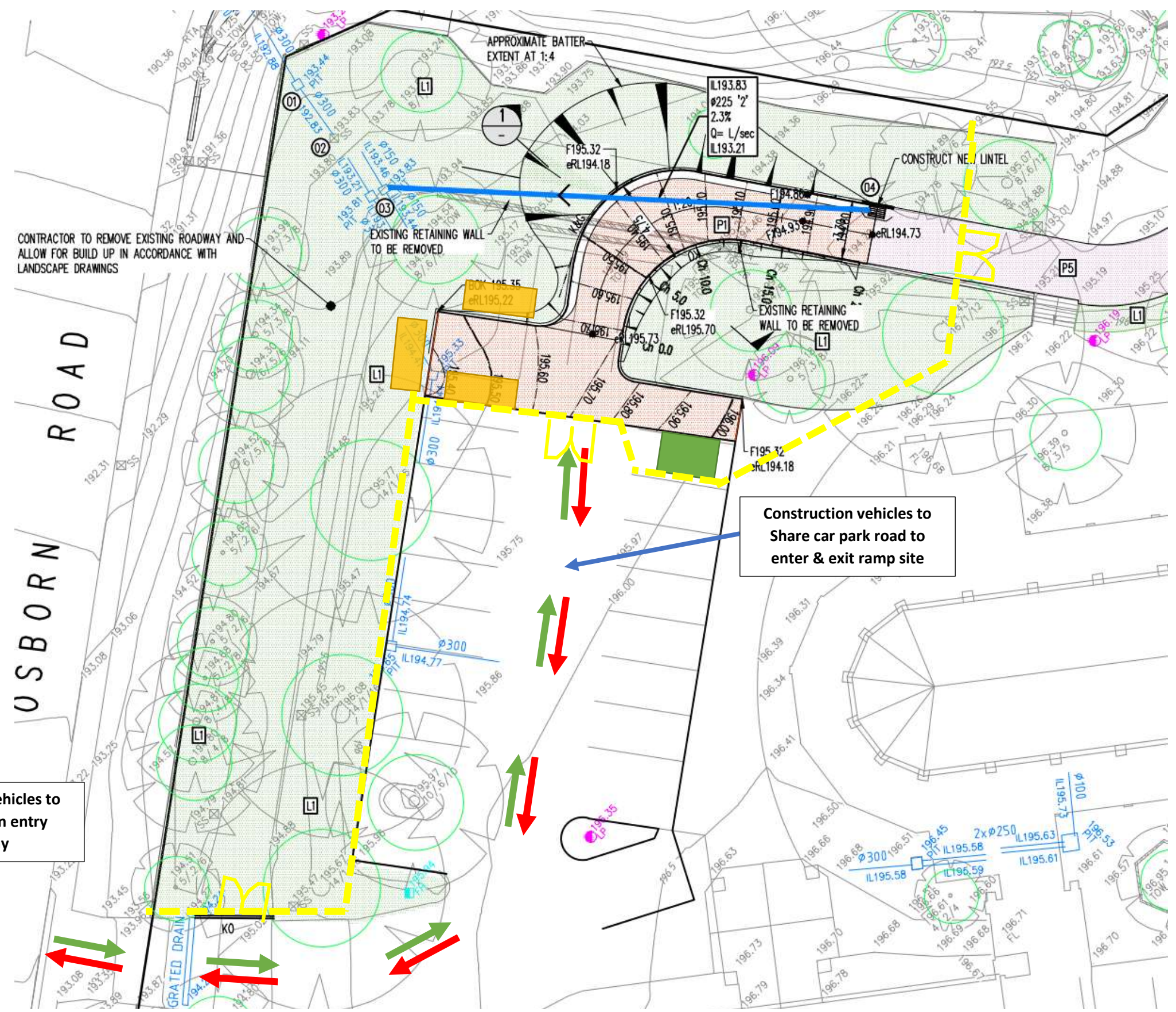
It is noted that no existing trees which are not included in the list of trees permitted to be removed as part of the consent will be removed to facilitate construction works.

The transport of the demolition material will be undertaken generally by 12.5m heavy rigid vehicle (HRV) and up to 18.1m truck and dog vehicles. These trucks will enter the site in a forward direction under Traffic Controller supervision on Mount Pleasant Avenue and Osborn Road frontages.

The trucks will reverse out onto Mount Pleasant Avenue or Osborn Road on departure under the management of traffic controllers and then travel in a forward direction.

This activity will be followed by a minor excavation works. The truck activity associated with this process will be similar to that of demolition stage, with trucks continue to enter and depart the site in a forward direction via the existing driveways on Mount Pleasant Avenue or Osborn Road under the supervision of traffic controllers.

The construction phase will be the process of longest duration. The largest vehicles

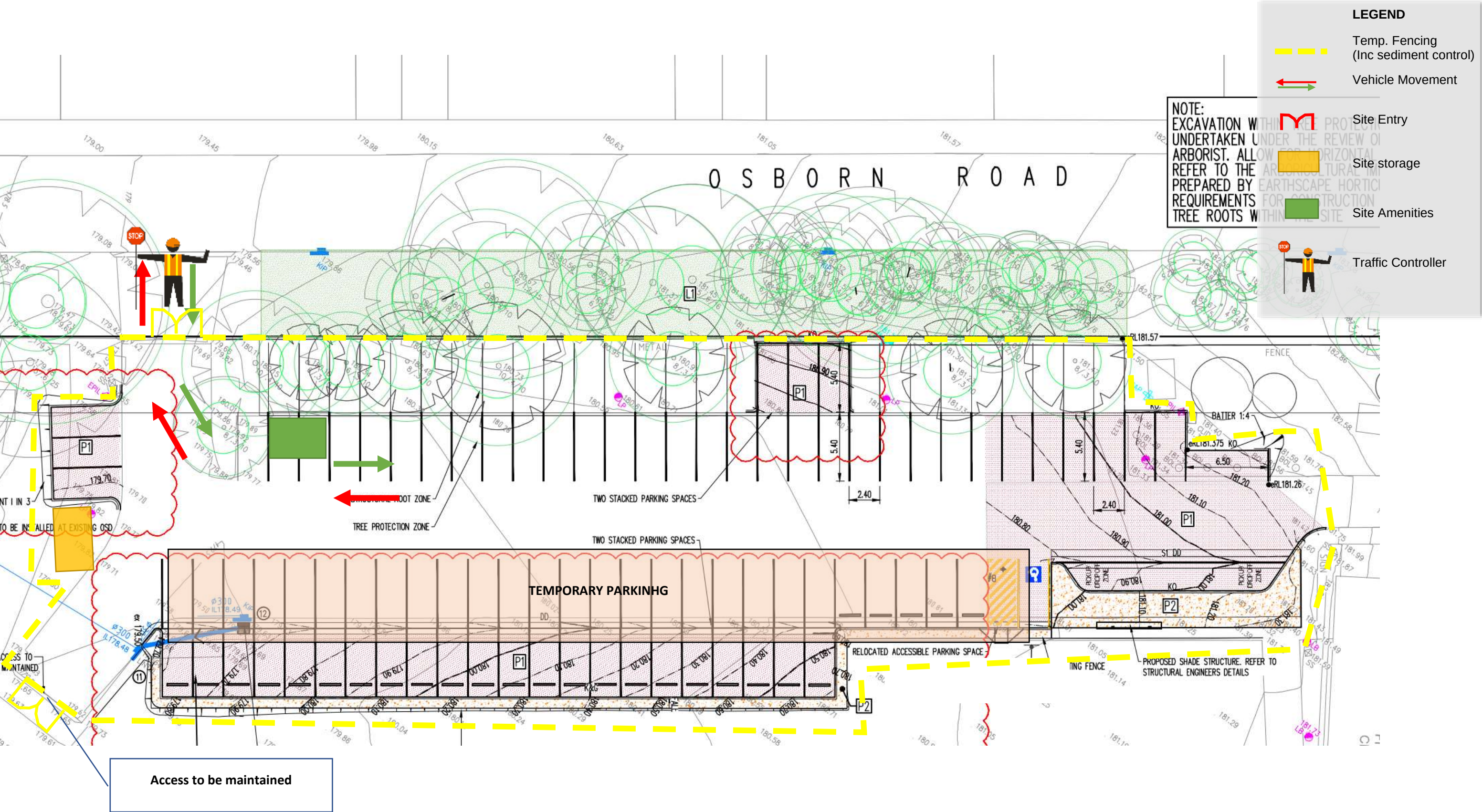


LEGEND

- Temp. Fencing (Inc sediment control)
- Vehicle Movement
- Site Entry
- Site storage
- Site Amenities
- Traffic Controller

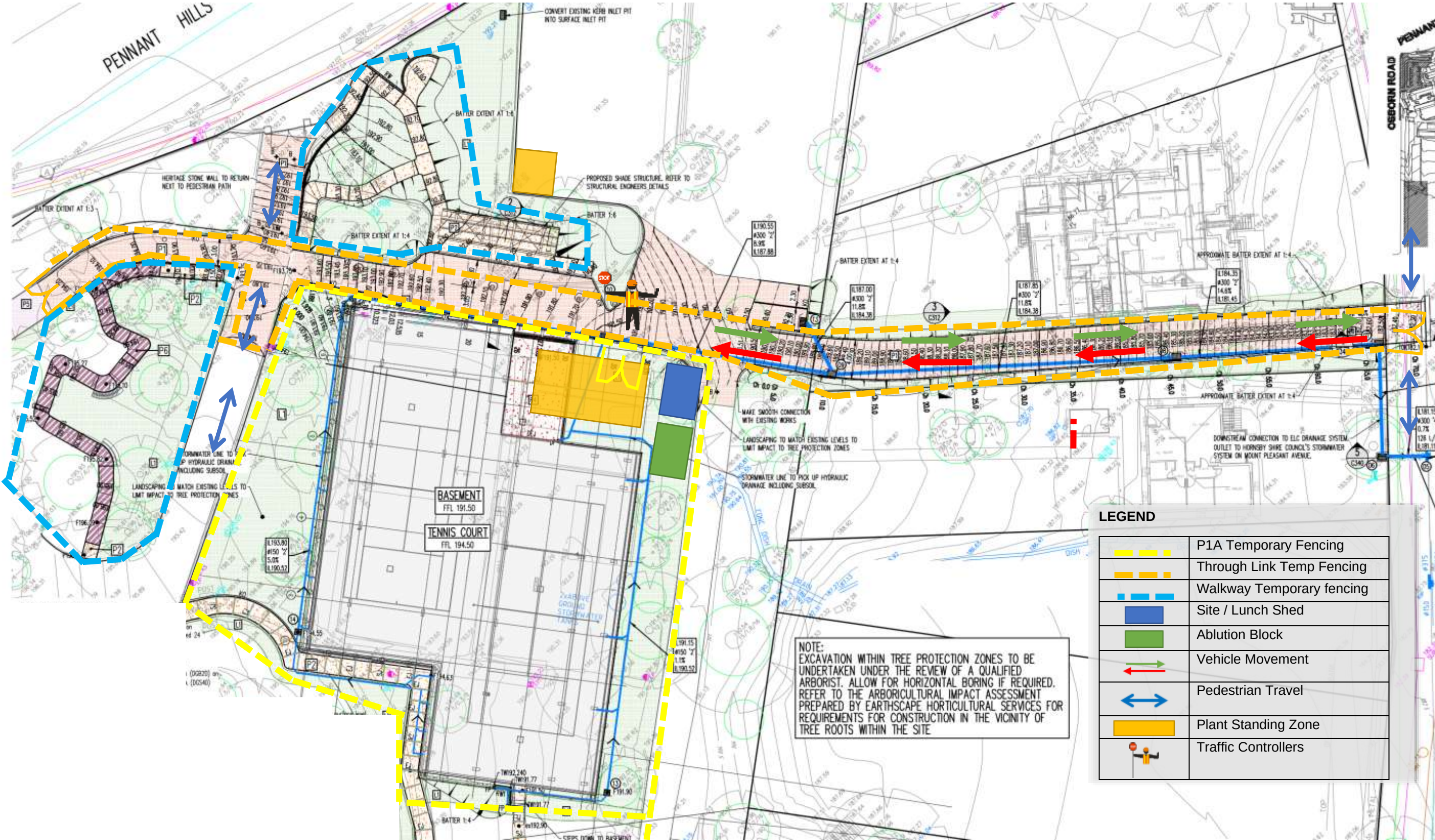
CONSTRUCTION MANAGEMENT PLAN

- FINAL TPMP & CEMP to be developed prior to commencement
- Sediment control measures to be installed as detailed
- Staff carpark link road ramp construction to be completed during school holidays



CONSTRUCTION MANAGEMENT PLAN

- FINAL TPMP & CEMP to be developed prior to commencement
- Sediment control measures to be installed as detailed
- Site Amenities to be provided
- Pedestrian footpath at front of site to be maintained at all times



CONSTRUCTION MANAGEMENT PLAN

- FINAL TPMP & CEMP to be developed prior to commencement
- Sediment control measures to be installed as detailed
- Staff carpark link road reconstruction and throughlink connection to be completed during school holidays

accessing the site for each of the

- * Substage No. 1: 12.5m HRV forward in and forward out via Osborn Road
- * Substage No. 2:
 - o 12.5m HRV forward in and forward out via Mount Pleasant Avenue
 - o 19m semi reverse in and forward out via Mount Pleasant Avenue
- * Substage No. 3:
 - o 12.5m HRV forward in and forward out via Osborn Road
 - o 12.5m HRV forward in and forward out via Mount Pleasant Avenue
 - o 19m semi reverse in and forward out via Osborn Road

The provision for loading/unloading for this process will involve truck standing in the construction areas with all materials be loaded/unloaded from the on-site loading area using either forklifts or trolleys (for light materials) and stored within the site.

3.0 Existing Road Network and Traffic Conditions

3.1 Road Network

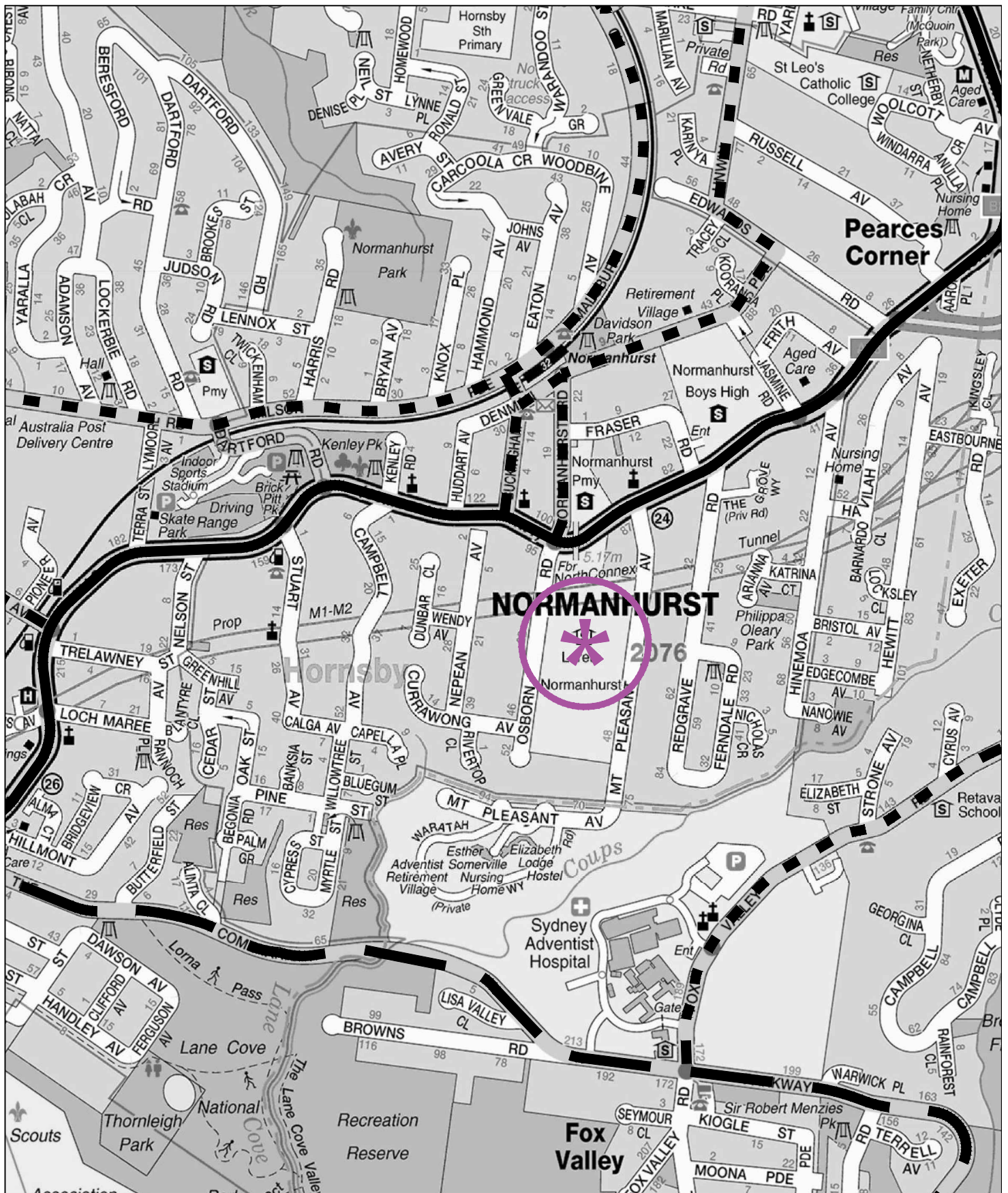
The road network in the vicinity of the development site (Figure 3) comprises:

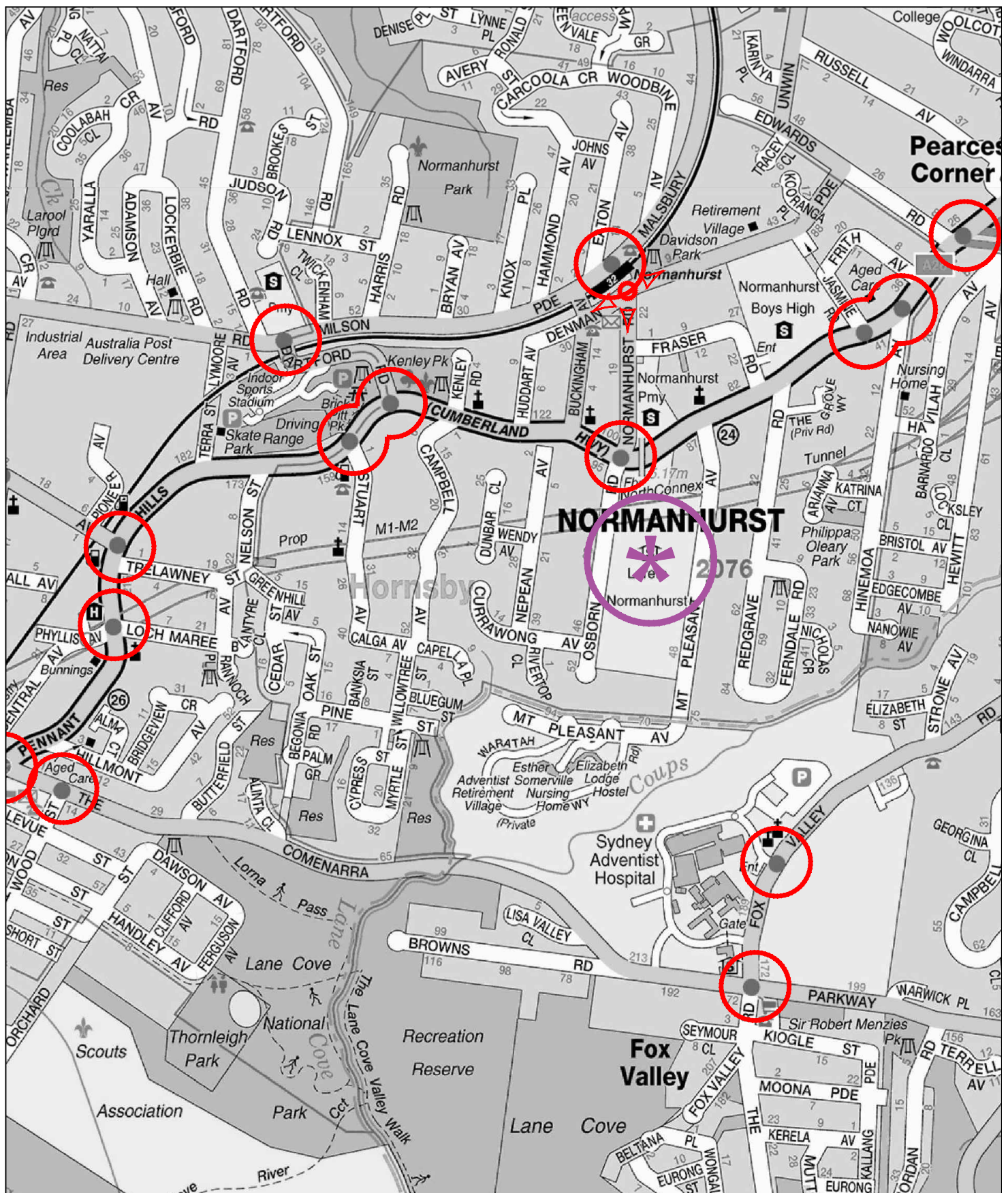
- * Pennant Hills Road – a State Road located north of the School that provides a connection between North Parramatta and Wahroonga.
- * Osborn Road – a local cul-de-sac that generally runs in a north-south direction to the south and west of the School. It connects to Pennant Hills Road in the north and Currawong Avenue in the south and terminates to the south west of the School.
- * Mount Pleasant Avenue – a local cul-de-sac that runs in a north-south direction along the eastern side of the School. It connects to Pennant Hills Road to the north and terminates to the south west of the School.
- * Normanhurst Road – a local road that generally runs in a north-south direction located to the north-west of the School which connects to Osborn Road and Pennant Hills Road.

3.2 Traffic Controls

The existing traffic controls on the road system serving the site (Figure 4) comprise:

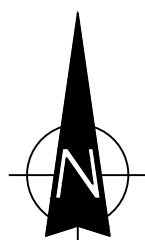
- * traffic control signals at intersections along the Pennant Hills Road at:
 - o Normanhurst Road/Osborn Road
 - o Dartford Road
 - o Stuart Avenue
 - o Jasmine Road
 - o Frith Avenue
 - o Pacific Motorway





LEGEND

-  TRAFFIC SIGNAL CONTROL
-  ROUNDABOUT



TRAFFIC CONTROLS

FIG 4

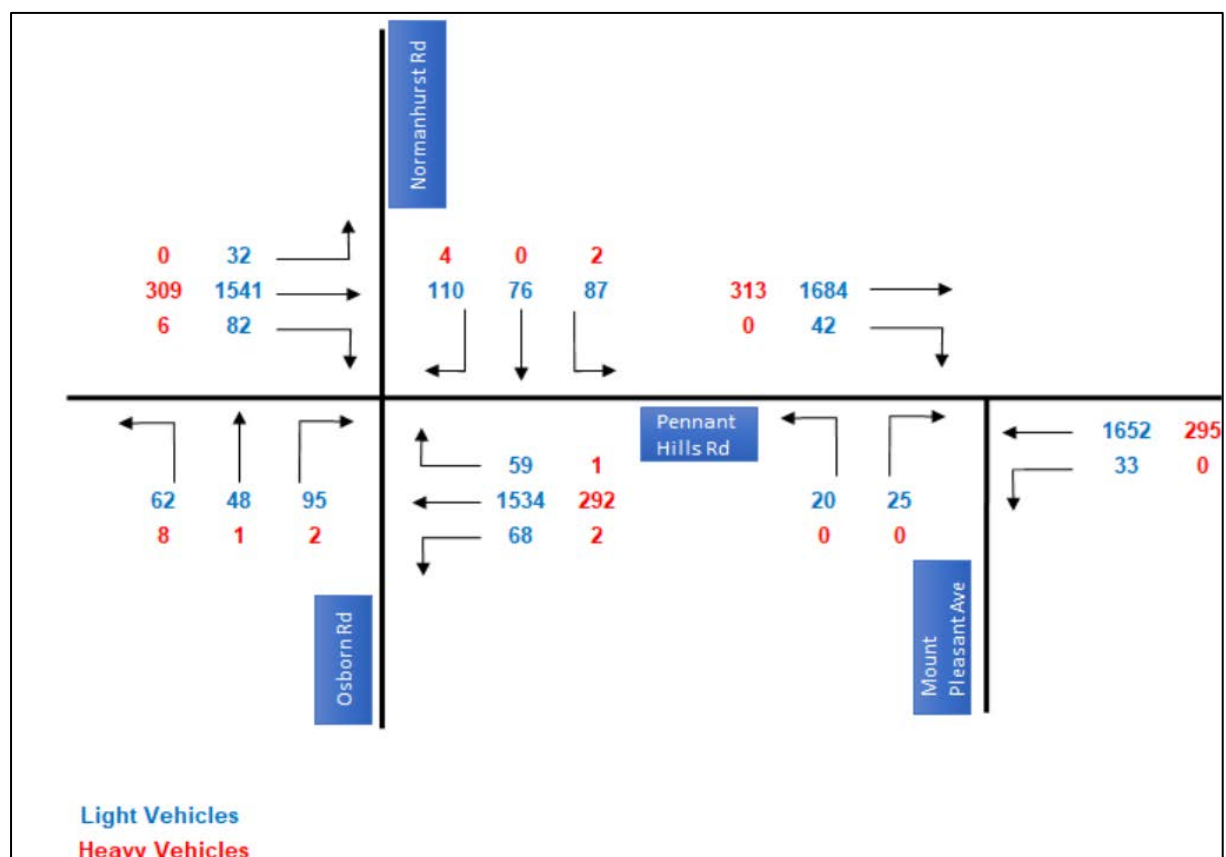
- * the roundabout at the Normanhurst Road/Denman Parade intersection
- * the stop-controlled intersection at the intersection of Pennant Hills Road/ Mount Pleasant Avenue
- * the 40 kmph school zone restriction at Mount Pleasant Avenue, Osborn Road, Normanhurst Road and Pennant Hills Road and 50 kmph outside of school zones
- * the 60 kmph speed limit at the Pennant Hills Road

3.3 Traffic Conditions

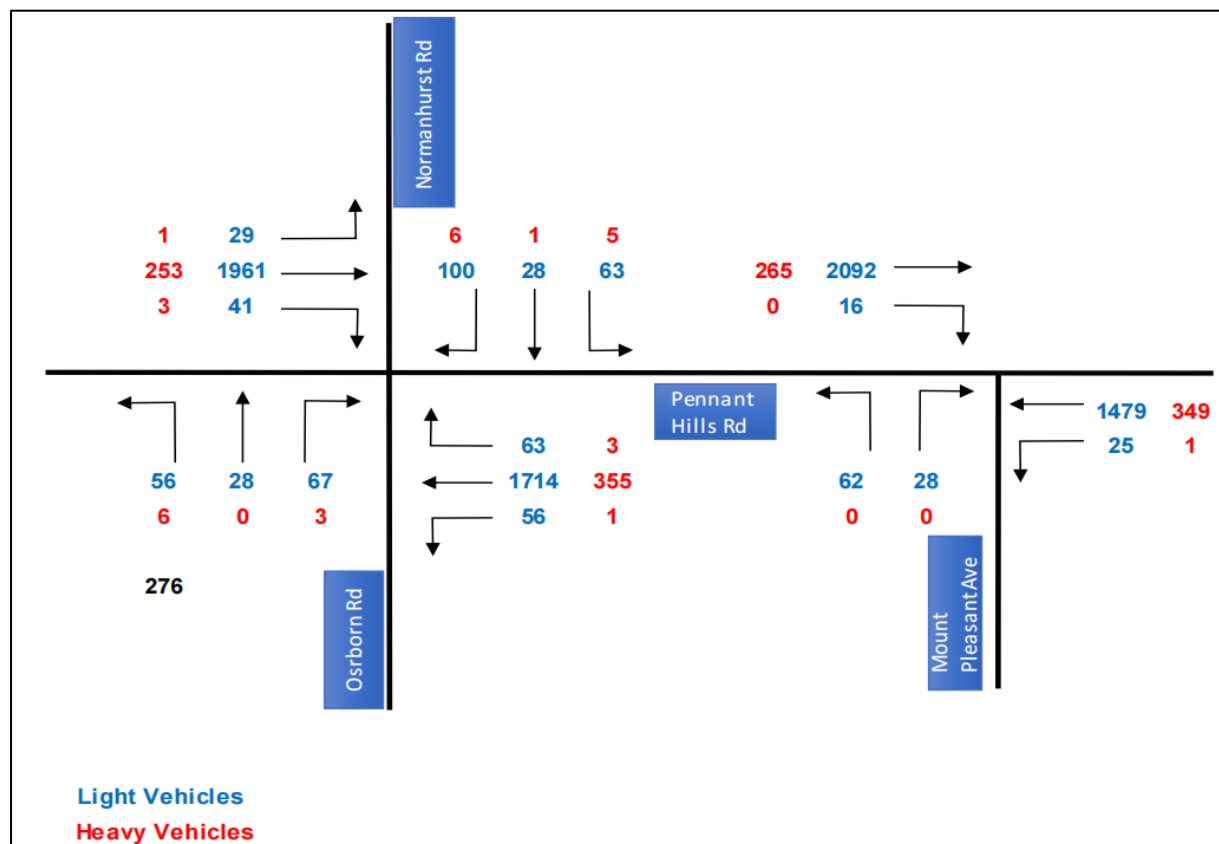
Ason Group carried out AM and PM peak period traffic movement surveys on a weekday at the intersections of Pennant Hills Road / Osborn Road / Normanhurst Road and Pennant Hills Road / Mount Pleasant Avenue.

The outcomes of the surveys are summarised in the following figure:

AM Peak



PM Peak



The operational performance of the intersections during the weekday AM and PM peak, have been assessed by Ason Group as part of the DA traffic report:

	Level of Service	
	AM Peak	PM Peak
Pennant Hills Road / Normanhurst Road / Osborn Road	C	B
Pennant Hills Road / Mount Pleasant Avenue	F	F

The traffic modelling indicates the intersection of Pennant Hills Road / Osborn Road / Normanhurst Road currently operate satisfactorily (level of service C or better) during the assessed peak hours. The intersection of Pennant Hills Road / Mount Pleasant Avenue currently operates at LOS F.

The delay is as a consequence of the arterial traffic flows along Pennant Hills Road. The right-turn movement from Mount Pleasant Avenue to Pennant Hills Road are affected by the lack of ability of the northbound vehicles to turn into Pennant Hills Road. It should be noted that the vehicle arrival and departure associated with the School is concentrated over a 15 – 30-minute window. As such, any traffic impact and circumstances associated with the School's activity is temporary. Regular gaps are provided in the traffic flows along the westbound traffic flow on Pennant Hills Road by the operation of the traffic signals at the intersection of Pennant Hills Road/Hinemoa Avenue to the east.

3.4 Transport Services

Rail

Normanhurst Railway Station (some 400 metres to the north) provides high-frequency train services - the T1 – North Shore Line with services every 10-15 minutes during the commuter peak periods in both directions of travel (towards Hornsby and Central Station via Strathfield).

Bus

The Site has good access to bus services, with local and 'line-haul' services along Pennant Hills Road and - the Normanhurst Road at high frequencies of services in the commuter peak periods. All bus stops within 400 metres walk (approximately 5 minutes):

- Pennant Hills Road
 - o 589: Sydney Adventist Hospital to Hornsby
 - o 600: Hornsby to Parramatta
- Normanhurst Road
 - o 587: Hornsby to Westleigh via Waitara and Normanhurst
 - o 589: Sydney Adventist Hospital to Hornsby

Details of the available public transport services are provided in Appendix B.

4.0 Proposed Construction Traffic Management Plan

4.1 Construction Vehicle Route

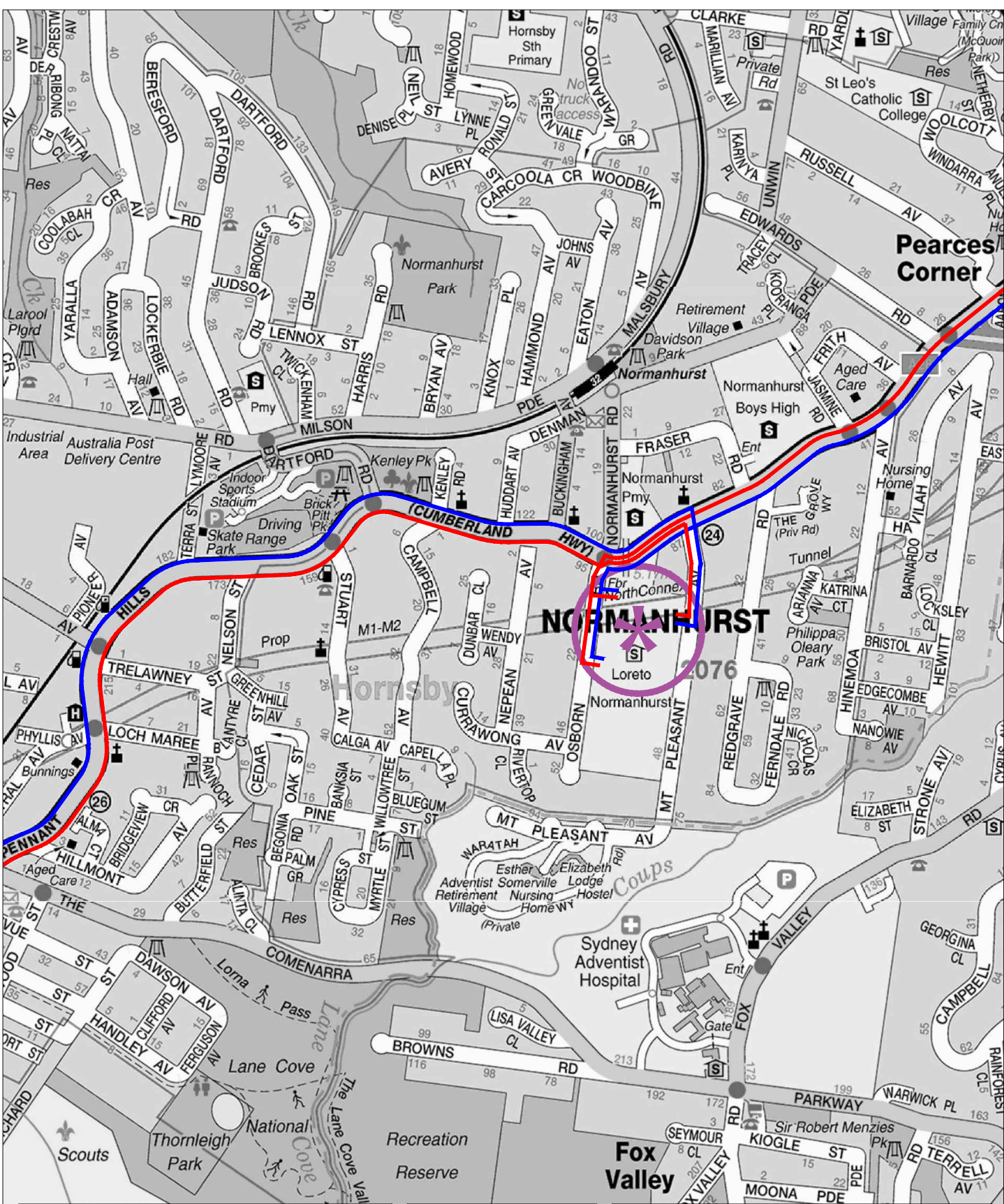
Generally, construction vehicles will have origins and destinations from a wide variety of locations throughout Sydney. However, all construction vehicles will be restricted to the State and Regional Road network. Dedicated construction vehicle routes have been developed with the aim to provide the shortest distances to/from the arterial road network while minimising the impact of construction traffic on streets within the vicinity of the site.

As such, the dedicated construction vehicle routes will use Pennant Hills Road as much as possible, as indicated in Figure 5. Truck drivers will be advised of the designated truck routes to/ from the site. No queuing or marshalling of trucks will be permitted on public roads in the vicinity of the site.

4.2 Truck Movements

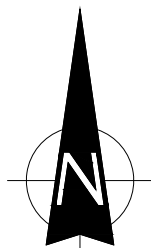
It is anticipated that the construction works will involve the following heavy vehicle types:

Articulated vehicles	19m
Truck and Dog Trailer	18.1m
Heavy rigid vehicles (HRV)	12.5m
Medium rigid vehicles (HRV)	8.8m
Small rigid vehicles (SRV)	6.4m
Bin trucks	10.2m
Mobile cranes	12.5m
Concrete trucks	8m
Single bogie	9.8m
Concrete pump truck	10.8m
Small utility vehicle/Van	5.2m



LEGEND

- ARRIVAL
- DEPARTURE



TRUCK ROUTES

FIG 5

The envisaged truck arrivals will be:

Substage	Average	Maximum
1	7	12
2	10	15
3	12	18

Given the low truck movements, a truck layover area will not be required. Truck drivers will be advised of the designated truck routes to/ from the site. Truck arrivals and departures are to be managed so that no trucks are permitted to queue on Osborn Road and Mount Pleasant Avenue or surrounding streets at any time.

Accredited traffic controllers/ site personnel will ensure they are in radio contact with truck drivers thus ensuring each vehicle arrival is anticipated and planned.

Details of critical vehicle swept paths are provided in Appendix C.

4.3 Construction Hours

The approved hours of construction activity will be:

- * Construction (including the delivery of materials to and from the site) will be completed between the following hours:

7am – 5pm	Monday to Friday
8am – 1pm	Saturday
No work	Sunday and public holidays

Rock breaking, rock hammering, sheet piling, pile driving and similar activities will be completed between the following hours:

9am – 12pm and 2pm – 5 pm	Monday to Friday
9am – 12pm	Saturday
No work	Sunday and public holidays

It is noted that construction activities may be undertaken outside the above hours if required:

- * by the Police or a public authority for the delivery of vehicles, plant or materials; or
- * in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or
- * where a variation is approved in advance in writing by the Planning Secretary or their nominee if appropriate justification is provided for the works.

Notification of such construction activities outside of the approved hours will be given to affected residents before undertaking the activities or as soon as is practical afterwards.

It is noted that the construction of the P3A Osborn Road and the through site road and associated works is proposed to be completed outside the school term dates (between 3 December 2021 to 4 January 2022).

Should these works be to extend past into the school term starting on the 5th, all associated works will be completed outside of the AM and PM peak pick-up/drop-off times (Monday to Friday: 8am-9.30am and 2.30pm to 4pm).

4.4 Works Zone and Road Occupancy License

Works zone will not be required as part of the construction process. All loading/unloading will occur on the site. Cranes and concrete pumps will also be positioned within the site.

The following temporary removal of on-street parking along Osborn Road and Mount Pleasant Avenue via a Work Permit to accommodate the 12.5m HRV and 19m semi swept path clearances:

- * 18m long (up to 3 on-street spaces) along the western side of Osborn Road
- * 25m long (up to 4 on-street spaces) along the western side of Mount Pleasant Avenue

- * 35m long (up to 6 on-street spaces) along the western side of Mount Pleasant Avenue

A separate application for the Work Permit would be submitted as required for approval from Council prior to the removal of the on-street parking spaces.

Up to 13 on-street parking spaces would have to be temporarily removed during the construction. Site observations on the publicly available car parking along Osborn Road and Mount Pleasant Avenue that there is a medium demand for on-street parking during the construction hours. As such, the temporary loss of parking spaces can be easily accommodated within the remaining on-street parking spaces.

Overall, the temporary removal of on-street parking would not present a major impact on the existing on-street parking conditions.

It is noted that the removed on-street parking area will not be used for commuting or private kerbside parking by contractors, tradesman or visitors to the site.

4.5 Cranage and Materials Handling

A tower crane will not be required.

All materials will be loaded/unloaded using either portable/mobile crane, on-site brick conveyor, forklifts or trolleys (for light materials) and stored within the site.

4.6 Site Induction

All workers and visitors employed on the site by the appointed contractor (including sub-contractors) will be required to undergo a formal 'site induction' process and all the inductions will be performed specifically to each trade according to Workcover OH & S requirements.

The induction will include details of approved access routes to and from the

construction site for site staff and delivery vehicles, parking arrangements, as well as standard environmental, WHS, driver protocols and emergency procedures.

The agreed work hours must be included as part of this induction. Bus and train schedules will be provided to all workers during site induction to demonstrate alternative modes of transport available.

4.7 Construction Worker Parking

It is anticipated that there will be the following average and maximum number of workers (employees and contractors) during the construction period:

Substage	Average	Maximum
1	15	30
2	20	40
3	25	50

Workers can park within Loreto property during the school holiday periods only.

There will be no on-site parking for construction workers during the school term. Workers will be directed not to use on-street parking along Mount Pleasant Avenue, Osborn Road and Currawong Avenue, as well as within the School's compound. COWYN would take appropriate action if informed of this activity occurring. This will be incorporated into the site induction program.

There are some surplus on-street parking spaces along Normanhurst Road and Fraser Road for workers in the convenient vicinity of the site. Notwithstanding, given the proximity of the site to high-frequency public transport services, all workers will be encouraged at all times to utilise the highly accessible public transport system which exists in the vicinity of the site or alternatively to car pool wherever possible.

A tool drop-off and storage facility will be provided within the site. This would allow tradespeople to drop-off and store their tools and machinery, allowing them to use public

transport to travel to/ from the site on a daily basis. Workers will also be informed of with appropriate tool/ equipment drop-off and storage arrangements made within site sheds and amenities provided on site.

Bus and train schedules will be provided to all workers during site induction to demonstrate alternative modes of transport available.

4.8 Contact Details

The contact details for the day-to-day activities on the site:

Andreas Kokkinis
Contract Administrator - COWYN Building
04 431 455 589

4.9 Traffic Control Plan

The Traffic Control Plan (TCP) presents the principles of traffic management, with the detailed information for work site operations is contained in the Roads and Maritime Services Traffic Control at Work Sites Technical Manual Version 6.0 dated 14 September 2020. The control of traffic at work sites must be undertaken with reference to Workcover requirements and MCC' Workplace Health and Safety Manuals.

The TCP is prepared by a Certified Traffic Controller (under RMS regulations) in accordance with Australian Standards 1742.3. The TCP includes:

- The proposed works site
- Truck (crossing and entering) and traffic controller signage

The TCPs for the construction processes are provided in Appendix D.

4.10 Pedestrian and Cyclist Management

Pedestrians walking on the existing concrete footpath along the eastern side of Osborn

Road and western side of Mount Pleasant Avenue will be protected by temporary construction fencing. RMS accredited traffic controllers/trained on-site personnel will supervise all vehicle and materials movements into and out of the site as well as loading/unloading activities across the driveways at all times. Pedestrians shall have access to the footpath at all times.

It is noted that there are no bicycle routes in the vicinity of the site.

4.11 Fencing

Temporary site security and dust fencing will be installed along the site boundary.

4.12 Impact on Public Transport Services

The heavy vehicle haulage routes will largely be limited on arterial and sub-arterial roads which are designed to accommodate heavy vehicle movements.

As such, the impacts on public transport services will be minimal on the approach/departure routes.

While the truck route will overlap with this bus route during the construction period, it is not expected that traffic generation of no more than 18 vehicle trips per day would be adverse to the efficiency of existing bus service.

4.13 Impact on Pedestrians

During construction, pedestrian movements along Osborn Road and Mount Pleasant Avenue are to operate and be maintained as existing.

The trucks will share the existing driveway on Osborn Road with the staff vehicles during the reconfiguration of P2 Admin/Chapel and Pennant Hills carpark.

To ensure safe operation of the school at all times, all construction-related traffic movements along Osborn Road and Mount Pleasant Avenue will occur under the supervision of accredited traffic controllers, with trucks escorted between the site accesses and Osborn Road/Mount Pleasant Avenue.

To ensure road safety and network efficiency especially those in relation to the school traffic (pedestrians and vehicles) movements, it is advised that truck movements are managed, wherever possible, to occur outside of peak commuting and school's peak periods.

4.14 Impact on Emergency Vehicle Access

Access to the site and neighbouring sites by emergency vehicles would not be affected by the proposed construction activities. Emergency protocols on the site would indicate a requirement for the traffic controller to assist with emergency access from Osborn Road and Mount Pleasant Avenue. All truck movements to the site construction zone and the incident point would be suspended and cleared. Consequently, any potential impacts on emergency access would be effectively managed throughout the works.

The liaison would be maintained with the ambulance, fire services, police and other emergency services agencies throughout the construction period, and a 24-hour contact would be made available for 'out-of-hours' emergencies and access. As such, there would be no adverse impacts on the provision of existing emergency vehicle access to the site or other neighbouring properties as a result of the proposed construction activities.

4.15 Public Notification

The contractor would prepare notification letters, under the approval of Council, that would be emailed to adjoining property owners, to advise of the timeframes for completion of each phase of the development/construction process. The notification will be provided a minimum of 14 days prior to the implementation of any temporary traffic

control measure.

4.16 Impact on Neighboring Properties

Access to neighbouring properties will be maintained at all times. Workers/ subcontractors will be directed not to park their vehicles at the driveways of the neighbouring properties. This will be incorporated into the site induction program. The contractor would take appropriate action if informed of this activity occurring.

4.17 Spoil Management

To ensure that soil/excavated material is not transported on wheels or tracks of vehicles or plant and deposited on surrounding roadways, wheel wash station will be positioned at the entry/exit point.

4.18 Road Serviceability

The contractor will be responsible for ensuring that the road pavement, kerb and gutter along Osborn Road and Mount Pleasant Avenue, remain in clean and serviceable states during the course of the construction.

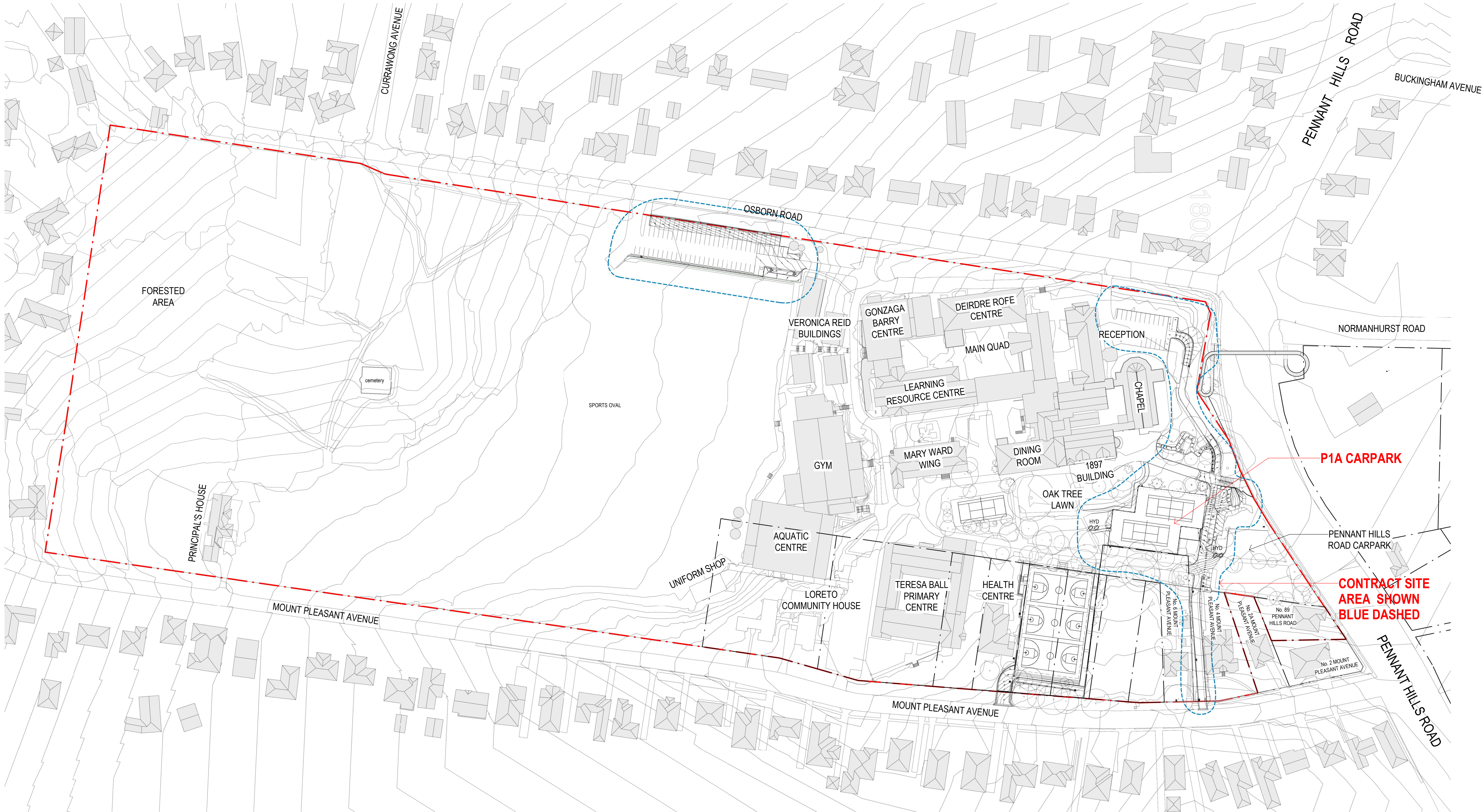
4.19 Combined Construction Activities

There are currently no on-going or planned construction sites within 250m of the site except for the minor Loreto Refurbishments Works (Aquatic Centre, Mary Ward block & Staff room).

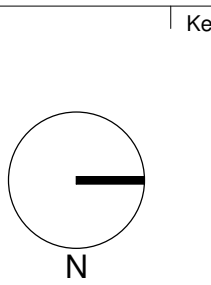
Should there be other contractors undertaking major development works prior to the start of and during the construction works on-site, the CTMP will be updated based on engagement and consultation with these contractors to ensure that appropriate measures are in place to prevent the combined impact of construction activities, such as (but not limited to) concrete pours, crane lifts and dump truck routes.

Appendix A

Approved Development Plans



Revisions No.	Date	Description	Ver	App'd
1	02.06.21	ISSUED FOR CONSULTANT USE	HJ	PH
2	11.06.21	ISSUED FOR PRELIMINARY REVIEW	HJ	PH
3	18.06.21	ISSUED FOR 60% TENDER	HJ	PH
4	09.07.21	ISSUED FOR TECH AUDIT + SUBCONSULTANT REVIEW	HJ	PH
5	15.07.21	ISSUED FOR TENDER PRESENTATION	HJ	PH
6	23.07.21	ISSUED FOR TENDER	HJ	PH
7	26.07.21	ISSUED FOR TENDER	HJ	PH



Client
LORETO NORMANHURST

 **Loreto Normanhurst**

Architect

AJ+C
ALLEN JACK + COTTIER

79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Project
LORETO NORMANHURST P1A CARPARK

91-93 PENNANT HILLS ROAD
NORMANHURST, NSW 2076

Proj. No. 18008

Drawing Title
SITE PLAN

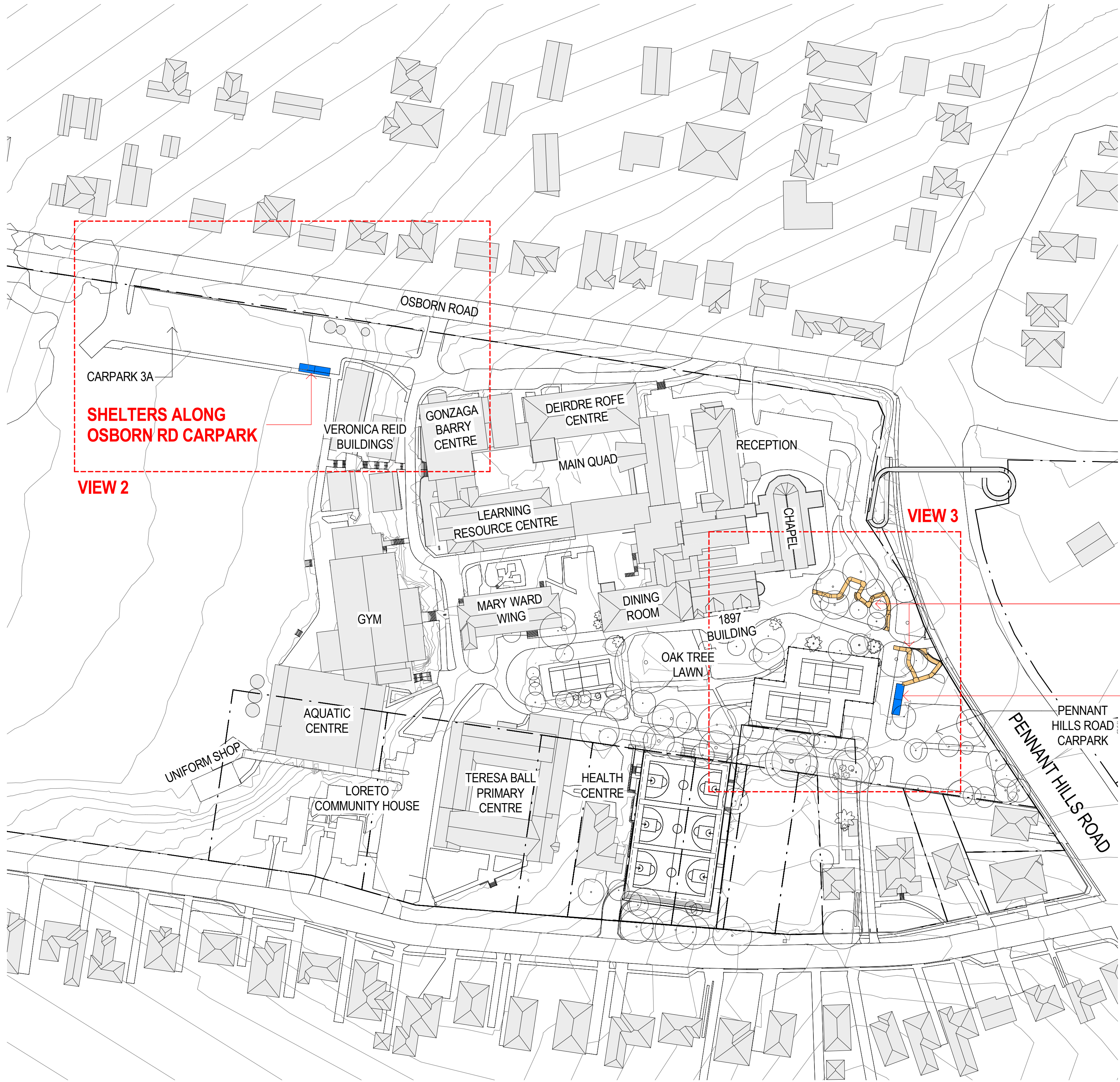
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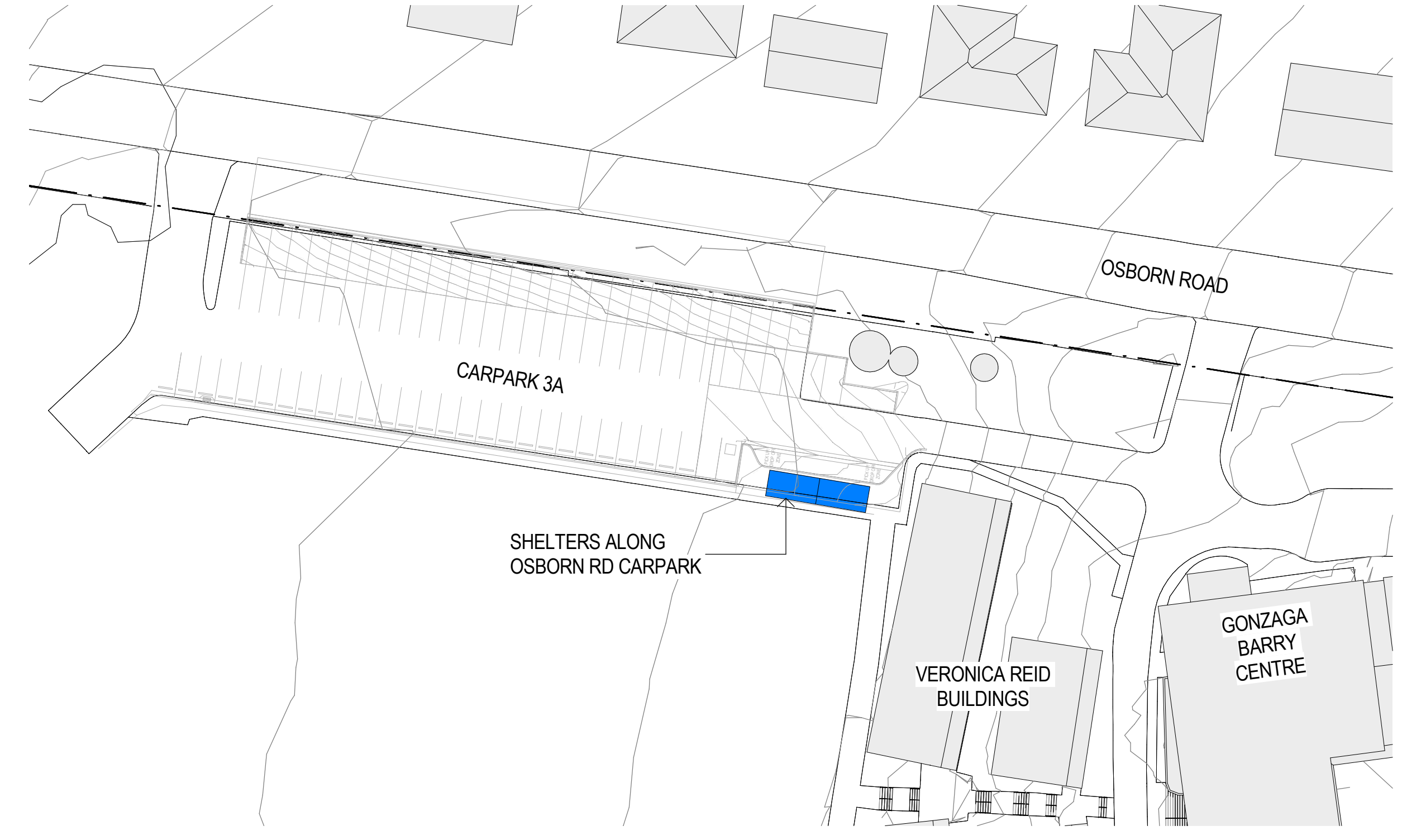
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Issue
7

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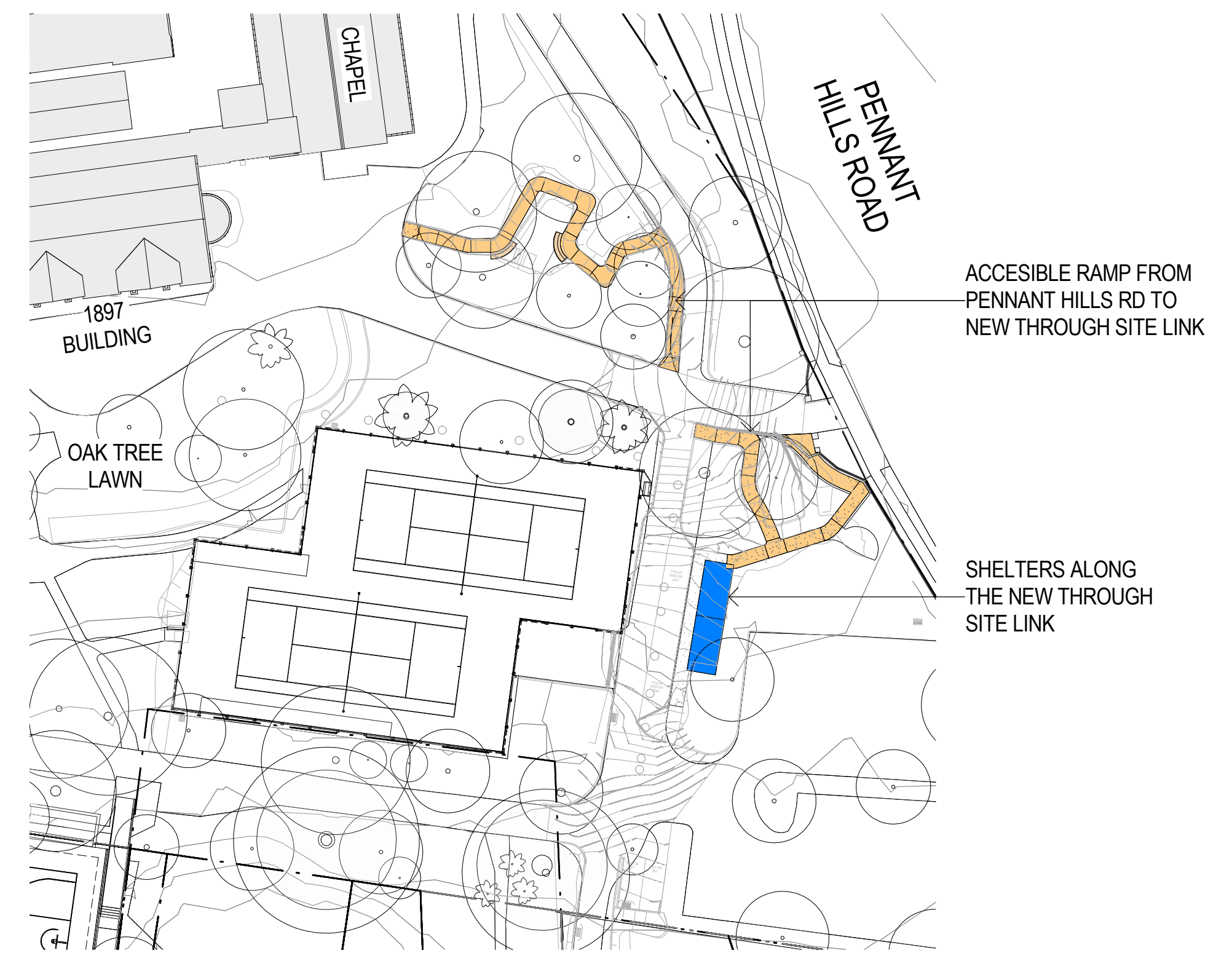
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2 SHELTERS
1:500

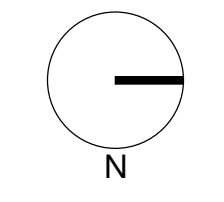
ACCESIBLE WALKWAY FROM PENNANT HILLS RD TO NEW THROUGH SITE LINK

SHELTERS ALONG THE NEW THROUGH SITE LINK



3 SHELTERS AND RAMPS
1:500

Revisions No.	Date	Description	Ver	App'd
1	03.08.21	FOR CLIENT SIGNOFF	KO	DG
2	09.08.21	DRAFT TENDER ISSUE	KO	DG
3	10.08.21	ISSUE FOR TENDER	KO	DG



Client
LORETO NORMANHURST

Architect

AJ+C
ALLEN JACK+COTTIER

79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Project
LORETO NORMANHURST P1A CARPARK

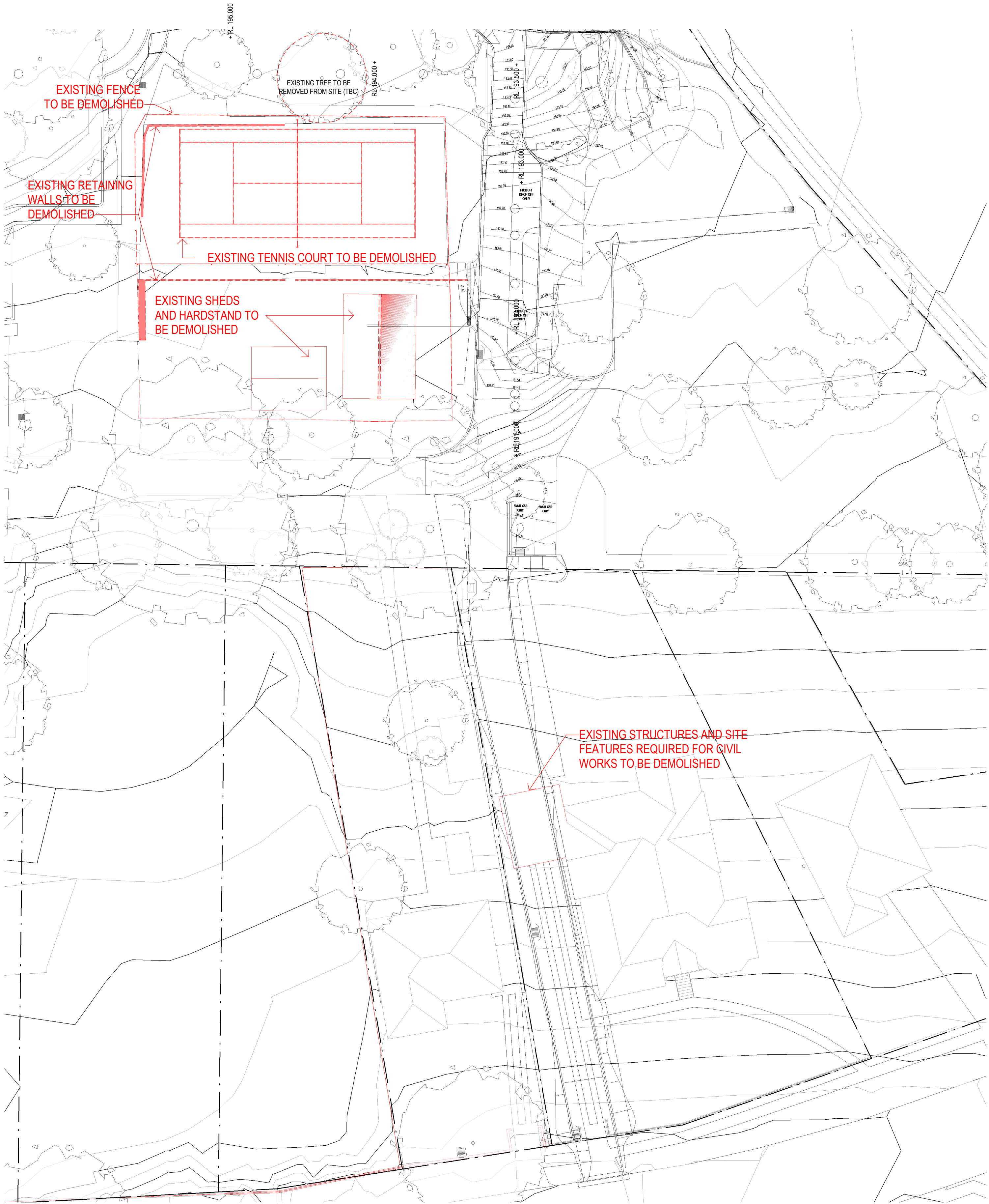
91-93 PENNANT HILLS ROAD
NORMANHURST, NSW 2076

Proj. No. 18008

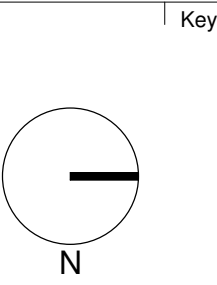
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SITE PLAN RAMPS AND SHELTERS

Sheet Status
NOT FOR CONSTRUCTION

Scale As indicated @A1	Drawing No. A1002	Issue 3
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Revisions No.	Date	Description	Ver	App'd
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2	11.06.21	ISSUED FOR PRELIMINARY REVIEW	HJ	PH
3	16.06.21	ISSUED FOR 60% TENDER	HJ	PH
4	09.07.21	ISSUED FOR TECH AUDIT + SUBCONSULTANT REVIEW	HJ	PH
5	15.07.21	ISSUED FOR TENDER PRESENTATION	HJ	PH
6	23.07.21	ISSUED FOR TENDER	HJ	PH



Client
LORETO NORMANHURST



Loreto Normanhurst

Architect



AJ+C
ALLEN JACK + COTTIER

79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Project
LORETO NORMANHURST P1A CARPARK

91-93 PENNANT HILLS ROAD
NORMANHURST, NSW 2076

Proj. No. 18008

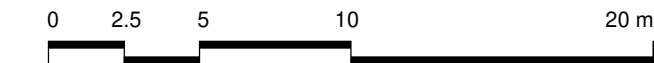
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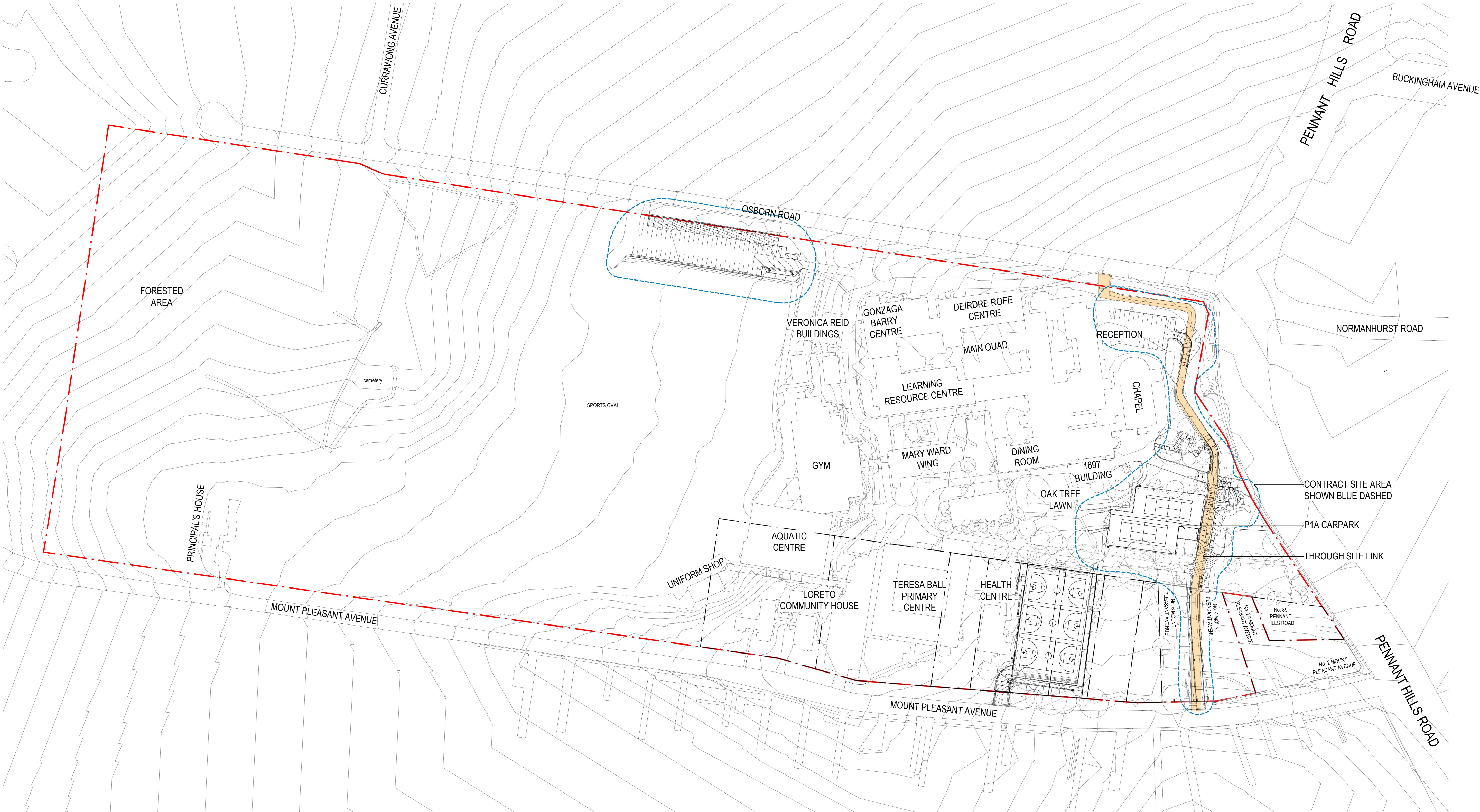
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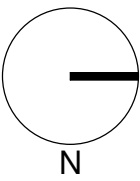
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3	09.07.21	ISSUED FOR TECH AUDIT + SUBCONSULTANT REVIEW	HJ	PH
4	15.07.21	ISSUED FOR TENDER PRESENTATION	HJ	PH
5	23.07.21	ISSUED FOR TENDER	HJ	PH
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Client
LORETO NORMANHURST

 **Loreto Normanhurst**

Architect

AJ+C
ALLEN JACK + COTTIER

79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Project
LORETO NORMANHURST P1A CARPARK

91-93 PENNANT HILLS ROAD
NORMANHURST, NSW 2076

Proj. No. 18008

Drawing Title
THROUGH-SITE LINK

Sheet Status
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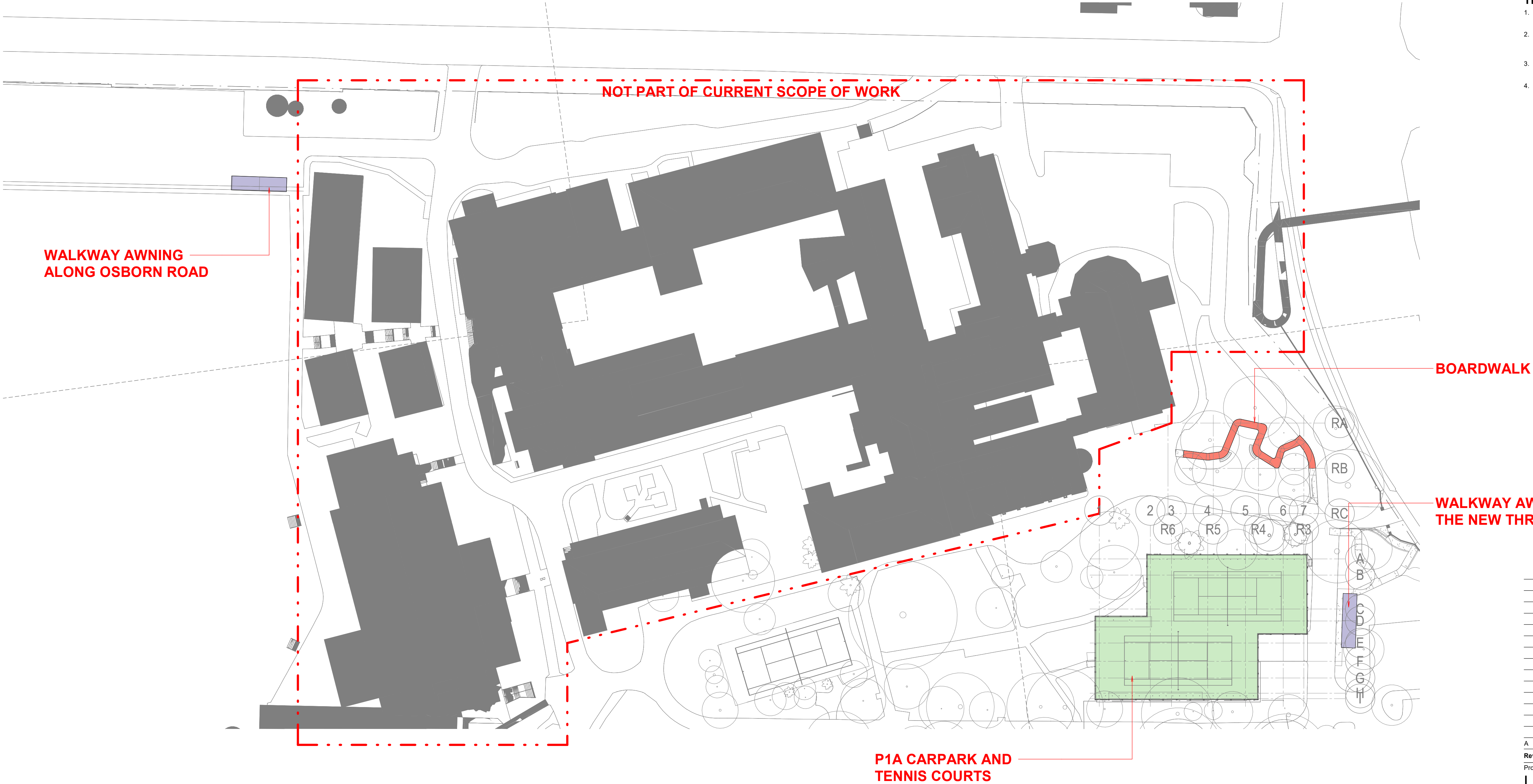
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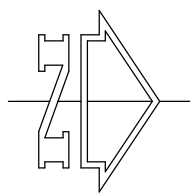
Issue
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TENDER NOTES

1. These drawings are preliminary drawings issued for tendering purposes only as an indication of the extent of works only. They are not a complete set of construction drawings and are not to be used for construction.
2. To determine the full extent of work, these drawings shall be read in conjunction with the architectural drawings and other contract documents. Allow for all items shown on architectural and other drawings as not all items are shown on the structural drawings.
3. Should any ambiguity, error, omission, discrepancy, inconsistency or other fault exist or seem to exist in the documents, immediately notify, in writing, to the superintendent.
4. Rates shown on these drawings are for the final structure in place and do not allow for any wastage, rolling margins, over supply or fabrication requirements etc.



 **SITE WORKS PLAN**
Scale: 1 : 500

Rev	Description	Eng	Draft	Date
A	ISSUED FOR TENDER	C.L.	M.P.	13.08.21

Project
**LORETO NORMANHURST
P1A - CARPARK**
91-93 PENNANT HILLS ROAD
NORMANHURST, NSW 2076
Sheet Subject
SITE WORKS PLAN

Client


Project Manager
**Carmichael Tompkins
Property Group**
Suite 14.04, Level 14
Aurora Place, 88 Phillip Street
Sydney NSW 2000


Architect
**Allen Jack+Cottier
Architects**
79 Myrtle Street Chippendale
NSW 2008 AUSTRALIA


Structural Engineer
 **Structural
Civil
Traffic
Façade**

+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale	Drawn	Authorised
1 : 500	Author	R.M

Job No	Drawing No	Revision
201435	S0002	A

FOR TENDER
NOT TO BE USED FOR CONSTRUCTION

13/08/2021 4:11:33 PM

TENDER NOTES

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- Rates shown on these drawings are for the final structure in place and do not allow for any wastage, rolling margins, over supply or fabrication requirements etc.

DENOTES TREE TO BE REMOVED. REFER ARCHITECTS DRAWINGS

STRUCTURAL ROOT ZONE (SRZ)

TREE PROTECTION ZONE (TPZ)

TREE PROTECTION KEY

ROCK CONTOUR KEY

- DENOTES CLASS IV SILTSTONE
--- DENOTES CLASS 5 SILTSTONE

RED DASHED LINE DENOTES EXISTING STRUCTURE. ALL FOOTINGS AND EXISTING STRUCTURES TO BE REMOVED. REFER ARCHITECTURAL DOCUMENTATION FOR RETENTION OF ANY STRUCTURES. **TYPICAL.**

REFER TO DRAWING S7001 FOR TYPICAL CARPARK AWNING FOOTING PLAN

A ISSUED FOR TENDER D.S. M.P. 30.07.21

Rev Description Eng Draft Date

Project

**LORETO NORMANHURST
P1A - CARPARK**

91-93 PENNANT HILLS ROAD
NORMANHURST, NSW 2076

Sheet Subject

**P1A - SHORING AND
FOOTING PLAN**

Client

**Loreto
Normanhurst**

Project Manager
Carmichael Tompkins
Property Group
Suite 14.04, Level 14
Aurora Place, 88 Phillip Street
Sydney NSW 2000

ctpg

Architect
**Allen Jack+Cottier
Architects**
79 Myrtle Street Chippendale
NSW 2008 AUSTRALIA

AJ+C
ALLEN JACK+COTTIER

Structural Engineer

TTW **Structural
Civil
Traffic
Façade**

+61 2 9439 7288 | L6 73 Miller Street North Sydney NSW 2065

Scale : A1 Drawn Authorised

As indicated M.P. R.M.

Job No Drawing No Revision

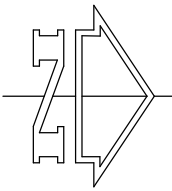
201435 S1001 A

30/07/2021 7:20:29 PM

S1001 A
Printed : 30/07/2021 7:20:29 PM

A1 0 1 2 3 4 5 6 7 8 9 10

PILE CAP SCHEDULE					
MARK	SIZE			REINFORCEMENT	
	LENGTH	WIDTH	DEPTH	LONG DIRECTION	SHORT DIRECTION
PC1	900	900	800	5N16 U-BARS TOP AND BOTTOM, 3N16 SIDE FACE BARS	5N16 U-BARS TOP AND BOTTOM, 3N16 SIDE FACE BARS



P1A - SHORING AND FOOTING PLAN

Scale: 1 : 100

NOTES:

- REFER TO ARCHITECTS DRAWINGS FOR LOCATION & SET OUT OF ALL COLUMNS, WALLS, HOBS, PLINTHS & SETDOWNS.
- REFER DRAWING S0000 FOR FOOTING NOTES REGARDING BEARING PRESSURE & ALLOWABLE SIDE SHEAR
- TOP OF FOOTINGS TO BE DETERMINED BY THE CONTRACTOR.
- ALL EXISTING SERVICES UNDER BUILDING FOOTPRINT TO BE LOCATED & REMOVED OR DIVERTED IN ACCORDANCE WITH THE SERVICE ENGINEERS REQUIREMENTS PRIOR TO INSTALLATION OF FOOTINGS AND PILES.
- CONTRACTOR TO ALLOW FOR GEOTECHNICAL ENGINEER TO INSPECT AND CERTIFY THAT THE REQUIRED BEARING CAPACITIES HAVE BEEN ACHIEVED BEFORE CASTING FOOTINGS
- SUBSTRATA CONTOURS ARE BASED OF LIMITED GEOTECHNICAL INFORMATION. THE CONTRACTOR IS TO ALLOW FOR ANY ADDITIONAL BOREHOLES THEY DEEM NECESSARY TO SATISFY THEMSELVES WITH ACTUAL STRATA LEVELS
- DENOTES BOREHOLE LOCATIONS. REFER TO GEOTECHNICAL REPORT
- ALL PILES / PADS ARE TO BE LOCATED CENTRALLY TO COLUMNS AND WALLS U.O
- ALLOW FOR MASS CONCRETE UNDER PAD FOOTING IF REQUIRED.
- DO NOT OVER EXCAVATE BELOW BULK EXCAVATION AND PAD/STRIP FOOTING DEPTH.
- DO NOT EXCAVATE TRENCHES DIRECTLY IN FRONT OF PILE TOES.

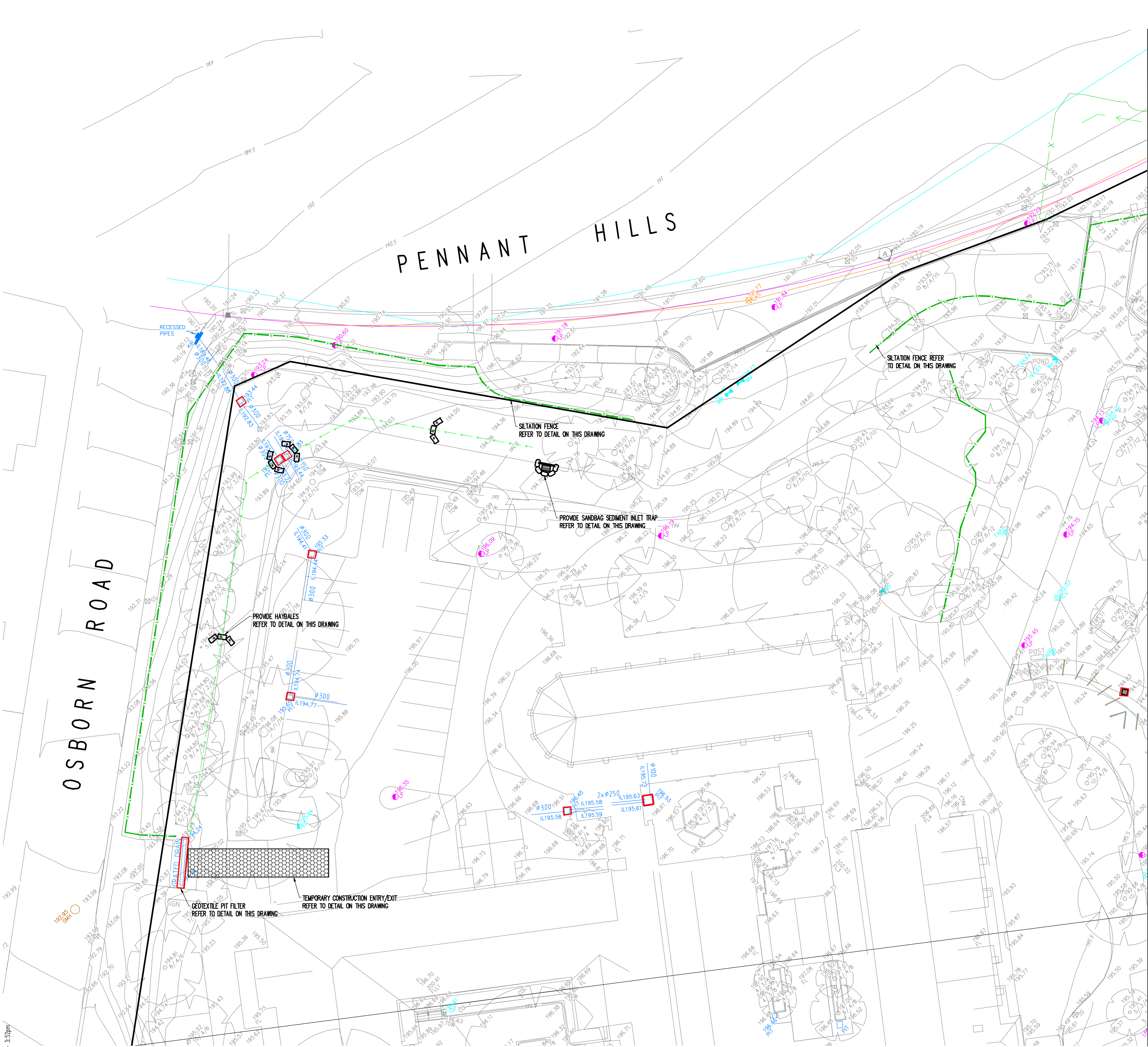
PILE SCHEDULE						
MARK	BEARING STRATA	DIAMETER	SOCKET LENGTH	f _c (MPa)	REINFORCEMENT	
					VERTICAL	TIES
P1	CLASS IV SILTSTONE	750	4000	40	6N24	N12-300

NOTE: SOCKET LENGTH IS THE SOCKET LENGTH REQUIRED INTO THE BEARING STRATA. NOT TOTAL SOCKET LENGTH IN ROCK.

PAD FOOTING SCHEDULE					
MARK	BEARING STRATA	LENGTH	WIDTH	DEPTH	REINFORCEMENT
PF1	CLASS V SILTSTONE	1500	1500	700	N16-200 EACH WAY EACH FACE

FOR TENDER
NOT TO BE USED FOR CONSTRUCTION

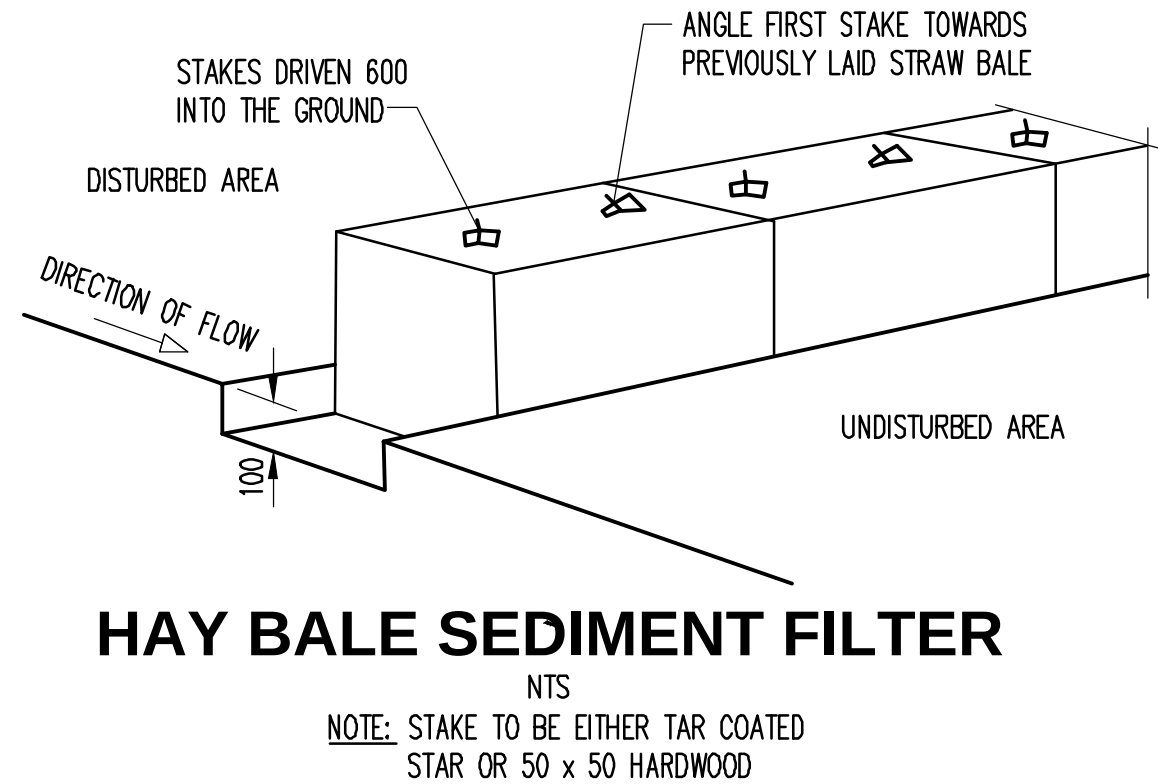
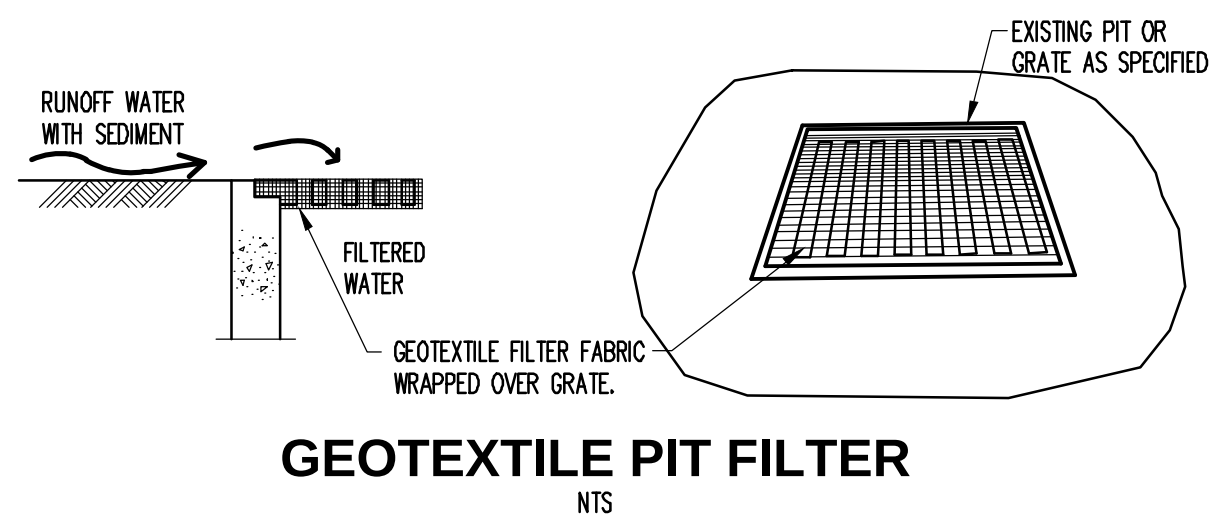
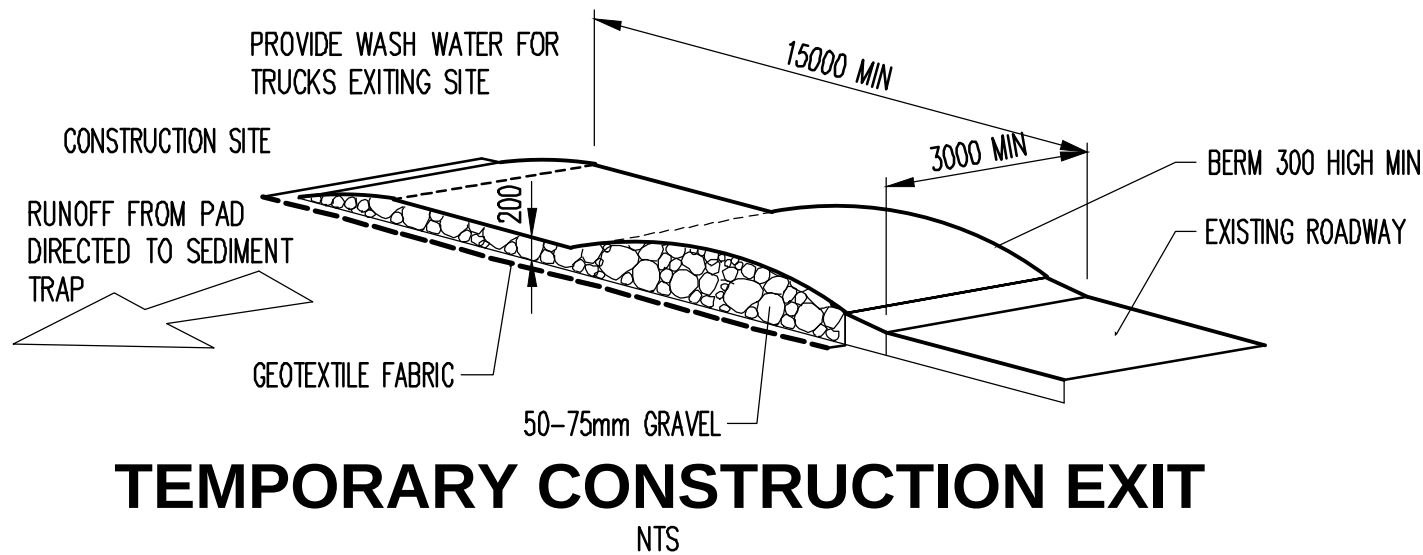
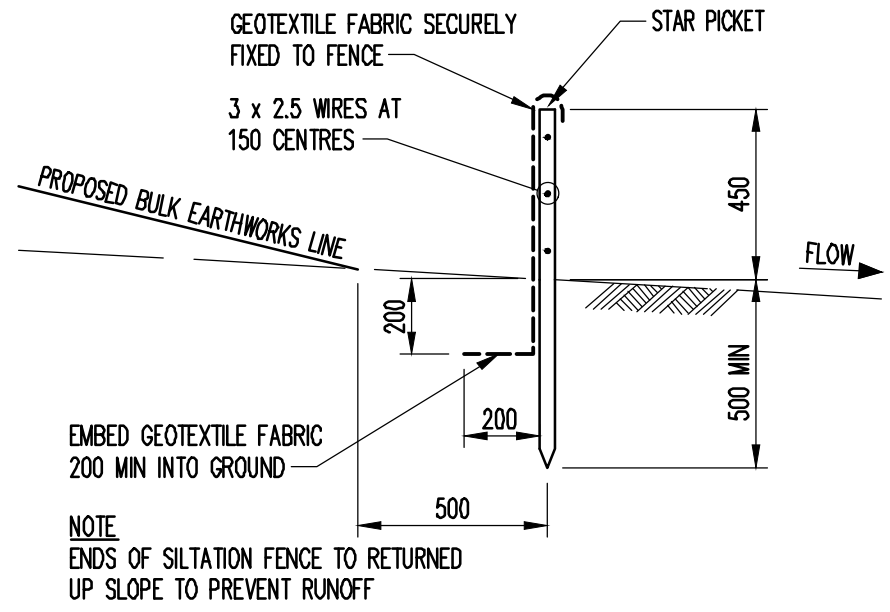
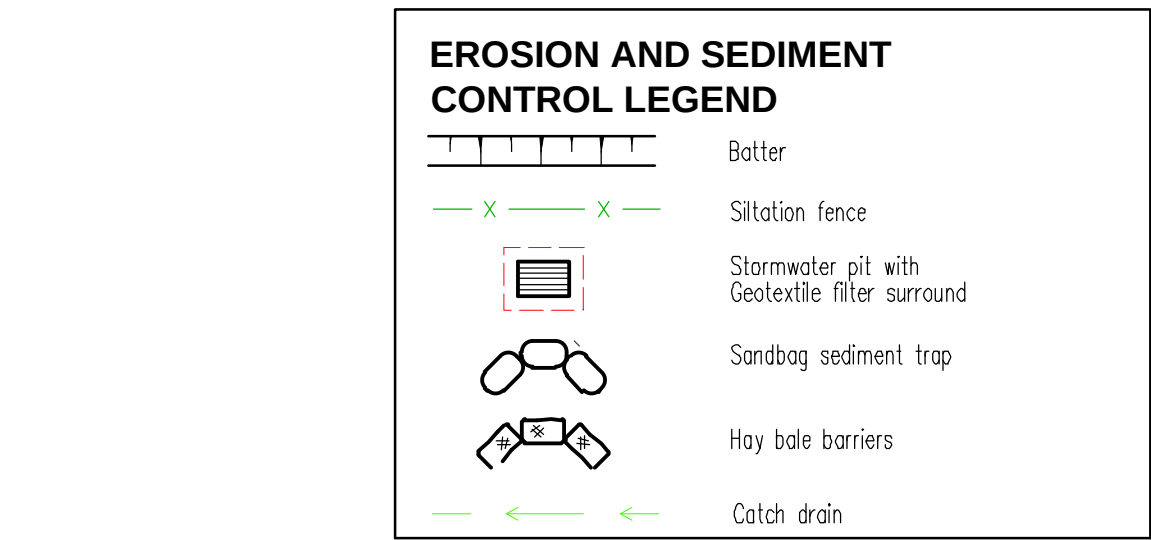
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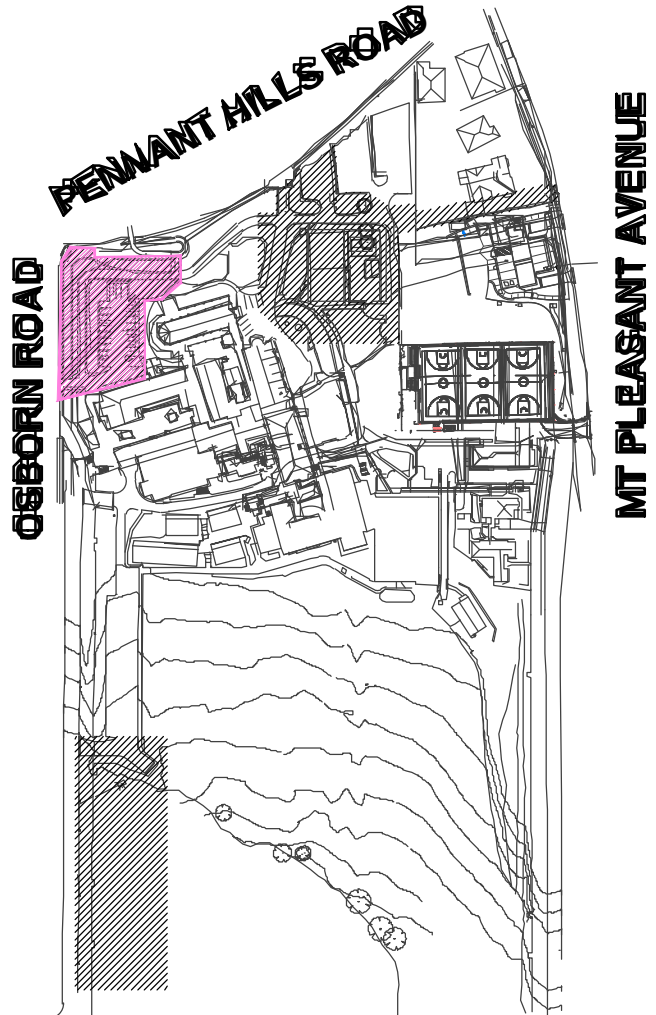
PLAN
SCALE 1: 250

TYPICAL SECTION THROUGH CATCH DRAIN
SCALE 1: 20

SANDBAG KERB INLET SEDIMENT TRAP
NTS



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KEY PLAN
EROSION AND SEDIMENT CONTROL NOTES

- All work shall be generally carried out in accordance with:
 - (A) Local authority requirements,
 - (B) EPA - Pollution control manual for urban stormwater,
 - (C) LANDCOM NSW - Managing Urban Stormwater: Soils and Construction ("Blue Book").
- Erosion and sediment control **drawings and notes are** provided for the whole of the works. Should the Contractor stage these works then the design may be required to be modified. Variation to these details may require approval by the relevant authorities. The erosion and sediment control **plan** shall be implemented and adapted to meet the varying situations as work on site progresses.
- Maintain all erosion and sediment control devices to the satisfaction of the superintendent and the local authority.
- When stormwater pits are constructed prevent site runoff entering the pits unless silt fences are erected around pits.
- Minimise the area of site being disturbed at any one time.
- Protect all stockpiles of materials from scour and erosion. Do not stockpile loose material in roadways, near drainage pits or in watercourses.
- All soil and water control measures are to be put back in place at the end of each working day, and modified to best suit site conditions.
- Control water from upstream of the site such that it does not enter the disturbed area.
- All construction vehicles shall enter and exit the site via the temporary construction entry/exit.
- All vehicles leaving the site shall be cleaned and inspected before leaving.
- Maintain all stormwater pipes and pits clear of debris and sediment. Inspect stormwater system and clean out after each storm event.
- Clean out all erosion and sediment control devices after each storm event.

Sequence Of Works

- Prior to commencement of excavation the following soil management devices must be installed:
 - Construct silt fences below the site and across all potential runoff sites.
 - Construct temporary construction entry/exit and divert runoff to suitable control systems.
 - Construct measures to divert upstream flows into existing stormwater system.
 - Construct sedimentation traps/basin including outlet control and overflow.
 - Construct turf lined swales.
 - Provide sandbag sediment traps upstream of existing pits.
- Construct geotextile filter pit surround around all proposed pits as they are constructed.
- On completion of pavement provide sand bag kerb inlet sediment traps around pits.
- Provide and maintain a strip of turf on both sides of all roads after the construction of kerbs.

WATER QUALITY TESTING REQUIREMENTS

Prior to discharge of site stormwater, groundwater and seepage water into council's stormwater system, contractors must undertake water quality tests in conjunction with a suitably qualified environment consultant outlining the following:

- Compliance with the criteria of the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)
- If required subject to the environmental consultants advice, provide remedial measures to improve the quality of water that is to be discharged into Councils storm water drainage system. This should include comments from a suitably qualified environmental consultant confirming the suitability of these remedial measures to manage the water discharged from the site into Councils storm water drainage system. Outlining the proposed, ongoing monitoring, contingency plans and validation program that will be in place to continually monitor the quality of water discharged from this site. This should outline the frequency of water quality testing that will be undertaken by a suitably qualified environmental consultant.

ISSUE FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION

A1 0 1 2 3 4 5 6 7 8 9 10

A	ISSUE FOR TENDER	GC	LW	23.07.21					
P5	ISSUE FOR INFORMATION	GC	LW	16.07.21					
P4	ISSUE FOR INFORMATION	GC	LW	02.06.21					
P3	ISSUE FOR SSDA	GC	JH	17.12.20					
P2	ISSUE FOR DRAFT SSDA	GC	LW	30.11.20					
P1	ISSUE FOR DRAFT SSDA	GC	LW	30.10.20	B	ISSUE FOR TENDER	GC	LW	13.08.21
Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date

Architect
AJ+C
ALLEN JACK & COTTIER
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Engineer
TTW Structural Civil Traffic Façade
612 9439 7268 | 48 Chandos Street St Leonards NSW 2065

Project
LORETO NORMANHURST
P1A, P3A AND THROUGH
SITE LINK

Sheet Subject
EROSION & SEDIMENT
CONTROL PLAN SHEET 1
AND DETAILS

Scale : A1
1:250 U.N.O

Drawn
JH

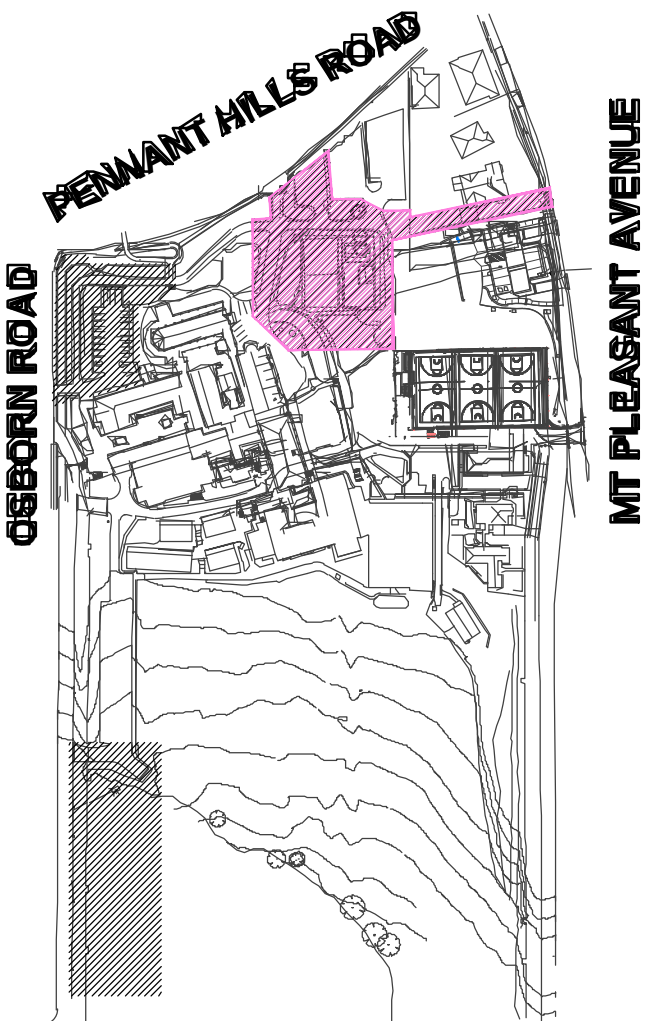
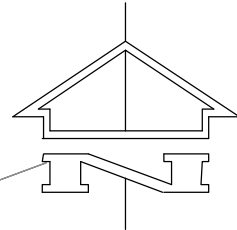
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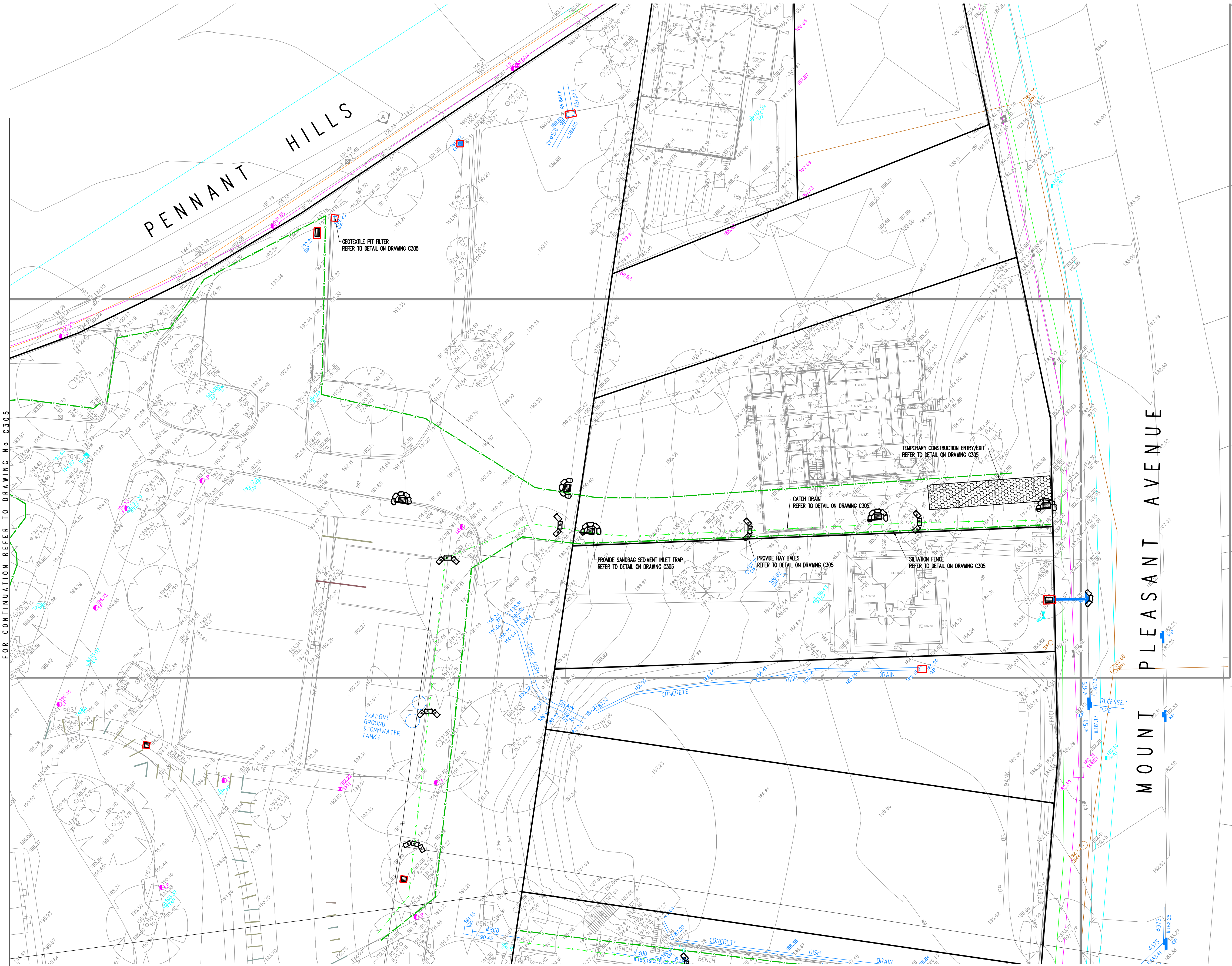
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Revision
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Plot File Created: Aug 13, 2021 - 3:52pm



KEY PLAN



PLAN
SCALE 1: 250

EROSION AND SEDIMENT
CONTROL LEGEND

- Batter
- Siltation fence
- Stormwater pit with Geotextile filter surround
- Sandbag sediment trap
- Hay bale barriers
- Catch drain

0 2.5 5 7.5 10 12.5 15 17.5 20m

1:250 A1 1:500 A3

ISSUE FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION

Filename: C306.dwg USER: jwh - Proj File Created: Aug 13, 2021 - 3:53pm

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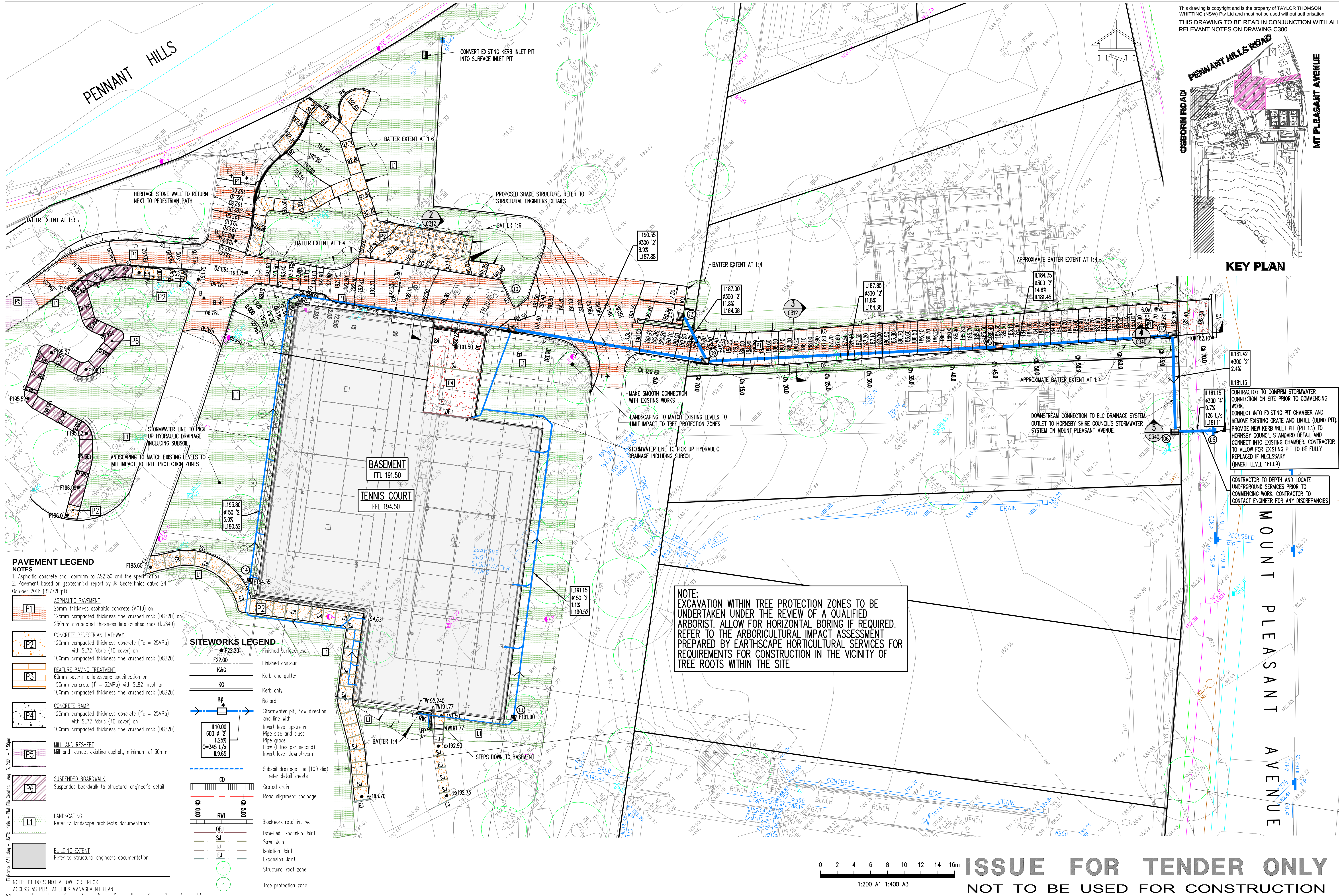
Architect
AJ+O
ALLEN JACK & COTTIER
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Engineer
TTW Structural
Civil
Traffic
Façade
612 9439 7268 | 48 Chandos Street St Leonards NSW 2065

Project
LORETO NORMANHURST
P1A, P3A AND THROUGH
SITE LINK

Sheet Subject
EROSION & SEDIMENT
CONTROL PLAN SHEET 2

Scale : A1 1:250	Drawn JH	Authorised SB
Job No 201435	Drawing No C306	Revision B
Plot File Created: Aug 13, 2021 - 3:53pm		



PAVEMENT LEGEND
NOTES
1. Asphaltic concrete shall conform to AS2150 and the specification
2. Pavement based on geotechnical report by JK Geotechnics dated 24 October 2018 (31772/rpt)

- ASPHALTIC PAVEMENT**
P1 25mm thickness asphaltic concrete (AC10) on 125mm compacted thickness fine crushed rock (DGB20) on 250mm compacted thickness fine crushed rock (DGS40)
- CONCRETE PEDESTRIAN PATHWAY**
P2 120mm compacted thickness concrete (f_c = 25MPa) with SL72 fabric (40 cover) on 100mm compacted thickness fine crushed rock (DGB20)
- FEATURE PAVING TREATMENT**
P3 60mm pavers to landscape specification on 150mm concrete (f_c = 32MPa) with SL82 mesh on 100mm compacted thickness fine crushed rock (DGB20)
- CONCRETE RAMP**
P4 125mm compacted thickness concrete (f_c = 25MPa) with SL72 fabric (40 cover) on 100mm compacted thickness fine crushed rock (DGB20)
- MILL AND RESHEET**
P5 Mill and resheet existing asphalt, minimum of 30mm
- SUSPENDED BOARDWALK**
P6 Suspended boardwalk to structural engineer's detail
- LANDSCAPING**
L1 Refer to landscape architects documentation
- BUILDING EXTENT**
Refer to structural engineers documentation

SITEWORKS LEGEND

- Finished surface level
K&G Kerb and gutter
KO Kerb only
B# Bollard
Stormwater pit, flow direction and line with
Invert level upstream
Pipe size and class
Pipe grade
Flow (Litres per second)
Invert level downstream
Subsail drainage line (100 dia) - refer detail sheets
Grated drain
Road alignment chainage
Blockwork retaining wall
Dowelled Expansion Joint
Sawn Joint
Isolation Joint
Expansion Joint
Structural root zone
Tree protection zone

NOTE: P1 DOES NOT ALLOW FOR TRUCK ACCESS AS PER FACILITIES MANAGEMENT PLAN

P6	ISSUE FOR INFORMATION	GC	LW	02.06.21	B	ISSUE FOR TENDER	GC	LW	13.08.21
P5	ISSUE FOR SSDA	GC	JH	17.12.20	A	ISSUE FOR TENDER	GC	LW	23.07.21
P4	ISSUE FOR SSDA	GC	JH	09.12.20	P9	ISSUE FOR INFORMATION	GC	LW	23.07.21
P3	ISSUE FOR DRAFT SSDA	GC	LW	30.11.20	P8	ISSUE FOR INFORMATION	GC	LW	16.07.21
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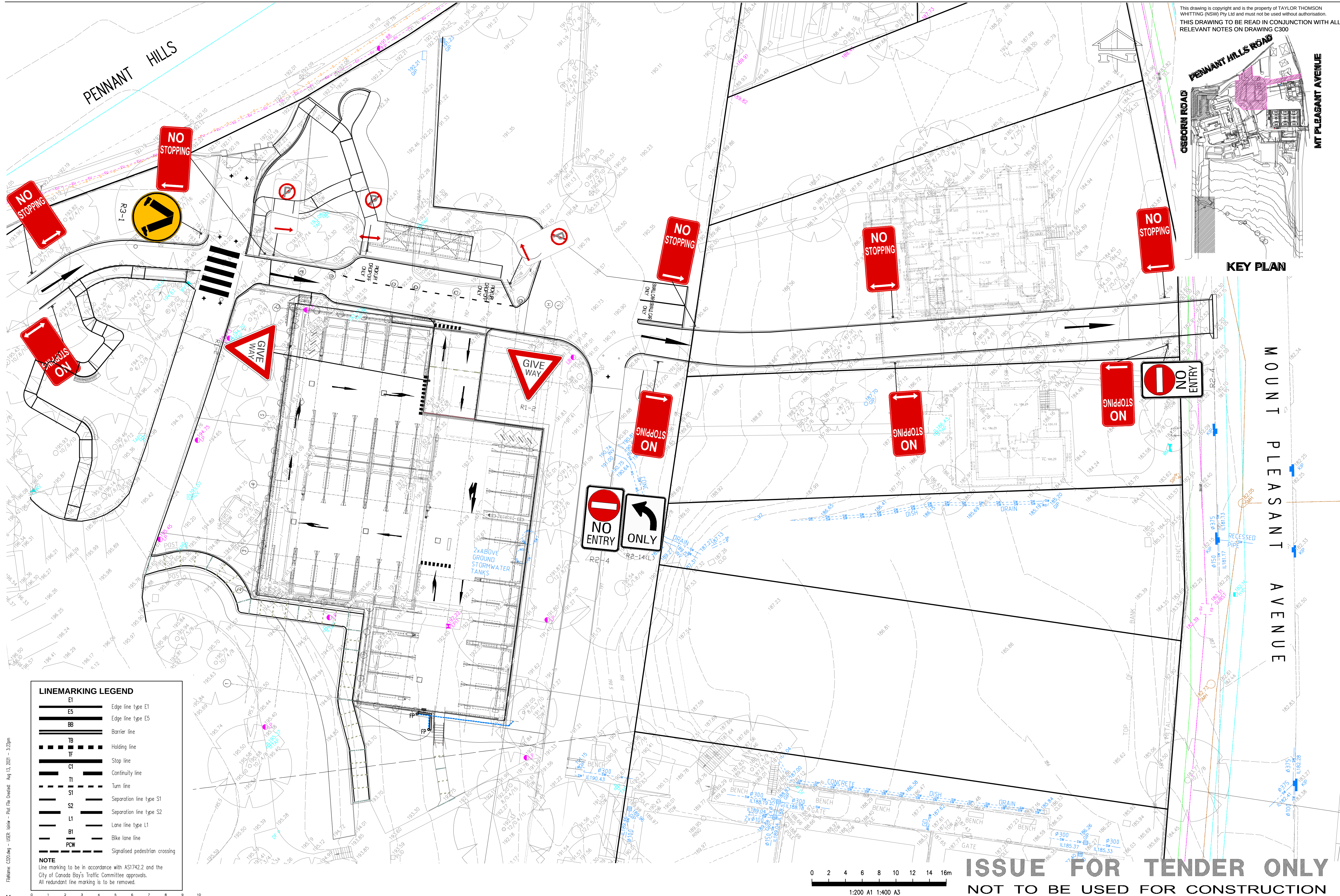
Architect
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Engineer
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612 9439 7268 | 48 Chandos Street St Leonards NSW 2065

Project
LORETO NORMANHURST
P1A, P3A AND THROUGH
SITE LINK

Sheet Subject
SITWORKS & PAVEMENT PLAN
SHEET 2

Scale: A1
1:200
Job No
201435
Drawing No
C311
Revision
B
Authorised
SB
Plot File Created: Aug 13, 2021 - 3:50pm



LINEMARKING LEGEND	
E1	Edge line type E1
E5	Edge line type E5
B8	Barrier line
TB	Holding line
TF	Stop line
C1	Continuity line
T1	Turn line
S1	Separation line type S1
S2	Separation line type S2
L1	Lane line type L1
B1	Bike lane line
PCW	Signalised pedestrian crossing
NOTE	
Line marking to be in accordance with AS1742.2 and the City of Canada Bay's Traffic Committee approvals. All redundant line marking is to be removed.	

Filename: C300.dwg - USER: jwh - Plot File Created: Aug 13, 2021 - 3:22pm

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P2	ISSUE FOR INFORMATION	GC	LW	16.07.21
P1	ISSUE FOR INFORMATION	GC	LW	02.06.21
Rev	Description	Eng	Draft	Date

Rev	Description	Eng	Draft	Date
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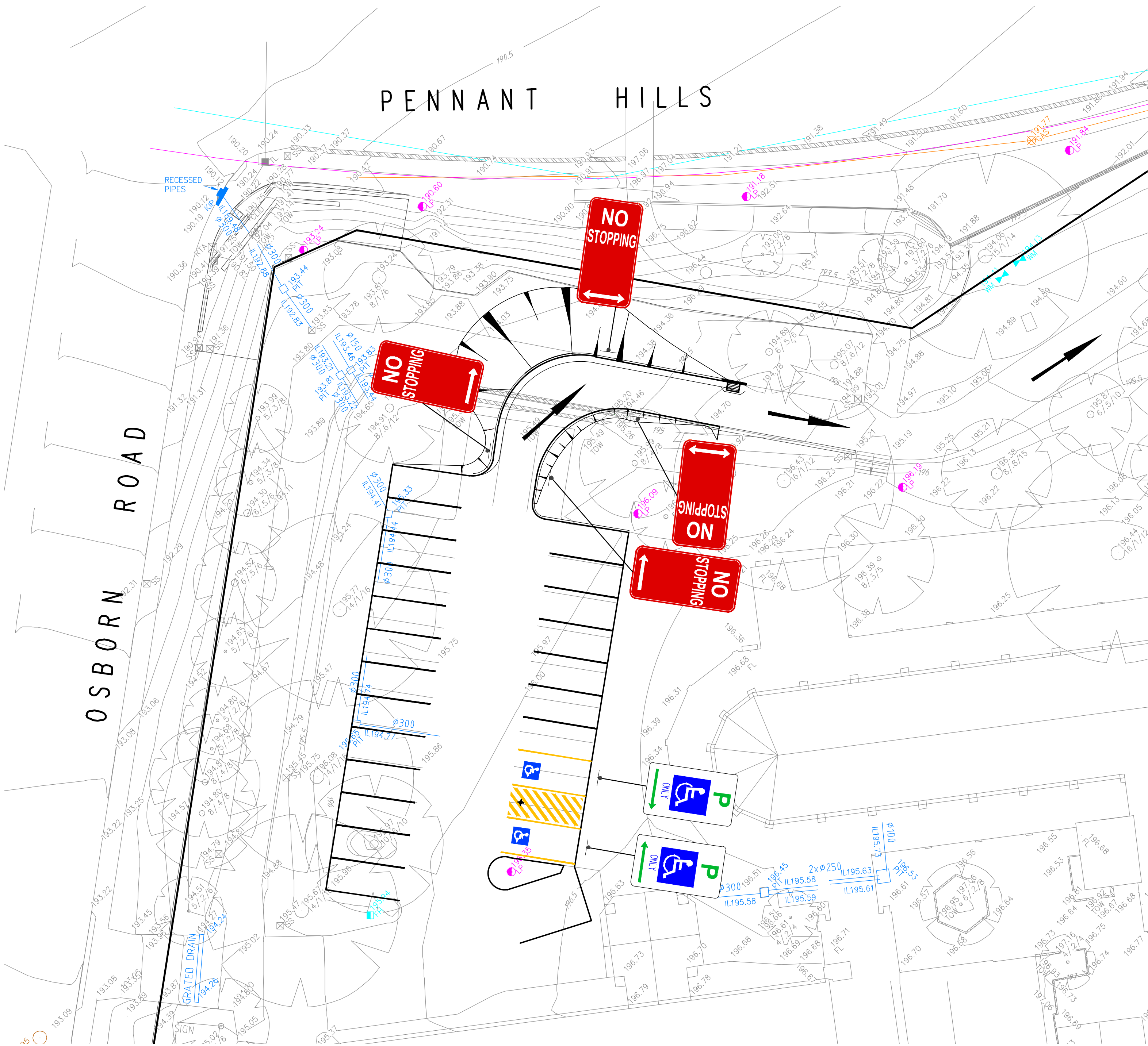
Architect
AJ+C
ALLEN JACK & COTTIER
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Engineer
TTW Structural Civil Traffic Façade
612 9439 7268 | 48 Chandos Street St Leonards NSW 2065

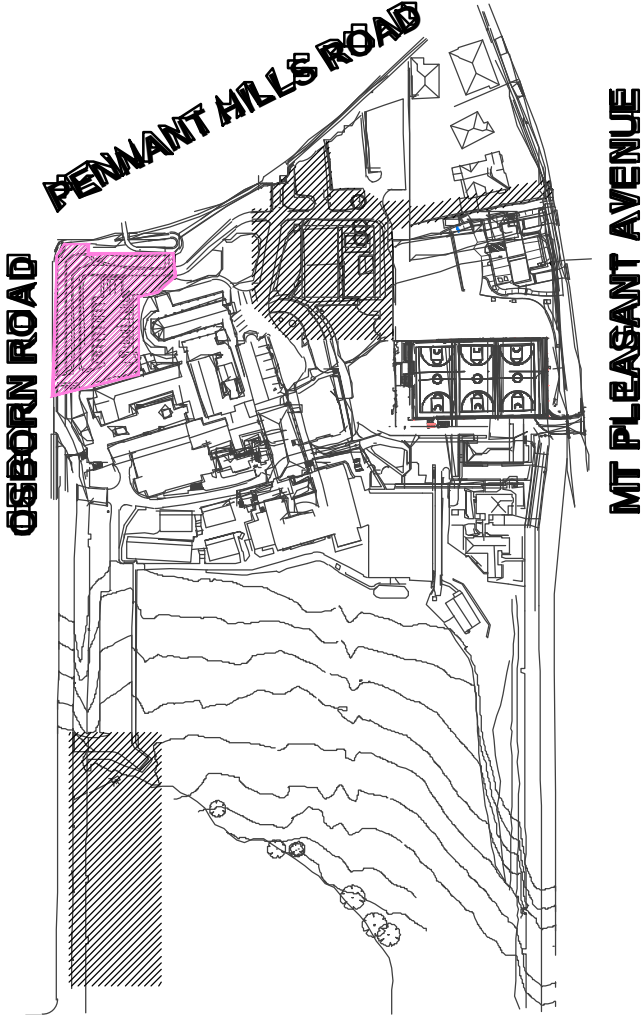
Project
LORETO NORMANHURST
P1A, P3A AND THROUGH
SITE LINK

Sheet Subject
SIGNAGE AND LINEMARKING
PLAN

Scale: A1 1:200	Drawn JH	Authorised SB
Job No 201435	Drawing No C320	Revision B
Plot File Created: Aug 13, 2021 - 3:22pm		



PLAN
SCALE 1: 200



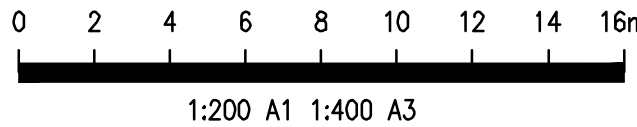
KEY PLAN

LINEMARKING LEGEND

E1	Edge line type E1
E5	Edge line type E5
BB	Barrier line
TB	Holding line
TF	Stop line
CI	Continuity line
T1	Turn line
S1	Separation line type S1
S2	Separation line type S2
L1	Lane line type L1
B1	Bike lane line
PCW	Signalised pedestrian crossing

NOTE

Line marking to be in accordance with AS1742.2 and the City of Canada Bay's Traffic Committee approvals. All redundant line marking is to be removed.



ISSUE FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION

A1 0 1 2 3 4 5 6 7 8 9 10

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P2	ISSUE FOR INFORMATION	GC	LW	16.07.21					
P1	ISSUE FOR INFORMATION	GC	LW	02.06.21					
Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date

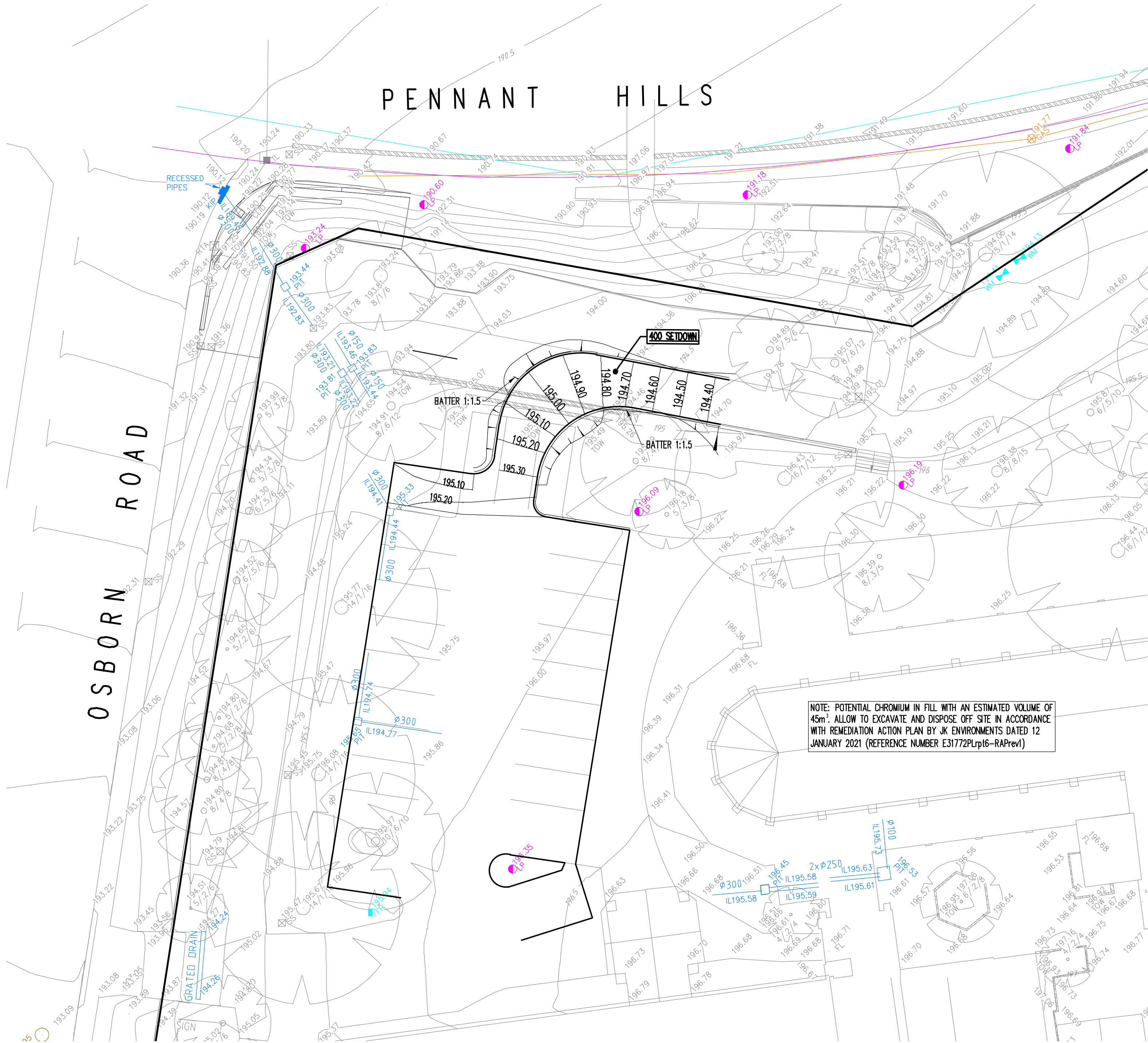
Architect
AJ+C
ALLEN JACK & COTTIER
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Engineer
TTW **Structural Civil Traffic Façade**
612 9439 7268 | 48 Chandos Street St Leonards NSW 2065

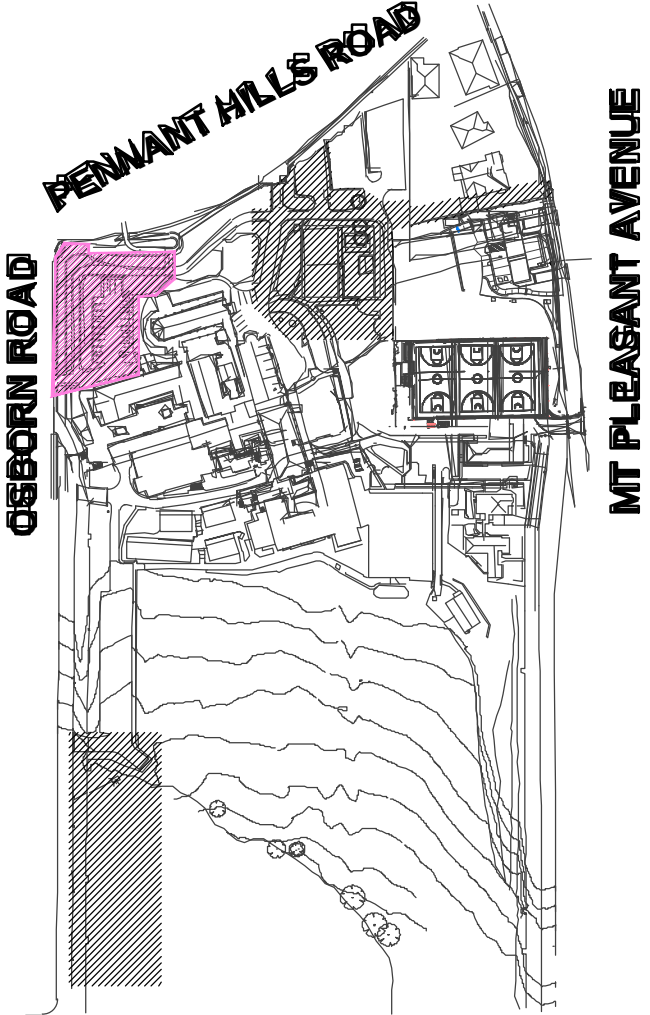
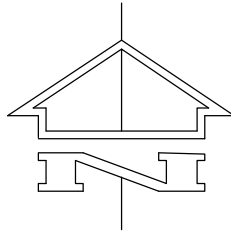
Project
LORETO NORMANHURST
P1A, P3A AND THROUGH
SITE LINK

Sheet Subject
SIGNS AND LINEMARKING
PLAN SHEET 2

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AS SHOWN	JH	SB
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201435	C321	B
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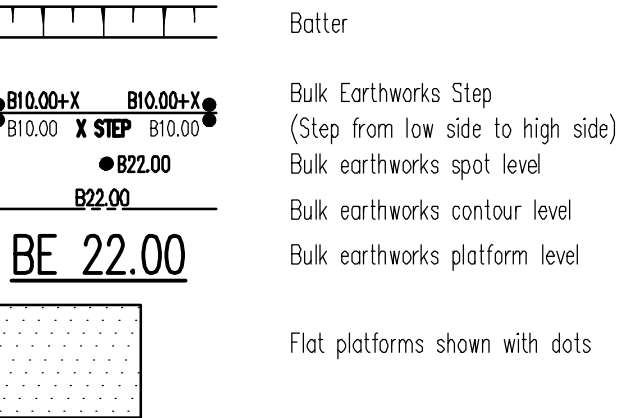


PLAN
SCALE 1: 200

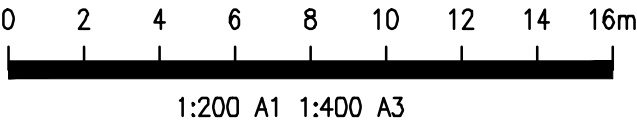


KEY PLAN

BULK EARTHWORKS LEGEND



NOTE: POTENTIAL CHROMIUM IN FILL WITH AN ESTIMATED VOLUME OF 45m³. ALLOW TO EXCAVATE AND DISPOSE OFF SITE IN ACCORDANCE WITH REMEDIATION ACTION PLAN BY JK ENVIRONMENTS DATED 12 JANUARY 2021 (REFERENCE NUMBER E31772PLrpt6-RAPrev1)



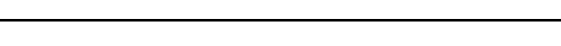
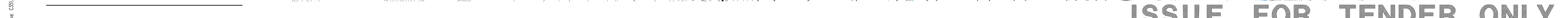
ISSUE FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION

A1 0 1 2 3 4 5 6 7 8 9 10

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A ISSUE FOR TENDER				GC	LW	23.07.21				
P3 ISSUE FOR INFORMATION				GC	LW	16.07.21				
P2 ISSUE FOR INFORMATION				GC	LW	02.06.21				
P1 ISSUE FOR DRAFT SSDA				GC	LW	01.04.21				
Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date	

Architect	Engineer	Project	Sheet Subject
 79 Myrtle Street Chippendale NSW 2008 AUSTRALIA ph +61 2 9311 8222 fx +61 2 9311 8200 ABN 53 003 782 250	 Structural Civil Traffic Façade 612 9439 7268 48 Chandos Street St Leonards NSW 2065	LORETO NORMANHURST P1A, P3A AND THROUGH SITE LINK	BULK EARTHWORKS - SHEET 1

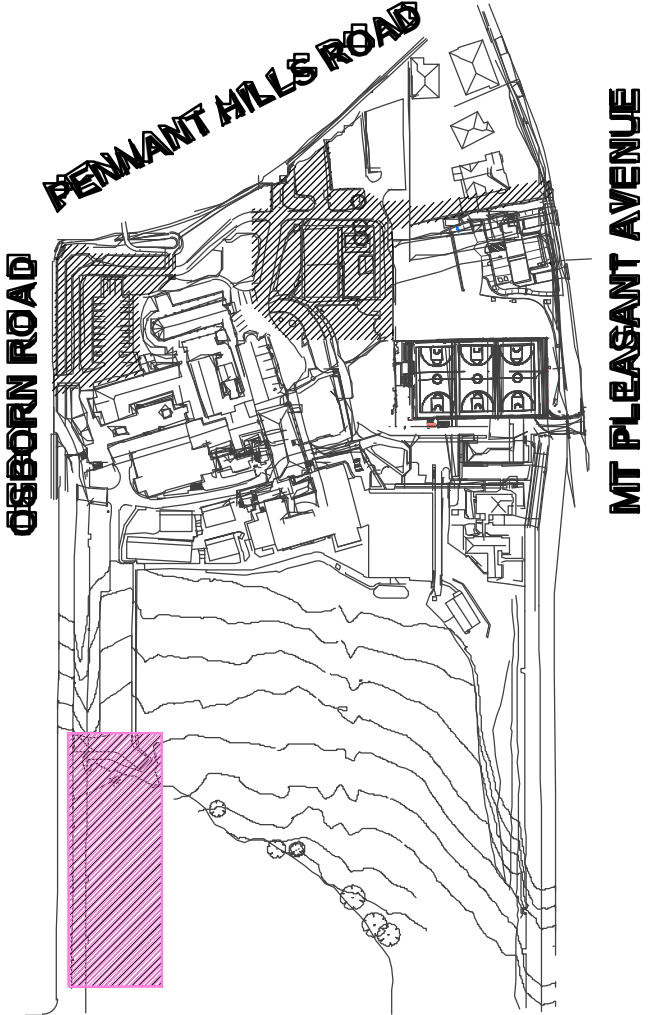
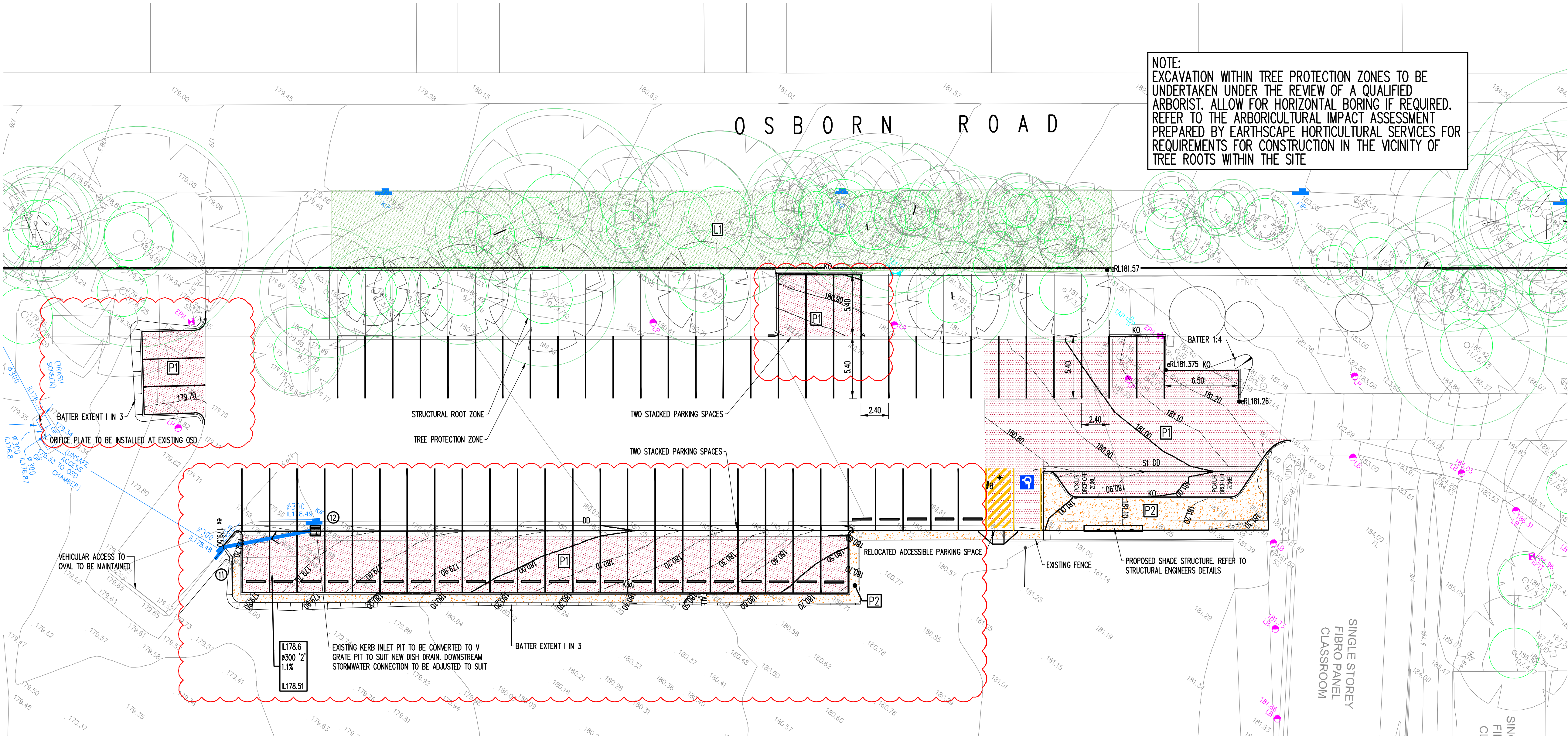
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AS SHOWN	LW	
Job No	Drawing No	Revision
201435	C350	B
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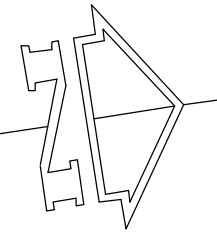
BATTER 1:3

19113

	Student's Name	Course: M	Page:	Authorized
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KEY PLAN

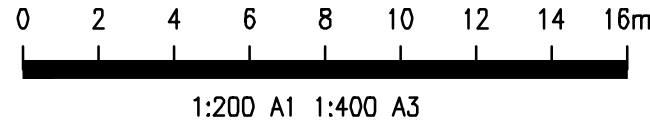


SITeworks LEGEND

- F22.20 Finished surface level
- F22.00 Finished contour
- KO Kerb only
- DD Dish drain
- Stormwater pit, flow direction and line with:
 - Invert level upstream
 - Pipe size and class
 - Pipe grade
 - Flow (Litres per second)
 - Invert level downstream
- Wheelstop
- Bollard
- Structural root zone
- Tree protection zone

PAVEMENT LEGEND

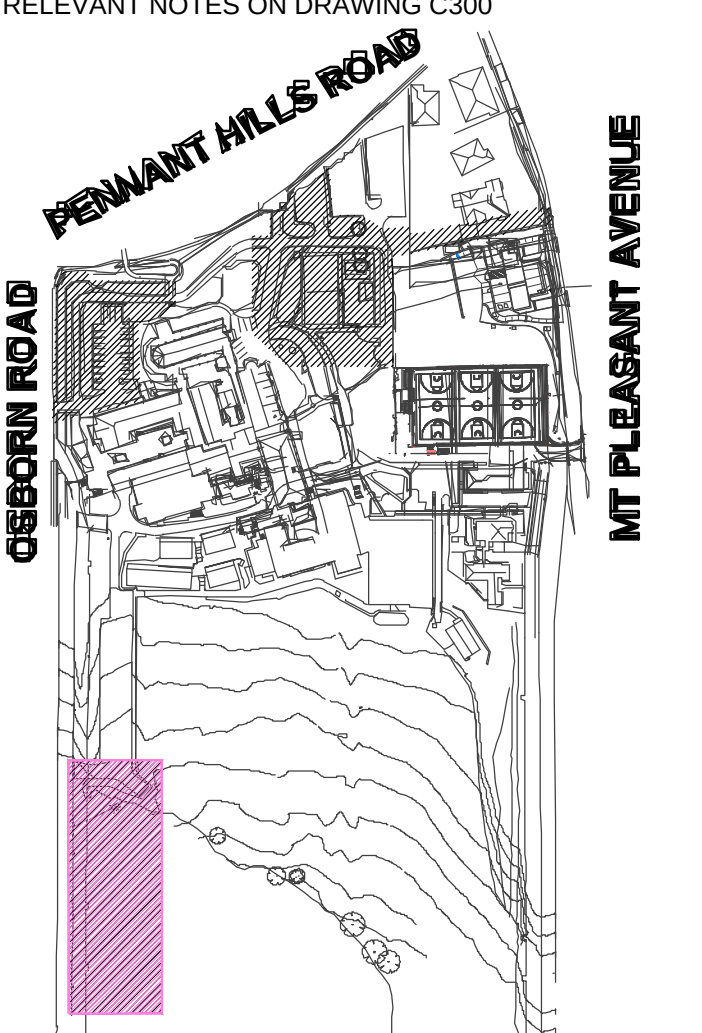
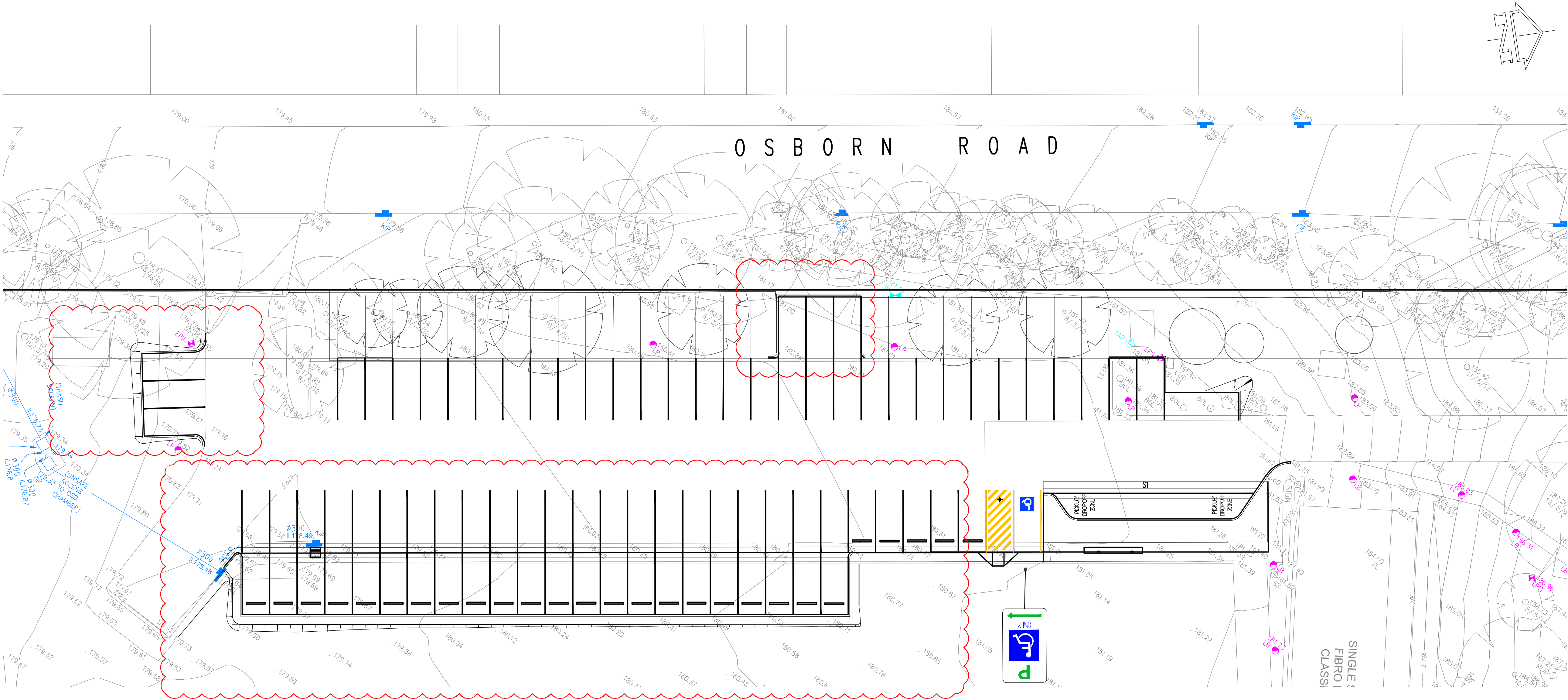
- NOTES
- Asphaltic concrete shall conform to AS2150 and the specification
 - Pavement based on geotechnical report by JK Geotechnics dated 24 October 2018 (31772Lrpt)
- ASPHALTIC PAVEMENT**
30mm thickness asphaltic concrete (AC10) on 125mm compacted thickness fine crushed rock (DGB20) on 250mm compacted thickness fine crushed rock (DGS40)
 - CONCRETE PEDESTRIAN PATHWAY**
120mm compacted thickness concrete ($f_c = 25\text{MPa}$) with SL72 fabric (40 cover) on 100mm compacted thickness fine crushed rock (DGB20)
 - LANDSCAPING**
Refer to landscape architects documentation
- NOTE: P1 DOES NOT ALLOW FOR TRUCK ACCESS AS PER FACILITIES MANAGEMENT PLAN



ISSUE FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION

Filename: C:\03\dwg USER: jwh - Plot File Created: Sep 16, 2021 - 2:38pm

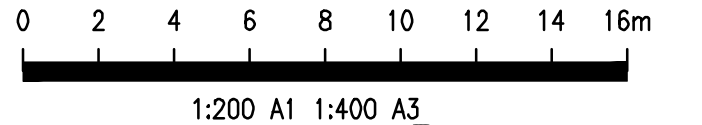
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P5	ISSUE FOR INFORMATION	GC	LW	16.07.21															
P4	ISSUE FOR INFORMATION	GC	LW	02.06.21															
P3	ISSUE FOR SSDA	GC	JH	17.12.20															
P2	ISSUE FOR DRAFT SSDA	GC	LW	30.11.20	C	ISSUE FOR TENDER ADDENDUM	GC	LW	16.09.21										
P1	ISSUE FOR DRAFT DA	GC	LW	30.10.20	B	ISSUE FOR TENDER	GC	LW	13.08.21										
Rev	Description	Eng	Draft	Date		Rev	Description	Eng	Draft	Date									



KEY PLAN

LINEMARKING LEGEND	
E1	Edge line type E1
E5	Edge line type E5
BB	Barrier line
TB	Holding line
TF	Stop line
C1	Continuity line
T1	Turn line
S1	Separation line type S1
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L1	Lane line type L1
B1	Bike lane line
PCW	Signalised pedestrian crossing

NOTE
Line marking to be in accordance with AS1742.2 and the City of Canada Bay's Traffic Committee approvals.
All redundant line marking is to be removed.



ISSUE FOR TENDER ONLY
NOT TO BE USED FOR CONSTRUCTION

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A	ISSUE FOR TENDER	GC	LW	23.07.21					
P2	ISSUE FOR INFORMATION	GC	LW	16.07.21					
P1	ISSUE FOR INFORMATION	GC	LW	02.06.21					
Rev	Description	Eng	Draft	Date	Rev	Description	Eng	Draft	Date

Architect
AJ+C
ALLEN JACK & COTTIER
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200
ABN 53 003 782 250

Engineer
TTW **Structural Civil Traffic Façade**
612 9439 7268 | 48 Chandos Street St Leonards NSW 2065

Project
LORETO NORMANHURST
P1A, P3A AND THROUGH
SITE LINK

Sheet Subject
SIGNAGE AND LINEMARKING
PLAN

Scale : A1 1:200	Drawn LW	Authorised
Job No 201435	Drawing No C420	Revision C
Plot File Created: Sep 16, 2021 - 2:43pm		

Loreto Normanhurst

Car Parks + PUDO Project
Landscape Design Brief
August 2021

1.4 Proposed Works



3.1 Landscape Zones

Aim

The provision of additional carparking and site through link with drop off and pick up areas for the safe movement of pedestrians and vehicles within the school campus.

Key Areas:

1. Osbourn Rd Entrance
2. Car Park 1A- Tennis Courts
3. New Pick Up/Drop Off Area (PUDO)
4. Link to Mt Pleasant Ave
5. Car Park 3A - Pick Up/Drop Off Area



3.3 Osbourn Rd Entrance



Key Plan



- Legend**
- 4 Additional planting around car park
 - 5 Retaining walls sensitive to existing tree
 - 6 Planting along upgraded roadway

3.5 Main Pedestrian Entrance + Accessible Path

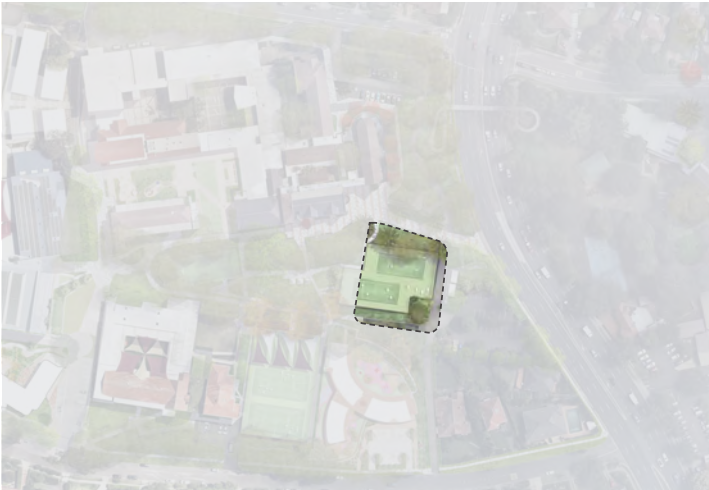


Key Plan

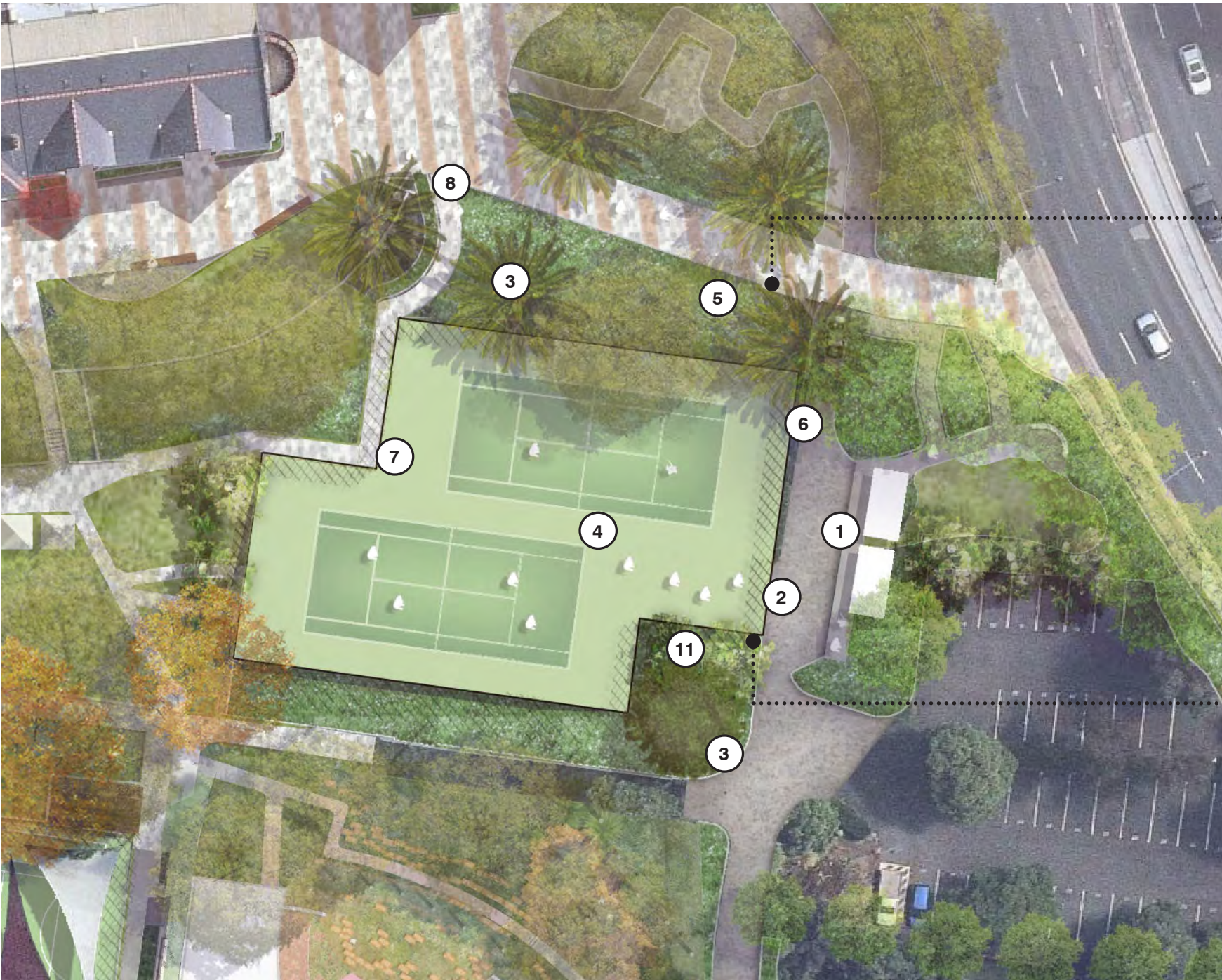


- Legend**
- 1 Ceremonial entrance with retained heritage gate
 - 2 Pedestrian link to pick up and drop off area
 - 3 Pedestrian crossing with removable bollards
 - 4 Accessible route to raised tennis courts
 - 5 Retention of high value existing tree
 - 8 Accessible raised pathway through garden around existing trees

3.6 Car Park 1A - Tennis Courts



Key Plan



- Legend**
 - 1 Pick Up/Drop Off Area with 2 x Shade shelters
 - 2 Car Park entrance
 - 3 Existing Norfolk Pine Tree to be retained and protected
 - 4 Raised Tennis courts x 2
 - 5 Existing kerb and sandstone walls retained
 - 6 Retaining garden walls
 - 7 Entrance to tennis courts
 - 8 Accessible path link from tennis courts to main plaza area
 - 11 Feature planting around existing Norfolk Pine tree

3.7 New Open Space/Indigenous Garden



Key Plan



Legend

- 1 2 x Shade Shelters and waiting area
- 3 Retention and protection of existing trees
- 4 Start of Equal access route through landscape, raised pathway construction around existing trees
- 5 Open lawn area
- 7 New Tree planting to provide shade for car parking

3.9 Link to Mt Pleasant Ave



Key Plan



- Legend**
 - 1 Link road intersection
 - 2 Existing Trees to be retained
 - 3 Formal planting style to edge of road
 - 4 Hedge buffer planting between road and future ELC building
 - 5 Exit Gate onto Mt Pleasant Ave
 - 7 Existing heritage garden to be retained
 - 8 4 Mt Pleasant Ave heritage building to be retained and protected.

3.11 Car Park 3A - PUDO



- Legend**
- 1 Re-alignment of parking to Civil Engineers documentation
 - 2 New Pick Up/Drop Off area
 - 3 2 x Shade Shelter
 - 4 Upgrade existing planting to Osbourn Rd

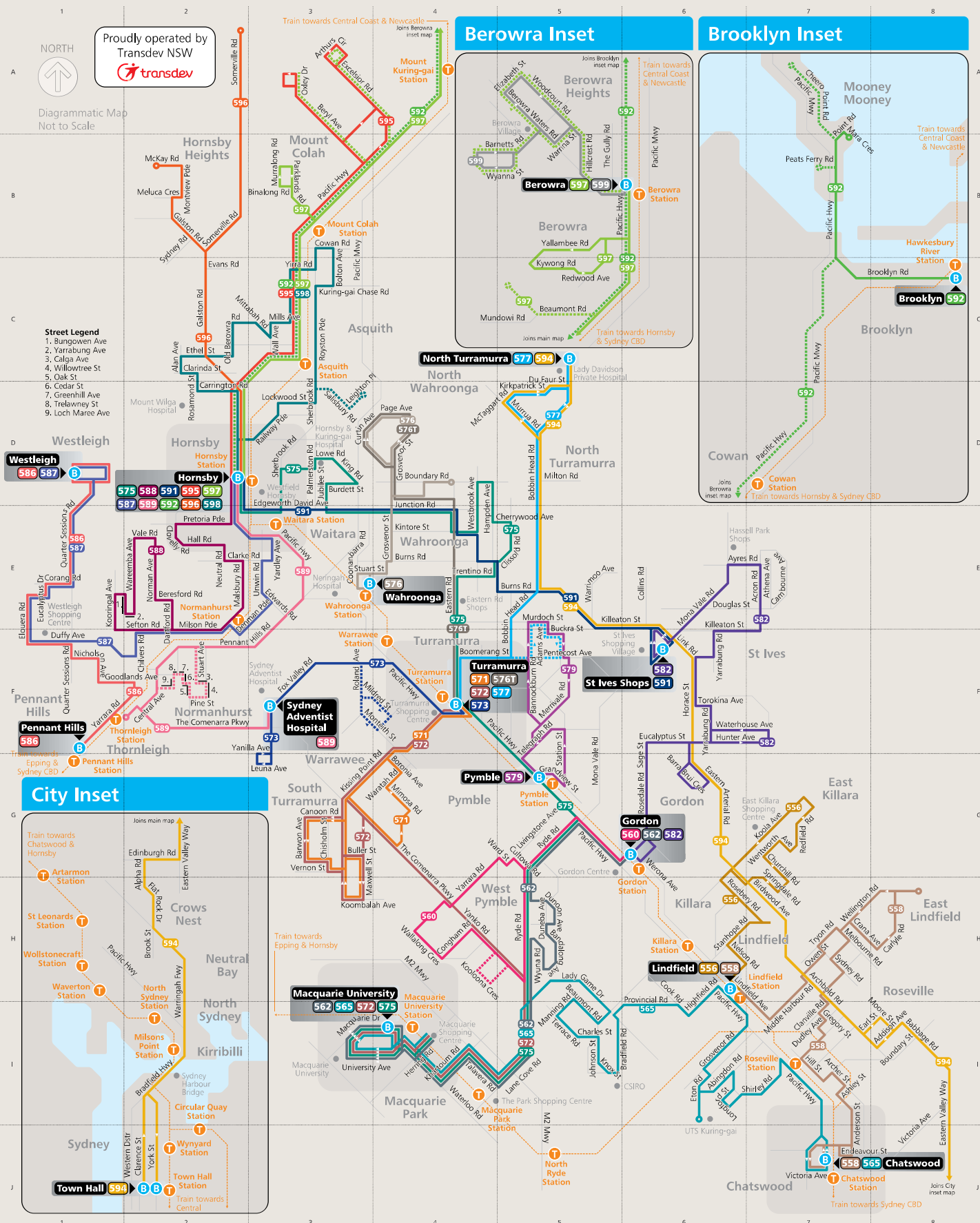


Appendix B

Public Transport Provisions



Chatswood, Hornsby and Berowra bus network map



Key

— Bus route Occasional journey —T— Train line/station

577 Bus route number B Bus terminus

Effective from 2 December 2018

It's easy to plan your trip



On the web
transportnsw.info



Questions and feedback
Phone 131 500
NRS 133 677

Sydney rail network



M Metro **T** Trains



Sydney metro and train lines



Metro North West Line
Chatswood
Tallawong



North Shore & Western Line
North Shore
Western
Richmond



Inner West & Leppington Line
Inner West
Leppington
City



Bankstown Line
Liverpool
Lidcombe
City



Eastern Suburbs & Illawarra Line
Eastern Suburbs
Illawarra
Cronulla



Cumberland Line
Leppington
Richmond



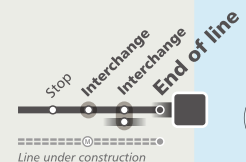
Olympic Park Line
Olympic Park
Lidcombe



Airport & South Line
Airport
South
City



Northern Line
Northern
Gordon



Check timetables and trip planners
for train services and connections

Visit transportnsw.info

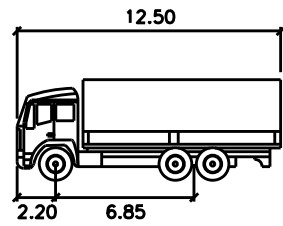
Appendix C

Truck Turning Paths

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Pkt by shierlock

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY

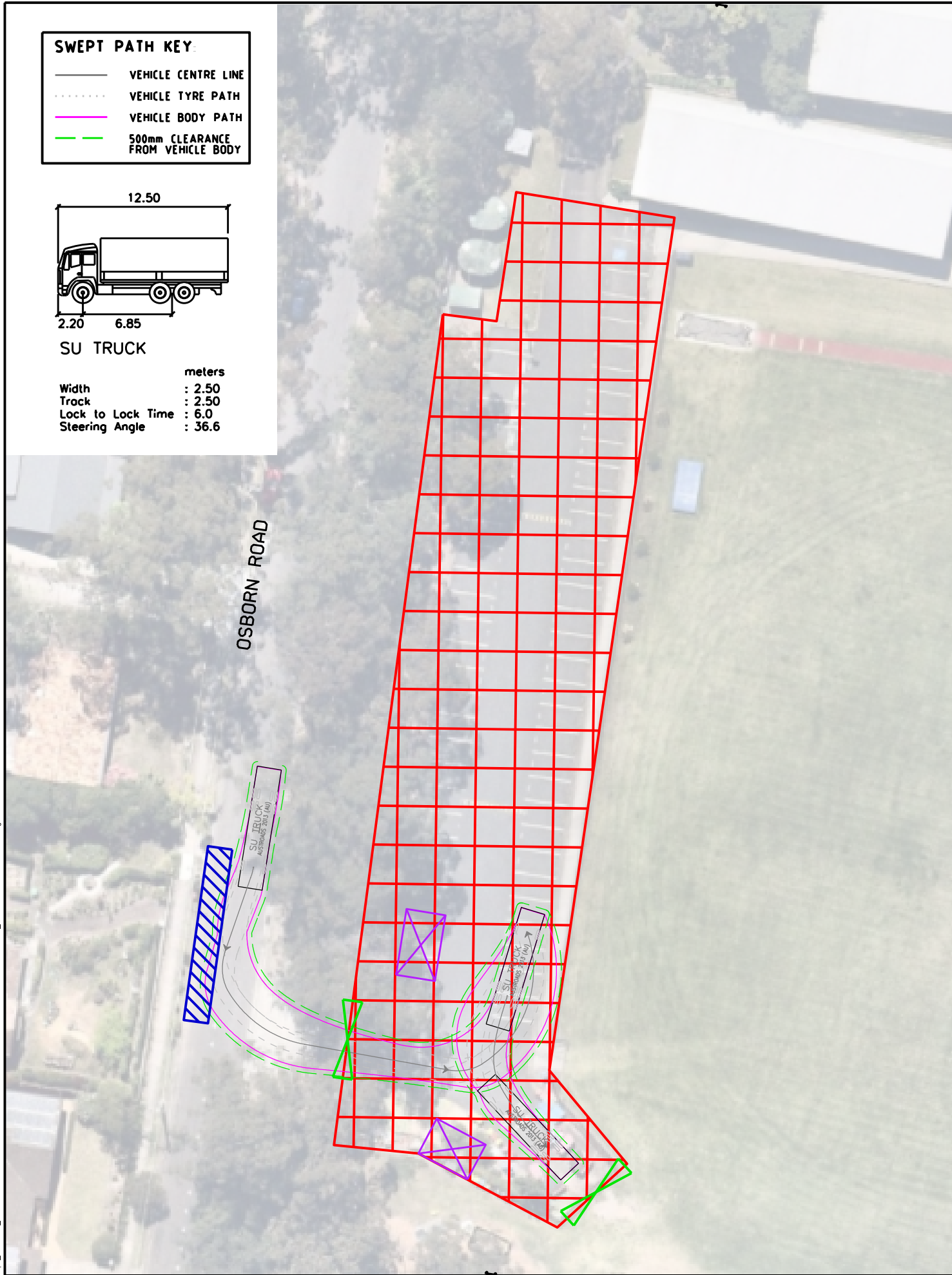


SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

LEGEND:

- WORK SITE (TEMPORARY FENCING)
- PARKING REMOVAL VIA ROL
- SITE ACCESS
- INDICATIVE SITE AMENITIES



LORETO NORMANHURST
91 - 93 PENNANT HILLS ROAD NORMANHURST

SWEPT PATH ASSESSMENT
DRAWING REF NO. 21M004RP-V1.2-TCP-M

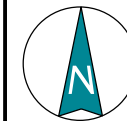
SHEET NO. 05 OF 09

ISSUE DATE 3 DECEMBER 2021

DESIGNED BY
S.YOU

REVIEWED BY
M.KONG

SCALE
A3



PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

WARNING
THE JOINTING OF UNDERGROUND SERVICES
HAS APPROVED ONLY.
THE EXACT LOCATION SHALL BE PROVEN ON SITE.
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

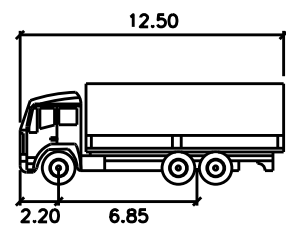
ttpa TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
Established 1994

Address: Level 5, Suite 502 / 282 Victoria Ave, Chatswood NSW 2067
P: 02 9411 5660 E: info@ttpa.com.au W: www.ttpa.com.au

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Plt by shirlock

SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 500mm CLEARANCE FROM VEHICLE BODY



SU TRUCK

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6



LEGEND:

- WORK SITE (TEMPORARY FENCING)
- SITE ACCESS

LORETO NORMANHURST
91 - 93 PENNANT HILLS ROAD NORMANHURST

SWEPT PATH ASSESSMENT
DRAWING REF NO. 21M004RP-V1.2-TCP-M

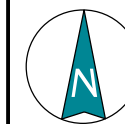
SHEET NO. 06 OF 09

ISSUE DATE 3 DECEMBER 2021

DESIGNED BY
S.YOU

REVIEWED BY
M.KONG

SCALE
A3

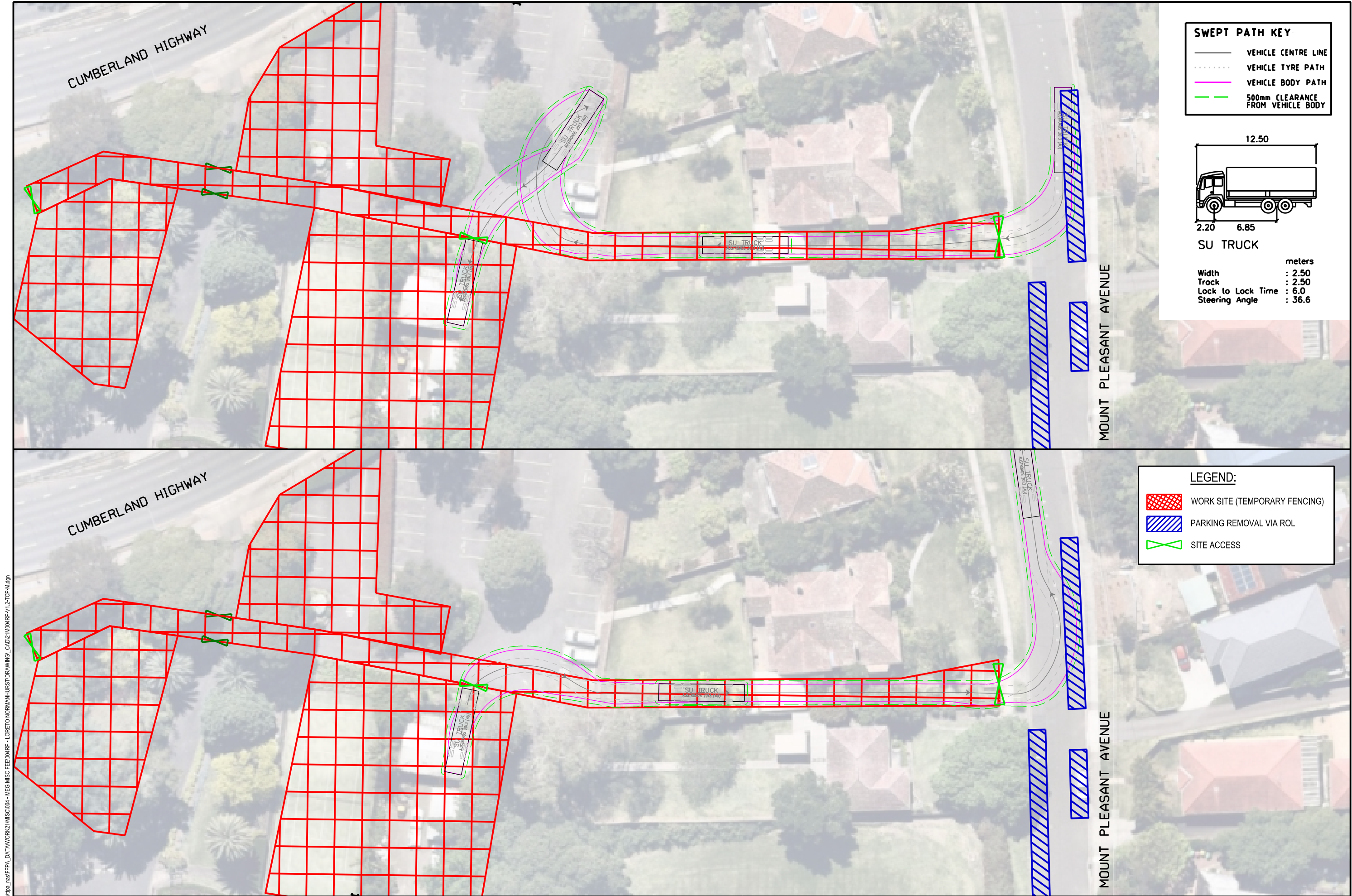


PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
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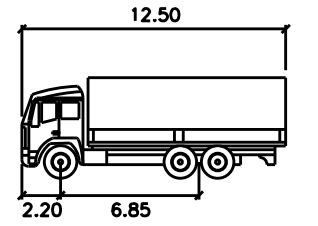
WARNING
THE ACCURACY OF UNDERGROUND SERVICES
HAS NOT BEEN CHECKED.
THE EXISTING UTILITIES SHALL BE PROVEN ON SITE.
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

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P: 02 9411 5660 E: info@tpa.com.au W: www.tpa.com.au

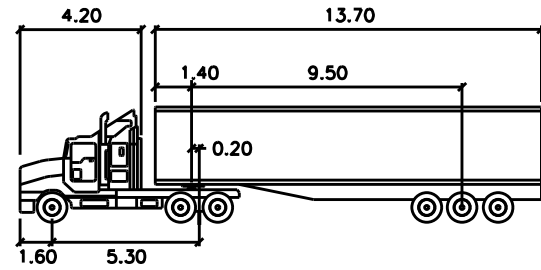
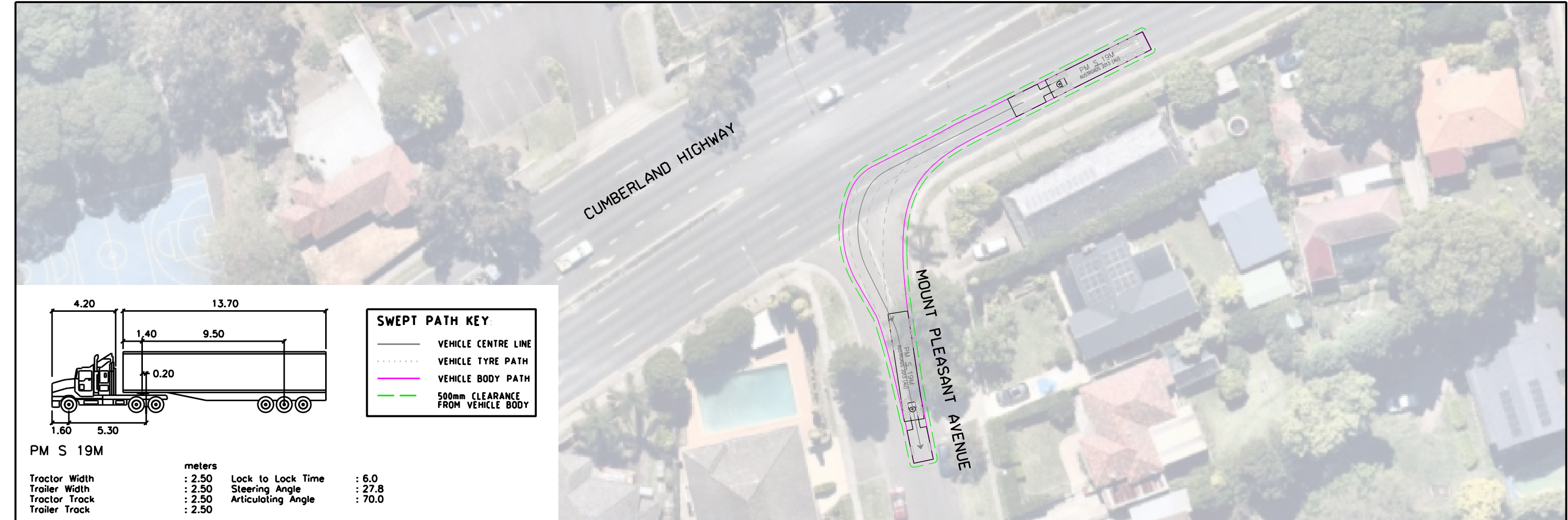


SWEEP PATH KEY	
	VEHICLE CENTRE LINE
	VEHICLE TYRE PATH
	VEHICLE BODY PATH
	500mm CLEARANCE FROM VEHICLE BODY



	metres
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 36.6

LEGEND:	
	WORK SITE (TEMPORARY FENCING)
	PARKING REMOVAL VIA ROL
	SITE ACCESS



SWEEP PATH KEY:	
	VEHICLE CENTRE LINE
	VEHICLE TYRE PATH
	VEHICLE BODY PATH
	500mm CLEARANCE FROM VEHICLE BODY

PM S 19M

	meters		
Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 27.8
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		



LORETO NORMANHURST
91 - 93 PENNANT HILLS ROAD NORMANHURST

SWEPT PATH ASSESSMENT
DRAWING REF NO. 21M004RP-V1.2-TCP-M

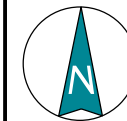
SHEET NO. 08 OF 09

ISSUE DATE 3 DECEMBER 2021

DESIGNED BY
S.YOU

REVIEWED BY
M.KONG

SCALE
A3



PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

WARNING
THE JOINTAL ENGINEERING SERVICES
HAS APPROVED THIS
THE EXACT LOCATION SHALL BE PROVIDED IN THE
ALL EXISTING SERVICES SHALL BE NOT GUARANTEED.

ttpa TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
Established 1994

Address: Level 5, Suite 502 / 282 Victoria Ave, Chatswood NSW 2067
P: 02 9411 5660 E: info@tpa.com.au W: www.tpa.com.au



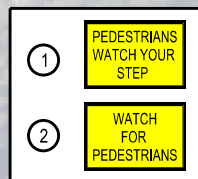
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Plt by shirlock

Appendix D

Traffic Control Plans

1. ALL SIGNS SHALL BE MINIMUM SIZE A.
2. ALL SIGNS SHALL BE CLASS 1 RETROREFLECTIVE.
3. LOCATION OF SIGNS SHALL BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
4. ALL SIGNAGE SHALL BE CLEAN, CLEARLY VISIBLE AND NOT OBSCURED.
5. ALL TRAFFIC CONTROL PLANS SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE TNSW "TRAFFIC CONTROL AT WORK SITES" MANUAL, VER 6 (TNSW 2020) AND AUSTRALIAN STANDARDS AS1742.3:2009 MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, PART 3: TRAFFIC CONTROL DEVICES FOR WORKS ON ROADS.
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14. NOT ALL WORKERS MUST ADHERE TO THE APPLICABLE SAFE WORK DISTANCE AS DESCRIBED IN AS1742.3:2009.
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THE UNDERSIGNED HAS COMPLETED AND OBTAINED "PREPARE
A WORK ZONE TRAFFIC MANAGEMENT PLAN"
CERTIFICATE NO: 0052080417 (EXPIRY DATE: 16/07/2022)
PREPARE A WORK ZONE TMP CARD
CHENLONG YOU



	WORK SITE (TEMPORARY FENCING)
	PARKING REMOVAL VIA ROL
	SIGN
	SITE ACCESS
	SITE PEDESTRIAN ACCESS
	TRAFFIC CONTROLLER

SHEET NO. 02 OF 09

ISSUE DATE 3 DECEMBER 2021

SCALE
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PRELIMINARY PLAN
FOR DISCUSSION PURPOSES
ONLY SUBJECT TO CHANGE
WITHOUT NOTIFICATION

WARNING

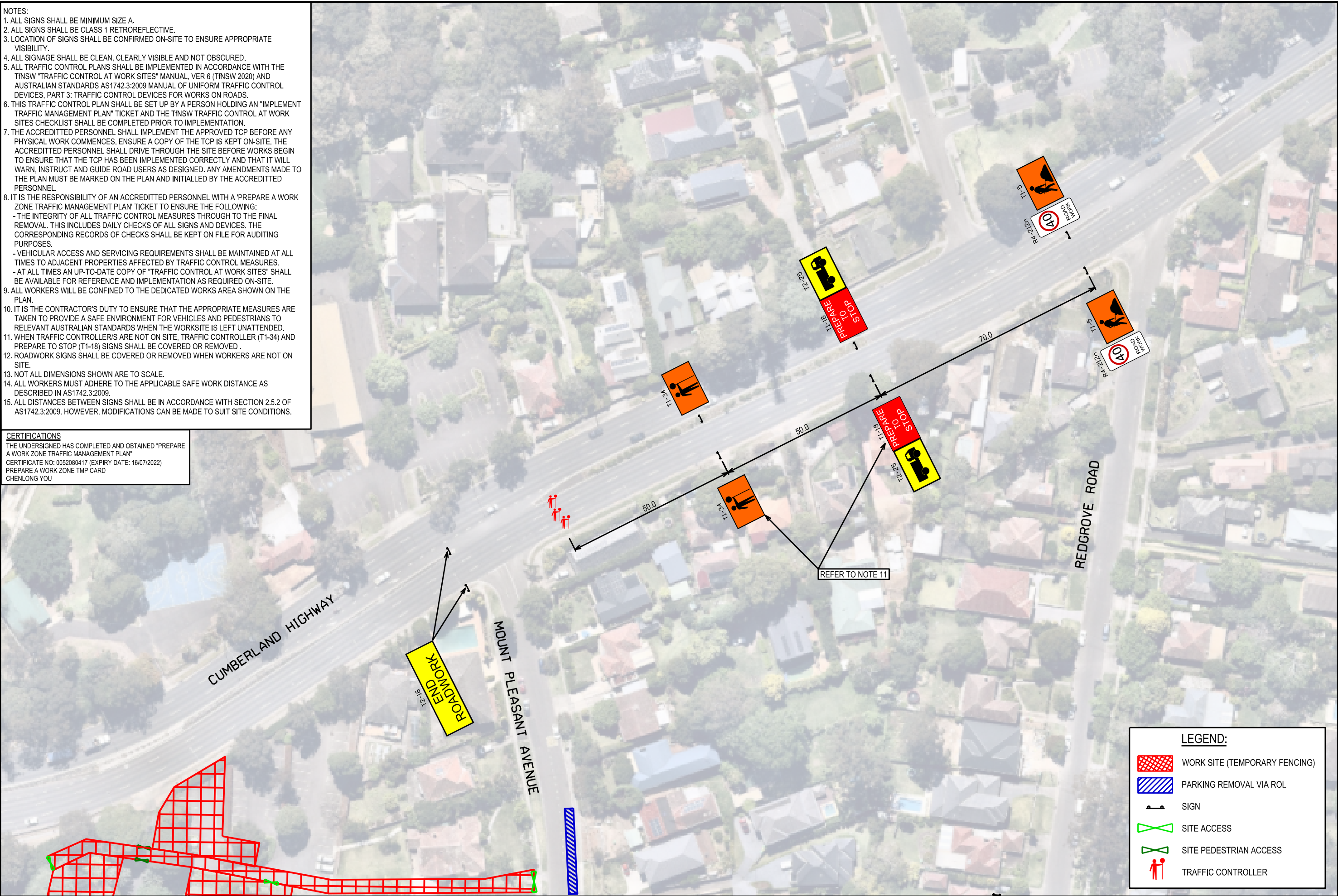
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY.
THE EXACT LOCATIONS SHALL BE PROVIDED ON SITE.
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

ttpa TRANSPORT AND TRAFFIC PLANNING ASSOCIATES
Established 1994

Address: Level 5, Suite 502 / 282 Victoria Ave, Chatswood NSW 2067
P: 02 9411 5660 E: info@ttpa.com.au W: www.ttpa.com.au

- NOTES:
1. ALL SIGNS SHALL BE MINIMUM SIZE A.
 2. ALL SIGNS SHALL BE CLASS 1 RETROREFLECTIVE.
 3. LOCATION OF SIGNS SHALL BE CONFIRMED ON-SITE TO ENSURE APPROPRIATE VISIBILITY.
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CERTIFICATE NO: 0052080417 (EXPIRY DATE: 16/07/2022)
PREPARE A WORK ZONE TMP CARD
CHENLONG YOU



LEGEND:	
	WORK SITE (TEMPORARY FENCING)
	PARKING REMOVAL VIA ROL
	SIGN
	SITE ACCESS
	SITE PEDESTRIAN ACCESS
	TRAFFIC CONTROLLER

LORETO NORMANHURST
91 - 93 PENNANT HILLS ROAD NORMANHURST
19m SEMI-TRAILER DEPARTURE FOR MAJOR DELIVERIES
TRAFFIC GUIDANCE SCHEME
DRAWING REF NO. 21M004RP-V1.2-TCP-M

DESIGNED BY
S.YOU

REVIEWED BY
M.KONG

SCALE
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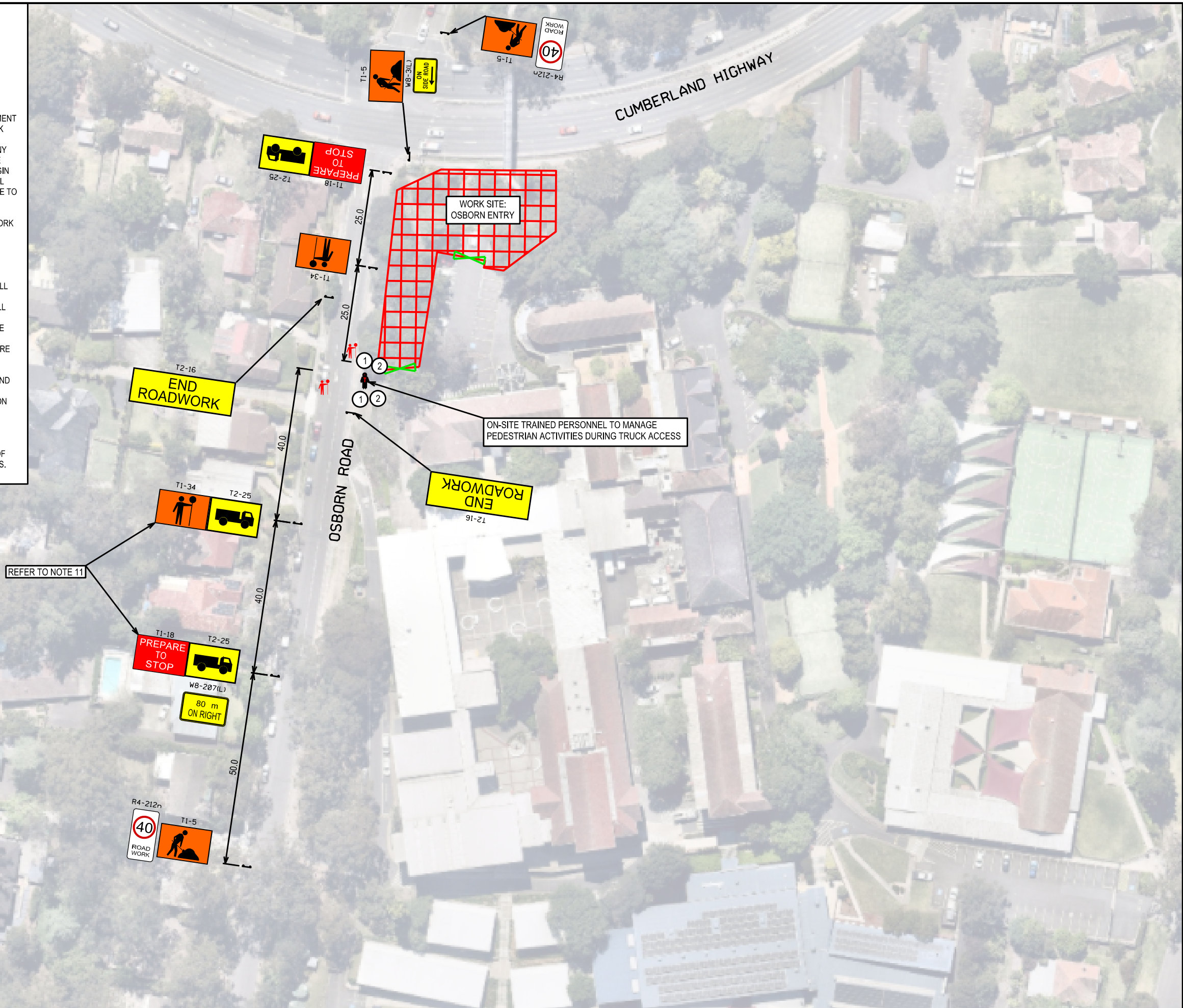
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DRAWING REF NO. 21M004RP-V1.2-TCP-M

SHEET NO. 04 OF 09

ISSUE DATE 3 DECEMBER 2021

DESIGNED BY
S.YOU

REVIEWED BY
M.KONG

SCALE
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Transport and Traffic Planning Associates