



**NSLPP MEETING HELD ON 6/12/23**

**Attachments:**

1. Recommended Conditions
2. Demolition Plan
3. Civil DA Report (Plans attached)
3. Arborist's Report

**ADDRESS:** 173-179 Walker Street, 11, 15 & 17 Hampden Street North Sydney

**APPLICATION No:** 367/22 (PAN 283364)

**PROPOSAL:** Demolition of all buildings and site preparation works, removal of two trees and relocation of a sewer line and install a new sewer connection, and diversion of stormwater infrastructure

**PLANS REF:** Early Works Civil Development Application Report (plans attached), Taylor Thomson, Whitting Consulting Engineers, 6 September 2023

- Demolition Plan, ARC-1005, Revision AA, fjmt studio, 07 November 2022
- Arboricultural Impact Assessment, Tree Management Strategies, 25 September 2023
- Construction & Demolition Waste Management Plan, Elephants Foot Consulting, Revision B. 23 September 2023
- Geotechnical Investigation, Douglas Partners, September 2022
- Detailed Site Investigation, Douglas Partners, September 2022
- Preliminary Construction Management Plan, Logic Projects, 10 November 2022
- Preliminary Construction Traffic Management Plan, Parking and Traffic Consultants, 14 November 2022.
- Noise and vibration assessment, ARUP, 23 September 2022

**OWNER:** CBUS Property R3 Pty Ltd

**APPLICANT:** CBUS Property Pty Ltd

**AUTHOR:** Jim Davies Executive Assessment Planner

**DATE OF REPORT:** 21 November 2023

**DATE LODGED:** 29 November 2022

**RECOMMENDATION:** Deferred Commencement Consent.

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## EXECUTIVE SUMMARY

### **The proposal**

This development application seeks approval to demolish two dwelling houses and five residential flat buildings on the site, situated on or near the intersection of Hampden Street and Walker Street, North Sydney.

It is understood that the applicant's key objective in obtaining approval to carry out the work is because extant residential buildings are uninhabitable and will continue to decay. In their current condition these buildings present increasing risks to the applicant and owner of the site, and more broadly, the general community.

Determination of the application by the North Sydney Local Planning Panel is required due to the application being the subject of more than 10 submissions.

### **Background**

The site has been the subject of intense public scrutiny for several years, beginning with several planning proposals, including the last one, approved by the Sydney North Planning Panel. This proposal led to a consequent amendment to the North Sydney Local Environmental Plan 2013 increased the height limit and introduced a floor space ratio for the site in 2021, with complementary site-specific design controls introduced to the North Sydney Development Control Plan 2013, in 2022.

### **Original DA to construct residential development**

The subject application was preceded by another development application from the same applicant, to erect residential development of up to 29 storeys in three buildings, comprising 189 dwellings, with a three level basement accommodating 240 cars, 208 bicycles, storage and other utilities required for a residential complex of such magnitude.

### **Appeal lodged**

That application was lodged 5 July 2022. On 29 August 2022, the applicant filed a Class 1 deemed refusal appeal with the Land and Environment Court. During the course of proceedings, the application has been notified three times, amassing over 180 submissions, the majority (about 90%) opposing the proposed development.

The first notification period occurred in July/August 2022. The second and third periods occurred respectively in April/May 2023 and August/September 2023, these latter notifications brought about by amendments to the design being filed with the Court, for consideration in the appeal.

On 12 December 2022, the Court presided over a conciliation conference. Several objectors spoke at the pre-conference site meeting, which was attended by 80-100 members of the public. Following the conference, several iterations of revised plans were submitted to Council, without a satisfactory result.

In April 2023, because the conciliation process had not produced an approvable development, the Court brought the conference process to a conclusion and scheduled a hearing for September 2023. As the applicant had not prepared revised plans to meet this timeframe, the hearing was rescheduled for 20 – 28 November 2023. For reasons now outlined, the appeal was discontinued.

### **Non-compliance with FSR**

Statements of Facts and Contentions were revised twice subsequent to the original statement's preparation. On each occasion additional contentions were raised due to the

proposal's failure to comply with numerous controls. Resulting from newly introduced maximum parking rates for the site, being in a 'high accessibility area' identified by the North Sydney Development Control Plan 2013, the application exceeded this maximum, causing the DA to exceed the FSR standard established by the LEP.

The DCP had been so amended on 4 May 2023, significantly reducing the maximum parking permitted for residential development, a preceding study having demonstrated parking demand reduces with better proximity and access to public transport, and to promote greater use of transit and reduce travel by private vehicle.

The effect of this DCP amendment, was that the proposal would require removal of over 90 parking spaces and access thereto, effectively one basement level of parking, from the development, to comply with the maximum floor space ratio allowed. Along with the height standard for the site, a written request to contravene the floor space ratio standard is unable to be made, being specifically excluded from clause 4.6 of the LEP, which otherwise permits development to be approved despite non-compliance with statutory development controls.

As a result, the appeal that was to consider the application to construct residential development on the site has been discontinued, as the applicant cannot proceed with a lawful development, as proposed.

#### **Current status of the residential development DA**

On 9 November 2023, at the applicant's request, the Land and Environment Court vacated the dates for the hearing of the appeal for DA 197/22, to construct residential accommodation on the site.

Because approval cannot be granted to the application without modification, and the appeal being discontinued, the applicant formally withdrew the application on 13 November 2023.

At the time of writing, the Court was expected to consider the matter of costs before formally discontinuing proceedings, in the week commencing 20 November 2023.

#### **The subject DA to demolish buildings and other works**

This, the subject application to demolish existing buildings and other structure and carry out other works, was submitted on 29 November 2022, just weeks before the Conciliation Conference held by the Court on 12 December 2022.

The application was notified on two occasions, from 11 January 2023 until 1 February 2023, and when the application was amended, from 27 October 2023 to 10 November 2023. At the time of writing, 43 submissions from 30 correspondents had been received. All have objected to the application, raising these key issues:

- For several reasons detailed later, approval to demolish existing buildings should not be considered before consent for the proposed residential development is granted,
- Traffic congestion and further traffic disruption, for example, from the need to stop traffic on Walker Street to allow large/heavy vehicles to access the site via Hampden Street, and
- The risk to adjoining properties from site excavation works and loss of amenity and environmental qualities of the locality, from demolition, engineering and tree removal works.

A comprehensive summary of issues raised by submitters and responses to them is included in this report.

Key planning matters addressed in this report include:

- Benefits and disbenefits of the site preparation/demolition application being approved in advance of approval being granted for the site's redevelopment,
- Traffic management, including consideration of other development occurring and likely to occur in the locality,
- Geotechnical conditions and stability of adjacent land, private buildings and public infrastructure, and
- Matters raised by submissions, principally concerned with environmental, health and amenity impacts.

#### **Recommendation for deferred commencement consent**

Having considered issues raised by submissions and applicable planning controls, a deferred commencement consent is recommended. In usual circumstances, conditions are included in an operational consent requiring design amendments, or preparation of other plans and reports before a construction certificate is issued.

Because demolition is not construction, a construction certificate is not needed. Consequently, prerequisite preparation of plans to manage the conduct of demolition works and to address these and other matters discussed in the report, are recommended as conditions of a deferred commencement consent:

1. A comprehensive traffic and parking management plan is to be submitted to effectively address (inter alia) aggregate impacts of the proposal and other development in the locality, including measures to reasonably maintain access to Hampden Street and Walker Street for pedestrians and vehicles, resident/public parking along the street immediately adjacent to the site.
2. All recommendations of the submitted geotechnical report being implemented, with noise and vibration management plans being prepared to be consistent with implementation of the geotechnical report's recommendations.
3. Upon completion of all demolition and site preparation works, the site being properly reformed, restored, landscaped and maintained in accordance with a comprehensive site rehabilitation and management plan, until such time as a construction certificate is issued to commence works in accordance with another consent to construct residential accommodation, or other development permitted on the site.

Drainage works could require a construction certificate however matters regarding proposed stormwater works are included deferred commencement conditions as design amendments are required. Stormwater works when undertaken in isolation from other works, and by or on the behalf of a public authority, can be undertaken as development without consent in accordance with the Transport and Infrastructure SEPP (clause 2.137).

Finally, the proposed sewerage diversion works, provided they are carried out by or on behalf of the Sydney Water Corporation (or other "prescribed circumstances"), do not require development consent per the Transport and Infrastructure SEPP (clause 2.126). These works will also require Sydney Water's approval under other legislation. Despite this and according to standard practice, standard conditions are recommended in the operational consent requiring the applicant to seek Sydney Water approval for the sewerage diversion.



## DESCRIPTION OF PROPOSAL

The applicant originally sought consent to carry out site works as a prelude to constructing a new residential building or complex of buildings in accordance with the site's R4 High Density Residential zoning and complementary height and density (floor space ratio) controls.

The proposal comprises:

- Demolition and removal of all buildings and associated works from the site,
- Diversion of sewerage and stormwater infrastructure,
- Removal of two trees adjacent to the site's north eastern corner, and
- Retention of some 34 trees on the site.

An arborist has prepared an arboreal impact assessment for the applicant, which identifies the trees to be retained. The report also identifies several trees off-site which as indicated in the aerial imagery below have been removed, due to the Warringah Freeway 'upgrade' works. Other works, primarily movement of heavy equipment and vehicles on public roads, has potential to impact other vegetation growing in road reserves, requiring careful planning and execution of the proposed works, with close supervision.

Two trees are proposed to be removed, trees 41 & 42 off the site, at the eastern end of Hampden Street, for the proposed stormwater relocation.

Further details are provided in the arboreal impact report (attached), and in the assessment of the proposal by Council's Landscape Development Officer, later in this report.

The plans below depict the proposed works.



**Figure 1: Demolition Plan (FJM Studios)**

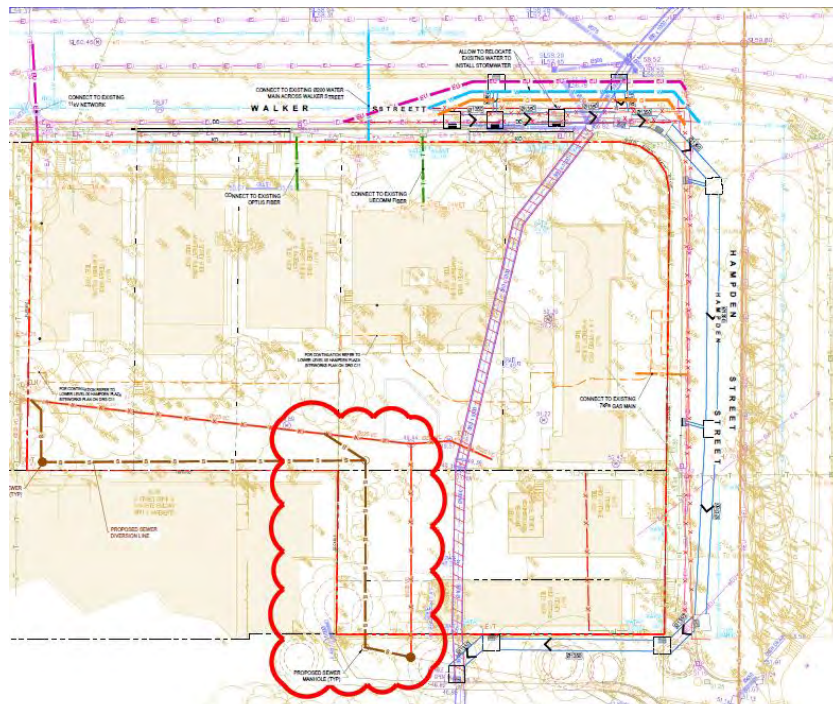


Figure 2: Proposed civil works (Taylor Thomas Whitting Civil Engineers)



Figure 3: Extract of map showing trees to be retained on site, numbers in small circles, and those already removed or to be removed indicated by crosses in small circles (Tree Management Strategies).

## **STATUTORY CONTROLS**

### **North Sydney LEP 2013**

- Zoning – R4 Medium Density Residential
- Item of Heritage – No
- In the vicinity of Heritage Items – Retaining wall on the boundary between Walker Street and the north-south running section of Hampden Street, 144-150 Walker Street (opposite the site, to the west) and 2-14 Hampden Street (north of the site across Hampden Street)
- Conservation Area – N/A
- Foreshore Building Line – N/A

Environmental Planning & Assessment Act 1979 – Local Development

SEPP (Biodiversity and Conservation) 2021

SEPP (Resilience and Hazards) 2021

SEPP (Transport and Infrastructure) 2021

## **POLICY CONTROLS**

North Sydney DCP 2013

## **SITE & LOCALITY**

The site consists of 7 lots, 5 have residential flat buildings on them, all facing Walker Street. The other two lots have frontage to Hampden Street only, located next to the Warringah Freeway. A dwelling house is erected on each.

The site generally falls from west to east with a fall of 8 metres over about 70 metres which equates to an average gradient of 1 in 8.75, or 11.5%.

The site is flanked by high density residential development in westerly and southerly directions, lower density housing and educational establishments are situated to the north. As shown below, the Warringah Freeway borders the site to the east.

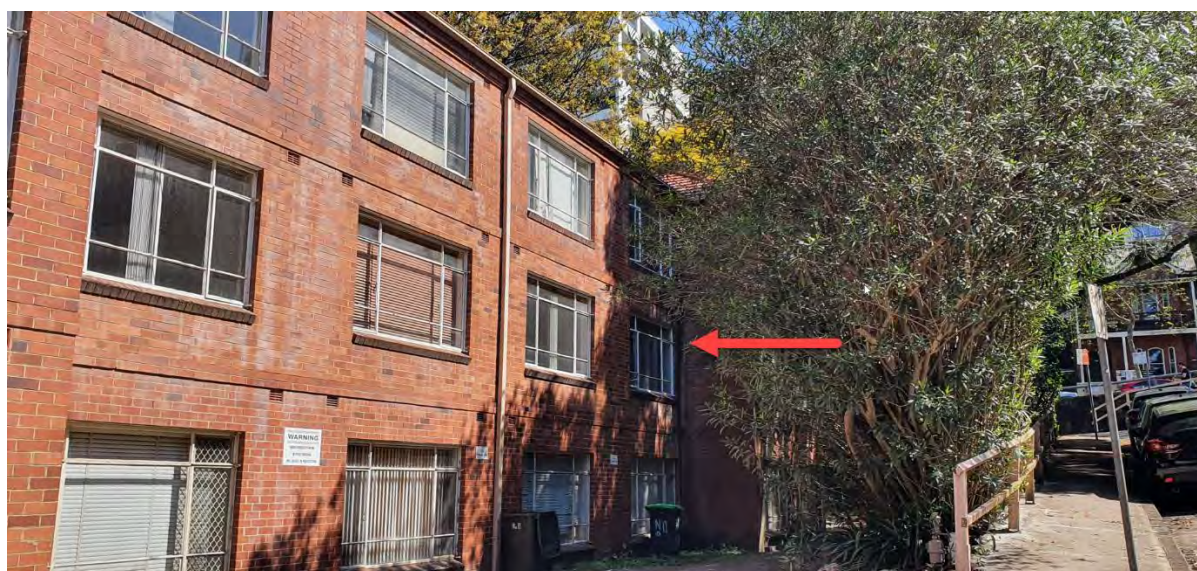




**Figure 4: Site location (yellow outline). Nearthmap image, date image taken shown in bottom-right corner. Note trees have been removed adjacent to the site's eastern boundary for Warringah Freeway works.**



**Figure 5: The 6/7 storey 'Portofino' serviced apartment building (red arrow) to the southeast of the site. Some of the buildings proposed to be demolished are in foreground, facing Walker Street.**



**Figure 6: View of the site from Hampden Street showing the 3 storey flat building (red arrow) and other buildings to be demolished.**



**Figure 7: Development opposite the site in Walker Street, with heritage buildings (used for commercial and residential activities) in the foreground and residential apartments behind them.**

#### RELEVANT HISTORY

<b>Date</b>	<b>Action</b>
29 11 2022	Application lodged.
12 12 2022	Site inspected.
11 01 2023 –	First notification period.

01 02 2023	
21 07 2023	Request for information sent to applicant.
05 10 2023	Additional and amending information submitted by applicant.
27 10 2023 – 10 11 2023	Second notification period, for amended application.

## INTERNAL REFERRALS

### DEVELOPMENT ENGINEERING

The application was assessed and conditions recommended by Council's Development Engineer, for:

- Demolition Traffic Management,
- Structural adequacy of the existing building and adjacent buildings,
- Protection of public and private infrastructure, including dilapidation reports for adjacent works and buildings,
- Geotechnical conditions,
- Stormwater management, and
- Erosion and sediment control.

### INFRASTRUCTURE ENGINEERING

Council's Manager Engineering and Infrastructure advised:

- The new drainage line should be located below new kerb & guttering, not in the middle of the road (Hampden Street).
- A hydraulic grade line is to be added to the drainage long-section to ensure that the drainage has sufficient capacity.
- The final alignment and capacity of the drainage system are to be approved.
- The existing pipe is 5m deep in some locations, pit designs provided are for max 3m deep. Revised pit designs and a pit schedule must be provided for approval.

Deferred commencement conditions are recommended to address these matters, these details being required for approval by the Manager Engineering & Infrastructure.

### LANDSCAPING

The amended application was considered by Council's Landscape Officer, who made the following remarks:

- *A project arborist shall be appointed **to physically supervise** all demolition works in order to ensure that these are carried out in a tree sensitive manner.*
- *Upon completion of all works, the site shall be regraded, retaining existing levels within the TPZ of protected trees, and laid with soft leaf buffalo turf. An establishment and ongoing maintenance plan (including mowing) shall be included for approval by council.*
- *No objection is raised to removal of public trees T41 & T42 subject to replacement with 1 x *Tristaniopsis laurina* 'Luscious' (75l) and 1 x *Corymbia maculata* (75l) in approximately the same location.*
- *Retention and protection of all site trees in accordance with AS4970, and retention and protection of all public trees in accordance with AS4970,*

- *2 x Platanus street trees on the western side of Walker St, and 1 x Platanus street trees on the eastern side of Walker St, immediately to the north of the Walker St & Berry St intersection shall be protected in accordance with AS4970, have branch protection installed for branches overhanging the roadway, and have a collective tree bond of \$20,000 applied. (These trees are located along the proposed entry and exit route under the lodged construction management plan and may be at risk of damage if not adequately protected).*
- *The central roadway planting (referred to as Group 2 in the arborist's report) including but not limited to 1 x Jacaranda mimosifolia, 2 x Pittosporum rhombifolium, 1 x Glochidion ferdinandii, 9 x Callistemon sp., 2 x Pittosporum undulatum, 5 x Cyathea sp., 1 x clump Strelitzia nicholii, associated underplanting of Clivea sp., Asplenium aethiopicum, Lomandra longifolia and Calathea sp., & Ficus rubiginosa at the eastern street terminus, and all associated sandstone walls including upper heritage handrail between Hampden Streets lower and upper shall be retained and protected in accordance with AS4970. 1.8m high steel mesh tree protection fencing shall be installed to completely enclose this garden bed, no pruning shall be permitted, and a collective tree bond of \$120,000 shall be applied.*
- *An amended arborist report shall be required, assessing any amendments to existing proposal, and confirming that Group 3 - 8 x Platanus street trees along Walker St (upper), or any other street trees along this stretch of road will not be impacted by any associated works, including stormwater or other services, installation of cranes or heavy machinery etc. These trees shall be protected in accordance with AS4970, but no bond or tree protection shall be conditioned at this stage unless these trees are shown to be impacted by the proposal in the amended arborist report. The amended arborist report shall include a detailed Tree Protection Management Plan for all retained and protected trees, including transplanting of T22, T23, T27 & T28 as outlined above. This report shall also consider pruning requirements, and impact of any hoarding and scaffolding.*
- *An AQ5 qualified project arborist shall be appointed to oversee all works within the TPZ of any protected tree.*
- *Sensitive construction techniques including hand excavation, pier & beam construction, and flexible location of piers/footings shall be used within the TPZ of any protected tree. No canopy pruning shall be permitted unless specifically detailed in amended and approved arborist report, and shall be carried out by an AQ3 qualified arborist in accordance with AS4373. "*

**Planning comments:**

The foregoing matters are addressed in the recommended deferred commencement condition.

**EXTERNAL REFERRALS**

Consultation with or concurrence of other agencies is unnecessary. As the application involves alteration to sewerage, the applicant will require the Sydney Water Corporation's approval under other legislation to carry out the works.

## SUBMISSIONS

The application was notified twice, from 11 January 2023 to 1 February 2023 and renotified for 14 days from 27 October 2023 until 10 November 2023. Combining submissions from both periods, 43 were made by 35 correspondents, at the time this report was drafted. All objected to the proposal works.

Issues identified by submissions are summarised and responded to below. The original submissions may be viewed by way of DA tracking on Council's website [https://www.northsydney.nsw.gov.au/Building\\_Development/Current\\_DAs](https://www.northsydney.nsw.gov.au/Building_Development/Current_DAs) and are available for review by NSLPP members.

Summary of Issues raised by objectors	Response
<p>The subject application should not be approved before new residential development of the land is approved (DA 197/22), for reasons including:</p> <ul style="list-style-type: none"> <li>i. Financial viability of the residential development has not been demonstrated.</li> <li>ii. The period between approval and construction is likely to be lengthy.</li> <li>iii. Amalgamation of the site has not been achieved.</li> <li>iv. Should the court refuse proposed residential development, would works proposed by this application (site preparation, demolition, should the subject application be approved) be the basis of (another) appeal?</li> <li>v. Preservation of trees agreed by the conciliation (appeal) process may be undermined by approval of the subject proposal.</li> <li>vi. Demolition would strengthen the applicant's case to redevelop the site.</li> <li>vii. The level of community opposition (over 180 submissions) to the application seeking approval to construct residential accommodation on the site.</li> <li>viii. Issues raised by previous submissions to the other DA for residential development of the site (DA 197/22) have seemingly been ignored by the applicant, as many of these issues remain of concern regarding the subject demolition DA.</li> <li>ix. Dwellings could be inhabited by people until full construction of a residential project was ready to be commenced, instead of demolishing existing residences to create vacant land.</li> <li>x. Demolition as proposed, could unnecessarily compound and lengthen the period over which loss of amenity could be</li> </ul>	<p>Provided effective environmental controls, traffic management and rehabilitation measures are deployed, as recommended, there is insufficient reason to refuse the application.</p> <ul style="list-style-type: none"> <li>i. Not a consideration for determining the application.</li> <li>ii. Rehabilitation of the site, retention of all trees on-site, landscaping and ongoing management and maintenance is recommended, until construction commences.</li> <li>iii. Site amalgamation is only required to achieve the available height increase under the LEP, it is not relevant to the subject application.</li> <li>iv. An applicant is entitled to appeal against the determination of any development application, subject to legislative requirements.</li> <li>v. The appeal has been discontinued and the application withdrawn.</li> <li>vi. As above.</li> <li>vii. As noted, the applicant has withdrawn the application.</li> <li>viii. As above.</li> <li>ix. It is understood extant buildings are uninhabitable.</li> <li>x. Demolition of extant buildings and site rehabilitation and landscaping will temporarily offer improved amenity.</li> </ul>

Summary of Issues raised by objectors	Response
caused by development in the area. One elderly correspondent stated that their health is deteriorating, from the effects of construction.	
Impacts on local and regional traffic, and road safety. Traffic in Walker Street will be disrupted when halted, for heavy vehicles to enter Hampden Street.	A detailed traffic management plan must be prepared and approved before an operational consent is granted.
How traffic will be managed during peak periods has not been detailed.	The detailed plan will have to set out how peak hour traffic will be managed. Avoidance of moving heavy machinery and vehicles by road during peak periods may be necessary.
Parking for Hampden Street residents has not been resolved.	The detailed traffic plan to be submitted is required to address parking for residents and other road users.
Environmental pollution from additional vehicles, dust and noise from proposed works. Noise exceedance levels predicted should be sufficient to refuse the application.	Air quality will be addressed by a detailed construction site management plan.
There is no comprehensive plan to manage asbestos, a common building material when buildings on the site were constructed. This does not provide confidence for the community.	Work Cover and Environmental Operations legislation obliges safe handling, removal and disposal of hazardous materials, including asbestos.
The application does not clearly state the number of truck movements from the demolition works.	An estimate is provided in the submitted traffic management plan. It is usual practice for more definite estimates to be made for detailed site management plans once contractors have been engaged and work tasks more accurately quantified.
Access to the site for larger vehicles is constrained.	Site access is undoubtedly constrained. As mentioned, more detailed plans for conducting proposed works are required. Consultation with neighbours and Council is recommended by submitted site management plans, to occur during detailed planning before works commence.
Additional tree removal adds to "environmental vandalism".	The number of trees to be removed has been reduced from six as originally proposed, to two. These are public trees and a condition requires them to be replaced.
Recommended (by the applicant's consultants) reports and plans have not been submitted with the development application.	More detailed plans must be submitted to Council for approval before an operational consent is granted.
The other DA to erect new residential buildings on the site (DA 197/22) is the subject of an appeal, this approval may have different approval requirements (compared to the subject application).	The appeal has been discontinued and the application withdrawn.
Demolition will lead to "...significant impact and (being an) eyesore for residents before construction is progressed."	Site rehabilitation, landscaping and maintenance will reasonably and effectively minimise impacts of the proposed works.

Summary of Issues raised by objectors	Response
Construction of the proposed stormwater diversion in the centre of Hampden Street's lower, southern carriageway will severely disrupt access and movement for resident and demolition vehicles details of these impacts and how they will be managed are not provided.	It is recommended that, upon the advice of Council's Manager Engineering and Infrastructure, the stormwater diversion be located under the kerb, which is standard practice. Although this will reduce parking temporarily, it will maintain access on the street. The works are planned to be staged to minimise disruption.
Proposed works will prevent emergency vehicle access, current road geometry already makes large vehicle movement difficult.	Emergency services were consulted in relation to the other DA, to construct residential accommodation on the site. No comments were offered by either ambulance or fire and rescue departments.
The preliminary construction management plan (PCMP) "...reflects an 'after the event' approach to risk management."	The preliminary plan, without the benefit of more detailed planning, has arguably taken an approach to address all possible outcomes. Not all risks can be eliminated, others can be effectively ameliorated or managed. If not, a hazard/risk inducing activity should not occur.
A tree protection plan would be required for those not proposed to be felled.	Such a plan is recommended for submission as one of the deferred commencement conditions.
Geotechnical report recommendations, to run excavation trials for instance, are not included in the PCMP.	Implementation of the preliminary geotechnical report's recommendations is required as a condition of the deferred commencement consent.
The noise and vibration report does not consider the impacts of excavation equipment which the geotechnical report states will likely be used "for footings and service trenches/pits", such as rock hammers, hydraulic rotary rock saws or milling heads, although concrete saws are predicted to cause noise levels "above which there may be strong community reaction to noise."	The preliminary noise assessment has considered the array of equipment likely to be used, provided by the applicant. The 'receivers' (dwellings) closest to the site will be affected by excessive noise. A range of mitigation measures is recommended to "be integrated into the overarching management plan for the works." The mitigation measures are summarised in the assessment against DCP requirements, later in this report.
Information submitted with the application indicated potential "construction impacts and risk to these items." Submitted documentation relating to noise and vibration management, namely the statement of environmental effects, the geotechnical investigation, the noise and vibration investigation and the PCMP.	As noted, the detailed plans to be submitted to satisfy 'deferred commencement' requirements will only be approved if they are feasible, reasonable and effective.
Submitted plans are insufficient to consider demolition of these properties.	It is typical at the development application stage to address potential 'high level' impacts and for recommendations to be made to ensure development is carried out in an environmentally responsible manner as possible, in accordance with suitably detailed plans and strategies.

Summary of Issues raised by objectors	Response
Dilapidation reports should be considered before development consent is granted.	This could cause unnecessary expense to the applicant, could hamper the submission and assessment of a development application, and cause inconvenience to owners and occupiers of potentially effected properties, especially if the application was withdrawn or refused.

## EVALUATION

Relevant matters for consideration under Section 4.15 of the *Environmental Planning and Assessment Act 1979* (as amended), are assessed below.

### ENVIRONMENTAL PLANNING & ASSESSMENT ACT – CONSENT REQUIREMENTS

There are three elements in this application:

- Demolition and tree/vegetation removal,
- Relocation of stormwater infrastructure, and
- Diversion of sewerage infrastructure.

Outlined below is how the consent has been designed in response to various legislative requirements of the EP&A Act.

#### **Demolition**

Clause 2.7 of the LEP states demolition may only be carried out with development consent.

Because demolition is not 'construction' it does not require a construction certificate. It is not controlled by the National Construction Code, it is the subject of relevant Australian Standards, primarily AS 2601-2001 – The demolition of structures.

Consequently, preparation of plans to manage the conduct of demolition works, including the matters outlined below, are included in a deferred commencement condition, which must first be satisfied before the consent is made operational.

In effect, this approach is similar to the usual process, whereby more detailed information is submitted for approval either before or with a construction certificate application.

However there is a key benefit, depending on one's perspective, in that the details requiring scrutiny before works commence must be approved by Council.

Matters to be addressed in greater details than provided with the subject DA, include:

1. A comprehensive traffic and parking management plan being submitted to demonstrate how activities to be approved will effectively address aggregate impacts of the proposal and other development in the locality, including measures to reasonably maintain access to Hampden Street for pedestrians and vehicles, resident/public parking along the street immediately adjacent to the site, for instance.
2. All recommendations of the geotechnical report being implemented, including a noise and vibration management plan being prepared, that is consistent with implementation of the geotechnical report's recommendations.



3. Upon completion of all demolition and site preparation works, plans and other documents forming a site rehabilitation and management plan, being submitted to demonstrate that the site will be properly reformed, rehabilitated, landscaped and maintained, until such time as a construction certificate is issued to commence works in accordance with another consent to construct residential accommodation, or other development permitted on the site.

### ***Relocation of stormwater drainage infrastructure***

According to clause 2.137 of the Transport and Infrastructure SEPP, stormwater drainage works do not require consent when carried out by or on behalf of a public authority. Council owns the existing pipes and will own the new pipes in the new location, within the Hampden Street road reserve.

Despite this and maintaining consistency with current practice, recommended deferred commencement conditions address requirements for design refinements and traffic management, primarily, so they can be approved by Council's Manager Engineering and Infrastructure and Manager Traffic and Transport Operations, before works commence.

Being associated with the stormwater relocation, removal of two trees as proposed will be enabled once the consent becomes operational. Conditions regarding these trees, and protection of others, are recommended.

### ***Diversion of sewerage infrastructure***

Finally, the proposed sewerage diversion works, provided they are carried out by or on behalf of the Sydney Water Corporation (or other "prescribed circumstances"), do not require development consent per the Transport and Infrastructure SEPP (clause 2.126). These works also require Sydney Water's approval under other legislation. In accordance with standard practice, conditions are recommended in the operational section of the consent for this consent to be obtained.

### **SEPP (Biodiversity and Conservation) 2021**

The land to be developed is in the Sydney Harbour Catchment as defined by this policy. Consequently, the following provisions apply and the proposed development is not inconsistent with them as they relate to the site and the proposed development:

- 6.6 Water quality and quantity
- 6.7 Aquatic ecology
- 6.8 Flooding

The site is not in the Foreshores and Waterways Area, so assessment is not required in accordance with the SEPP's provisions.

### **SEPP (Resilience and Hazards) 2021**

The provisions of the SEPP's Chapter 4 require Council to consider the likelihood that the site has been contaminated and to address methods to remediate the site if required. A detailed site investigation was submitted, which indicated evidence of past activities likely to have caused contamination of the site. Accordingly, further investigation to close certain data gaps and preparation of a remedial action plan (RAP), which typically require remediation works, are recommended.

The deferred commencement condition requires recommended work to be undertaken with the results of further investigation and studies and the RAP to be submitted for approval before the consent can become operational.

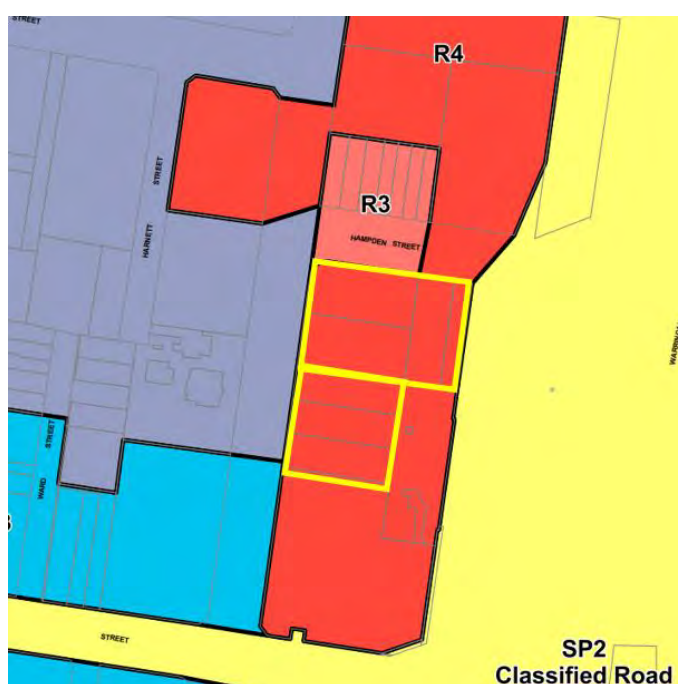
### **NORTH SYDNEY LOCAL ENVIRONMENT PLAN (LEP)**

Those provisions of the LEP that apply to the site and the proposed works are considered below.

#### **Permissibility**

The site is zoned R4 High Density Residential. Proposed works, being necessary for preparing the site's development for permissible uses in the zone, are permitted with consent.

Further, clause 2.7 of the LEP states demolition may only be carried out with development consent.



**Figure 8: Zoning of the site and land in the locality (NSLEP 2013 map extract)**

#### **Objectives of the zone**

The objectives for the R4 zone are stated below:

- *To provide for the housing needs of the community within a high density residential environment.*
- *To provide a variety of housing types within a high density residential environment.*
- *To enable other land uses that provide facilities or services to meet the day to day needs of residents.*
- *To encourage the development of sites for high density housing if such development does not compromise the amenity of the surrounding area or the natural or cultural heritage of the area.*
- *To ensure that a reasonably high level of residential amenity is achieved and maintained.*

The proposal is consistent with relevant zone objectives as it will enable development of the site for a purpose which will, subject to assessment of subsequent development application, be consistent with those objectives relevant to a proposal.

### **Principal Development Standards**

No development standards apply to the proposed works.

### **Heritage Conservation**

The site is located opposite several Heritage Items in Walker Street and Hampden Street, and is not in a conservation area. Neither are there any heritage items on the subject land.

In these circumstances, Clause 5.10 (5) of the LEP only requires the consent authority to consider whether a heritage management document is required to assess the impact on heritage items or areas nearby.

Although a heritage management document has not been prepared (and neither is one required) the applicant's statement of environmental effects notes that the submitted preliminary construction management plan (CMP) requires dilapidation reports to be prepared for nearby heritage items, protective measures to be implemented during work, and appointment of a heritage contractor to carry out repairs should any damage to the heritage items occur.

These contingencies are appropriate, and recommended conditions require implementation of a revised, detailed demolition management plan.

### **Earthworks**

The application involves minor excavation for diversion of sewerage and stormwater infrastructure. A preliminary geotechnical investigation has been carried out and makes recommendations to ensure LEP considerations are suitably addressed, assessing and making recommendations regarding:

- Carrying out vibration testing of various equipment to ensure machinery is used that minimises vibration impacts,
- Dilapidation surveys of nearby assets (buildings, pavements and infrastructure),
- Disposal of excavated material,
- Excavation support,
- Ground movement and stress relief,
- Groundwater,
- Earthquake design,
- Soil aggressivity, and
- Preliminary design parameters.

Provisions for considering earthworks have been adequately addressed by the application, noting Council's development engineer has recommended conditions to ensure appropriate measures are taken in preparing for and carrying out the proposed works.

**NORTH SYDNEY DEVELOPMENT CONTROL PLAN 2013**

The proposal has been assessed having considered relevant provisions of NSDCP 2013:

<b>DEVELOPMENT CONTROL PLAN 2013 – Part B Section 11- Construction Management</b>		
<i>Provisions</i>	<i>Complies</i>	<i>Comments</i>
<b>11.2 Operating Hours Noise and Vibration</b>		
<b>11.2.2 Provisions</b>	Yes	Condition E23 is recommended, as it applies to land in the R4 zone.
<p><b>Primary construction hours</b>                      Building works must not occur outside times specified by standard condition E23.</p>		
<p><b>Noise and vibration</b>                      Large scale developments and construction sites should have a noise and vibration management plan as part of a construction management plan.</p> <p>Such a plan is necessary for demolition and noisy construction works.</p>	Yes	<p>A construction noise and vibration assessment was submitted, recommending development of a noise and vibration management plan, because recommended noise levels will be exceeded at residential and commercial receivers near the site.</p> <p>This plan would address matters such as:</p> <ul style="list-style-type: none"> <li>- Project construction noise targets</li> <li>- Appointing a person on-site to be responsible for managing noise and vibration</li> <li>- Training for employees/contractors</li> <li>- Use of quieter methods of operation for machinery and use of machinery suited to the task, to minimise noise and vibration</li> <li>- Ensure work hours are strictly observed</li> <li>- Keep the local community informed of site activities, including forewarning of events noisier than usual</li> <li>- Use of suitable alarms</li> <li>- Handling of materials responsibly</li> <li>- Noise and vibration monitoring and surveys</li> <li>- Reviewing and improving the management plan and work practices</li> <li>- Maintaining minimum distances for vibration-causing machinery</li> </ul> <p>An appropriate condition is recommended to ensure a noise and vibration management plan is prepared and implemented throughout the works.</p>
<b>11.3 Public safety amenity and site security</b>		
<p><b>11.3.2 Provisions</b></p> <ul style="list-style-type: none"> <li>• Fencing, hoardings, barriers</li> <li>• Lighting</li> <li>• Keeping streets and footpaths clean and suitable for use</li> <li>• Traffic management and vehicle access</li> <li>• Managing site access</li> <li>• Safe storage of materials and machinery</li> <li>• Appropriate signage</li> <li>• Site cleaning and maintenance</li> </ul>	Yes.	These matters are addressed in the site management section of the submitted preliminary construction management plan.
<b>11.4 Air and dust management</b>		
<p><b>11.4.2 Provisions</b></p> <ul style="list-style-type: none"> <li>• Identify potential impacts on air quality and means of eliminating or reducing impacts.</li> </ul>	Yes.	<p>The submitted preliminary construction management plan commits the principal contractor to preparing an environmental management plan for the project. This will address, as a minimum:</p> <ul style="list-style-type: none"> <li>- Noise and vibration management</li> <li>- Air quality management</li> <li>- Erosion and sediment control</li> <li>- Waste management</li> </ul>

		<ul style="list-style-type: none"> <li>- Hazardous materials management</li> <li>- Protection relocation and removal of trees</li> </ul>
<b>11.5 Erosion and sediment control</b>		
<b>11.5.2 Provisions</b> <ul style="list-style-type: none"> <li>• An erosion and sediment control plan forms part of the demolition/construction management plan for the site, that satisfies requirements of the DCP's Section 17 – Erosion and Sediment Control.</li> </ul>	Yes.	<p>The submitted civil report and plans, to be included in the consent, effectively address erosion and sediment control. A condition is recommended so they are implemented during the works.</p>
<b>11.6 Waste Management</b>		
<b>11.4.2 Provisions</b> <ul style="list-style-type: none"> <li>• Identify potential impacts on air quality and means of eliminating or reducing impacts.</li> </ul>	Yes.	<p>The principal contractor will be responsible for having a waste management plan prepared. A preliminary WMP was submitted with the subject application.</p> <p>In summary the submitted plan addresses:</p> <ul style="list-style-type: none"> <li>- Reuse and recycling of materials</li> <li>- Management of hazardous waste</li> <li>- Excavation waste management</li> <li>- Categorising and estimating amount of waste to be generated and expected recovery (recycling) rates</li> <li>- Handling facilities expected to receive waste materials</li> </ul>
<b>11.7 Traffic management</b>		
<b>11.7.2 Provisions</b> <ul style="list-style-type: none"> <li>• A traffic management plan is required when vehicle, waste collection, cyclist or pedestrian flows are affected.</li> </ul>		<p>A preliminary traffic management plan was submitted with the application, which recommends that a detailed plan be submitted before issue of a construction certificate. Due to the proposed works not requiring this certification, submission of a detailed traffic construction management plan for approval is required to make consent, if granted, operational.</p> <p>The preliminary plan identifies these objectives:</p> <ul style="list-style-type: none"> <li>- <i>To minimise the impact of the construction vehicle traffic on the overall operation of the road network;</i></li> <li>- <i>To ensure continuous, safe and efficient movement of traffic for both the general public and construction workers;</i></li> <li>- <i>Installation of appropriate advance warning signs to inform users of the changed traffic conditions;</i></li> <li>- <i>To provide a description of the construction vehicles and the volume of these construction vehicles accessing the construction site;</i></li> <li>- <i>To provide information regarding the changed access arrangement and also a description of the proposed external routes for vehicles including the construction vehicles accessing the site; and</i></li> <li>- <i>Establishment of a safe pedestrian environment in the vicinity of the site.</i></li> </ul> <p>In addition to these objectives, the detailed plan should also consider provision of public parking and for residents of Hampden Street, which will likely be impacted by the proposed works. The submitted preliminary plan notes removal of parking at the</p>

		<p>perimeter of the street will be necessary, and subject to Council approval.</p> <p>The submitted plan states removal of car parking is necessary for heavy vehicles to access the site. An alternative solution should be devised by the proponent, in consultation with affected residents, particularly those issued parking permits by Council, as there may be nowhere for them to park.</p> <p>Also noted is the potential need for permits, licences and the like for oversized vehicles (e.g. mobile cranes). These will need to be applied for and obtained prior to an operational consent being granted, or an operational condition could be imposed for such permits to be obtained, should they be required, as the submitted plan indicates access may be unnecessary for vehicles larger than a 12.5m Heavy Rigid Vehicle.</p> <p>The plan also notes public pedestrian access will be maintained and that parking in the vicinity by workers will be prohibited. Use of carpooling and public transport by workers will be encouraged.</p>
<p><b>11.8 Community information</b></p>		
<p><b>11.8.2 Provisions</b></p> <p>As a minimum a website and/or social media platform should be established to inform the public about planning for proposed works, their scheduling, duration and a description of activities, especially those that may be significantly disruptive, and so on.</p> <p>The media platform is to be periodically updated, at least weekly.</p> <p>Details of the media platform will be provided to the local community and signage advertising same should be placed on noticeboards or hoardings on the site's perimeter.</p>	<p>Yes.</p>	<p>A fundamental element of the submitted preliminary construction management plan is community liaison. At page 4, the plans states:</p> <p>“Proactive communication to all external project stakeholders, including local residents, authorities and service providers, will be key to ensuring that their needs are recognised and considered throughout the various stages of the project lifecycle.”</p> <p>A condition is recommended to ensure an appropriate medium and processes are established and promoted amongst the community, to keep stakeholders informed about the subject works.</p>

**LOCAL INFRASTRUCTURE CONTRIBUTIONS PLAN**

Council’s contribution plan does not exempt the applicant of the proposed works from paying a contribution.

An estimated cost of the proposed works is \$3,008,717.00. The s. 7.12 levy payable is 1% of this cost, which equals \$30,087.17. A condition requires payment of this levy.

## **ALL LIKELY IMPACTS OF THE DEVELOPMENT**

All likely impacts of the proposed development have been considered within the context of this report.

<b>ENVIRONMENTAL APPRAISAL</b>	<b>CONSIDERED</b>
1. Statutory Controls	Yes
2. Policy Controls	Yes
3. Impacts in relation to existing building and natural environment	Yes
4. Landscaping/Open Space Provision	Yes
5. Traffic generation and Carparking provision	Yes
6. Loading and Servicing facilities	Yes
7. Physical relationship to and impact upon adjoining development (health and amenity)	Yes
8. Site Management Issues	Yes
9. All relevant S 4.15 (1) considerations of Environmental Planning and Assessment (Amendment) Act 1979	Yes

## **PUBLIC INTEREST**

The proposal is in the public interest for the reasons stated throughout this report. The proposal will facilitate the site's development, that must be permissible in and consistent with applicable objectives of the R4 High Density Residential zone, and other applicable controls. The application, provided recommended detailed plans and amendments are made to the application being made, and these plans being properly implemented, the proposed site preparation works are expected to have acceptable impacts on built and natural environments and on local amenity.

As extant residential buildings are uninhabitable and will continue to decay without restoration and maintenance, they present increasing risks to the applicant and owner of the site, and more broadly, the general community. For these reasons the proposed works are in the public interest.

## **SUITABILITY OF THE SITE**

The site is suitable for the proposed works as detailed in the subject application. Plans and information submitted with the application and conditions recommended reasonably provide for the development having acceptable impacts on built and natural environments, and on the residential amenity of the neighbourhood.

## **CONCLUSION + REASONS**

The proposal has been considered under the relevant Environmental Planning Instruments and policies including NSLEP 2013 and NSDCP 2013 and was generally found to be unsatisfactory.

Having regard to the merits of the proposal, the application is recommended for approval subject to deferred commencement and operational conditions, for reason that certain additional plans and amendments to the proposal are required before works commence.

Typically, when demolition and site infrastructure works precede new development in a single development application, such measures are satisfied before a construction certificate is issued. As discussed, as a construction certificate is not required for demolition works, the best alternative is to require these matters be addressed in a deferred commencement consent.

In this context, as the proposed development is reasonable, conditions have been designed to complement and enforce the environmental and amenity control measures proposed so the development has reasonable and acceptable impacts on the local environment and the amenity of the neighbourhood. Recommended conditions do not only address how the works are to be conducted, they also provide assurance to the community in that the site will be rehabilitated and maintained until such time as redevelopment of the site occurs. The applicant has agreed in principle to these commitments.

Accepting that the current conditions of the site and the buildings thereon will likely deteriorate if works are not undertaken, and thus potentially posing safety risks to the owner and the community, the logic in approving the application is sound.

## **HOW WERE COMMUNITY VIEWS TAKEN INTO CONSIDERATION?**

The subject application was notified to adjoining properties and the Bradfield Precinct Committee for two separate periods of at least 14 days, in accordance with Council's Community Engagement Protocol. Issues raised have been considered in detail, earlier in this report.

Members of the community have suggested housing on the site could be made available for rent again. While this course of action is open to the applicant, it is beyond the scope of this application's determination to direct the applicant to pursue it.

## **RECOMMENDATION**

PURSUANT TO SECTION 4.16 OF ENVIRONMENTAL PLANNING AND ASSESSMENT ACT 1979 (AS AMENDED)

**THAT** the North Sydney Local Planning Panel, exercising the functions of Council, grant deferred commencement development consent to Development Application No. 367/22 to undertake demolition of all buildings and site preparation works, removal of two trees and relocation of a sewer line and install a new sewer connection, and diversion of stormwater infrastructure, subject to the deferred commencement conditions and operational conditions of consent, attached to this report.



**NORTH SYDNEY COUNCIL**  
**CONDITIONS OF DEVELOPMENT APPROVAL**  
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**DEVELOPMENT APPLICATION NO. 367/22**

**AA. Deferred Commencement Condition**

This consent shall not operate until the following deferred commencement condition has been satisfied.

**The applicant must satisfy Council as to the matters specified in the deferred commencement condition within 6 months of the date of the grant of this consent.**

**If the applicant fails to satisfy Council as to the matters specified in the deferred commencement condition within 6 months from the date of this consent, this consent will lapse in accordance with Section 4.16(3) of the Environmental Planning and Assessment Act 1979.**

**Additional plans and documentation required before the consent can be made operational**

AA1. The following plans and documentation must be submitted for approval by the Council's Manager Development Services to enable the consent to be made operational:

***Revised demolition plan***

- a) A revised demolition plan and other diagrams to show:
  - (i) All buildings and works to be demolished and removed,
  - (ii) All trees to be removed or pruned, including those on public land in the site's vicinity,
  - (iii) Tree protection zones of trees to be retained, including the crowns of these trees,
  - (iv) Staging of works, and
  - (v) Means of access to the site for each stage.
  - (vi) The finished levels and condition of the site including any embankment, bunding or other earthwork to be installed and maintained on the site.

***Detailed demolition management plan***

- b) A detailed demolition management plan is to be submitted, including measures to implement recommendations of other plans required by this condition, and the preliminary construction management plan, Logic Projects, 10 November 2022, and any other relevant requirements of this deferred commencement condition.

***Detailed waste management plan***

- c) A detailed waste management plan is to be submitted, including measures to implement recommendations of the construction and demolition waste management plan prepared by Elephants Foot Consulting, 23 September 2022, and any other relevant requirements of this deferred commencement condition.

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***Detailed site investigation implementation***

- d) Documentation must be submitted to demonstrate implementation of and compliance with the recommendations of the Detailed Site Investigation, Douglas Partners, 23 September 2022.

***Demolition traffic and parking management plan***

- e) A comprehensive demolition traffic and parking management plan must be submitted to implement the recommendations of the report by Parking and Traffic Consultants, 14 November 2022 and demonstrate how the following matters will be addressed, including and not limited to:
- (i) How the aggregate impacts of the proposal and other development in the locality will be addressed,
  - (ii) Measures to reasonably maintain access to Hampden Street and Walker Street for pedestrians and vehicles, at all times of the day, and during all days of the week, and
  - (iii) Means of reasonably maintaining resident/public parking along the street immediately adjacent to the site.

***Specific details of demolition traffic and parking management plan***

- f) The demolition traffic and parking management plan shall be prepared by a suitably qualified and experienced traffic consultant and must be submitted for consideration by the North Sydney Traffic Committee and approved in writing by North Sydney Council's Traffic Division PRIOR TO THE ISSUE OF THE OPERATIONAL CONSENT. Any use of Council property will require appropriate approvals prior to any work commencing. At a minimum, the Construction Management Program must specifically address the following matters:
- (i) A plan view (min 1:100 scale) of the entire site and frontage roadways indicating:
    - Dedicated temporary construction site driveway entrances and exits, controlled by a certified traffic controller, to safely manage pedestrians and construction related vehicles in the frontage roadways and footways;
    - The proposed signage for pedestrian management to comply with the relevant Australian Standards, including pram ramps;
    - Turning areas within the site for construction and spoil removal vehicles, allowing a forward egress for all construction vehicles on the site;
    - The locations of any proposed Work Zones in the frontage roadways (to be approved by Council's Traffic Committee);
    - Locations of hoardings proposed;
    - Location of any proposed crane standing areas;
    - A dedicated unloading and loading point within the site for all construction vehicles, plant and deliveries;
    - Material, plant and spoil bin storage areas within the site, where all materials are to be dropped off and collected; and
    - The provision of an on-site parking area for employees, tradesperson and construction vehicles as far as possible.

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- (ii) A detailed heavy vehicle access route map through the Council area to Arterial Roads. Provision is to be made to ensure through traffic is maintained at all times.
- (iii) The proposed phases of works on the site, and the expected duration of each phase.
- (iv) How access to neighbouring properties will be maintained at all times and the proposed manner in which adjoining property owners will be kept advised of the timeframes for completion of each phase of process.
- (v) The road is not to be used as a waiting area for trucks delivering to or awaiting pick up of materials.
- (vi) The proposed method of support to any excavation adjacent to adjoining properties, or the road reserve. The proposed method of support is to be designed and certified by an appropriately qualified and practising structural engineer and must not involve any permanent or temporary encroachment onto Council's property.
- (vii) Proposed protection for Council and adjoining properties. Details are to include site fencing and the provision of "B" class hoardings over footpaths and laneways.
- (viii) A Waste Management Plan. The Waste Management Plan must include, but not be limited to, the estimated volume of waste and method of disposal for the construction and operation phases of the development, design of on-site waste storage and recycling area and administrative arrangements for waste and recycling management during the construction process.

All traffic control work and excavation, demolition and construction activities must be undertaken in accordance with the approved Construction Management Program and any conditions attached to the approved Program. A certificate of compliance with this condition must be obtained from Council's development engineers, before works commence. A copy of the approved Construction Management Program and any conditions imposed on that Program, must be kept on the site at all times and made available to any officer of Council upon request.

**Notes:**

- 1) North Sydney Council's adopted fee for certification of compliance with this condition shall be payable on lodgement, or in any event, prior to the issue of the relevant approval.
- 2) Any use of Council property will require appropriate approvals and demonstration of liability insurances prior to such work commencing.
- 3) Failure to provide complete and detailed information may result in delays. It is recommended that your Construction Management Plan be lodged with Council as early as possible, as a **minimum six (6) weeks assessment period** is required, including referral to the Traffic Committee.
- 4) Dependent on the circumstances of the site, Council may request additional information to that detailed above.

***Dilapidation survey***

- g) A dilapidation survey and report (including photographic record) must be prepared by a suitably qualified consultant who details the pre-developed condition of the existing public infrastructure in the vicinity of the development site. Particular attention must be paid to accurately recording any pre-developed damaged areas so that Council is fully informed when assessing any damage to public infrastructure caused as a result of the development. A copy of the dilapidation survey and report is to be submitted to Council for approval before works authorised by this consent commence.

The developer may be held liable for all damage to public infrastructure in the vicinity of the site, where such damage is not accurately recorded and demonstrated as pre-existing under the requirements of this condition.

The developer shall bear the cost of carrying out works to restore all public infrastructure damaged as a result of the carrying out of the development, and no occupation of the development shall occur until damage caused as a result of the carrying out of the development is rectified.

***Shoring for adjoining property***

- h) Where any shoring for excavation is to be located on or is supporting Council's property or any adjoining private property, engineering drawings certified as being adequate for their intended purpose by an appropriately qualified and practising structural engineer, showing all details, including the extent of excavation, encroachment and the method of removal and de-stressing of shoring elements, backfilling and compacting of over-excavated cavities on Council's and/or private property with fill suitable for its purpose, must be submitted Council for approval. Backfilling and compacting of over-excavated cavities must be addressed to ensure that compaction is reliable. To obtain the permit for tieback anchors, an 'Application to satisfy development consent' form with payment of the adopted assessment fees, must be made to Council.

***Note: Approval of engineering drawings for shoring works to be located on adjoining property by Council does not authorize a trespass on private or public land. All relevant permissions/legal rights must be obtained to undertake any works on adjoining land.***

***Geotechnical report and noise and vibration management plan***

- i) All recommendations of the geotechnical report by Douglas Partners, 23 September 2022 being implemented, including preparation of a noise and vibration management plan that is consistent with geotechnical report's recommendations and their implementation.

***Detailed geotechnical report***

- j) In addition to implementing or to complement the reports referred to in paragraph (i) a detailed Geotechnical/Civil Engineering report must be prepared which addresses at a minimum (but is not limited to) the following:-

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- (i) The type and extent of substrata formations by the provision of a minimum of four (4) representative bore hole logs which are to provide a full description of all material from ground surface to 1.0m below the finished basement floor level and include the location and description of any anomalies encountered in the profile. The surface and depth of the bore hole logs must be related to Australian Height Datum;
- (ii) The appropriate means of excavation/shoring in light of point (a) above and proximity to adjacent property and structures. Potential vibration caused by method of excavation and potential settlements affecting nearby footings/foundations must be discussed and mechanisms to ameliorate any such impacts recommended;
- (iii) The proposed method to temporarily and permanently support the excavation for the basement adjacent to adjoining property, structures and road reserve if nearby (full support must be provided within the subject site);
- (iv) The existing groundwater levels in relation to the basement structure, where influenced;
- (v) The drawdown effects on adjacent properties (including road reserve), if any, the basement excavation will have on groundwater together with the appropriate construction methods to be utilized in controlling groundwater. Where it is considered there is the potential for the development to create a "dam" for natural groundwater flows, a groundwater drainage system must be designed to transfer groundwater through or under the proposed development without a change in the range of the natural groundwater level fluctuations. Where an impediment to the natural flow path is constructed, artificial drains such as perimeter drains and through drainage may be utilized; and
- (vi) Recommendations to allow the satisfactory implementation of the works. An implementation program is to be prepared along with a suitable monitoring program including control levels for vibration, shoring support, ground level and groundwater level movements during construction. The implementation program is to nominate suitable hold points at the various stages of the works for verification of the design intent before sign-off and before proceeding with subsequent stages.
- (vii) The design principles for the geotechnical report are as follows:
  - no ground settlement or movement is to be induced which is sufficient enough to cause an adverse impact to adjoining property and/or infrastructure;
  - no changes to the ground water level are to occur as a result of the development that are sufficient enough to cause an adverse impact to the surrounding property and infrastructure;
  - no changes to the ground water level are to occur during the construction of the development that are sufficient enough to cause an adverse impact to the surrounding property and infrastructure;
  - vibration is to be minimized or eliminated to ensure no adverse impact on the surrounding property and infrastructure occurs, as a result of the construction of the development;
  - appropriate support and retention systems are to be recommended and suitable designs prepared to allow the proposed development to comply with these Design Principles; and

- An adverse impact can be assumed to be crack damage as identified within the relevant Australian Standard for determining such damage.

The geotechnical report must be prepared by an appropriately qualified consulting geotechnical/ hydro geological engineer or suitable qualified expert with previous experience in such investigations and reporting.

It is the responsibility of the consulting geotechnical/ hydrological specialist to undertake the appropriate investigations, reporting and specialist recommendations to ensure a reasonable level of protection to adjacent property and structures both during and after construction. The report must contain site-specific geotechnical recommendations and shall specify the necessary hold/inspection points by relevant professionals as appropriate.

The professional recommendations, implementation program, monitoring program, mitigation measures and the like contained in the report must be implemented in full during the relevant stages of excavation and construction.

#### ***Sediment control plan***

- k) Where the approved works require the disturbance of the soil surface or existing vegetation, erosion and sediment control techniques, as a minimum, are to be in accordance with the publication *Managing Urban Stormwater: Soils & Construction* (4th edition, Landcom, 2004) commonly referred to as the "Blue Book" or a suitable and effective alternative method.

A Sediment Control Plan must be prepared and submitted to and approved by Council prior to any works commencing. The Sediment Control Plan must be consistent with the Blue Book and disclose:

- (i) All details of drainage to protect and drain the site during the construction processes;
- (ii) All sediment control devices, barriers and the like;
- (iii) Sedimentation tanks, ponds or the like;
- (iv) Covering materials and methods; and
- (v) A schedule and programme of the sequence of the sediment and erosion control works or devices to be installed and maintained.
- (vi) Methods for the temporary and controlled disposal of stormwater during construction.

All works must be undertaken in accordance with the approved Sediment Control plan.

#### ***Work zone***

- l) If a Work Zone is proposed, an application must be made to the North Sydney Local Traffic Committee to install the 'Work Zone'. A Work Zone permit is required to be issued by the Council prior to works authorised by this consent commence.

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Work Zones are provided specifically for the set down and pick up of materials and not for the parking of private vehicles associated with the site. Works Zones will generally not be approved where there is sufficient space on-site for the setting down and picking up of goods being taken to or from a construction site. If the Works Zone is approved by the Committee, the Applicant must obtain a written copy of the related resolution from the North Sydney Local Traffic Committee and submit a copy of this to Council.

Where approval of the 'Work Zone' is given by the Committee, the requirements of the Committee, including installation of the necessary 'Work Zone' signage and payment of any fees, must occur prior to commencement of any works on the site. Further, at the expiration of the Work Zone approval, the developer is required to remove the Work Zone signs and reinstate any previous signs, all at the developer's cost. The requirements imposed by the Committee on the Work Zone permit (or permits) must be complied with at all times.

***Parking meter relocation***

- m) Where metered parking is located adjacent to the site, Council will require the removal/relocation of existing parking meter and associated meter infrastructure. An application must be made to North Sydney Council for the approval of the Parking Meter Manager. The application must include a copy of the plans of the proposed temporary and permanent driveways for the entire site.

All costs associated with removal/relocating the metered parking including all sign changes, parking bay line markings must be paid in full to North Sydney Council before any works commence.

***Bond for Damage and Completion of Infrastructure Works – Stormwater, Kerb and Gutter, Footpaths, Vehicular Crossing and Road Pavement***

- n) Prior works commencing, security deposit or bank guarantee must be provided to Council to the sum of \$155,000.00 to be held by Council for the payment of cost for any/all of the following:
- (i) making good any damage caused to any property of the Council as a consequence of the doing of anything to which this consent relates,
  - (ii) completing any public work (such as road work, kerbing and guttering, footway construction, stormwater drainage and environmental controls) required in connection with this consent
  - (iii) Remedying any defects in any such public work that arise within 1 year for stormwater and 6 months for major road works and 2 months for vehicular crossing & small associated footpath works, after the work is completed.

The security in accordance with the schedule contained later in these conditions and must be provided by way of a deposit with the Council; or a guarantee satisfactory to Council (such as a satisfactory bank guarantee).

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The security will be refundable following the expiration of defect risk period for the particular type of work as specified above (under c)), from the issue of any final Occupation Certificate or completion of public work required to be completed (whichever is the latest) but only upon inspection and release by Council's Engineers.

Council shall have full authority to make use of the bond for such restoration works as deemed necessary by Council in circumstances including the following: -

- where the damage constitutes a hazard in which case Council may make use of the security immediately;
- the applicant has not repaired or commenced repairing damage within 48 hours of the issue by Council in writing of instructions to undertake such repairs or works;
- works in the public road associated with the development are to an unacceptable quality; and
- the security must be provided to North Sydney Council prior any work commencing.

**Security deposits**

- o) All fees and security deposits/ guarantees in accordance with the schedule below must be provided to Council prior to the issue of any works authorised by this consent commencing:

<b>Security deposit/ guarantee</b>	<b>Amount (\$)</b>
Street Tree Bond (on Council Property)	\$140,000.00
Infrastructure Damage Bond	\$33,000.00
Drainage Construction Bond	\$122,000.00
<b>TOTAL BONDS</b>	<b>\$295,000.00</b>

**Drainage works**

- p) The following Required Infrastructure Works must be carried out –in accordance with the Roads Act 1993:
- (i) Redirection of existing stormwater main that traverses the property by construction of a new in-ground drainage line under the kerb and gutter at standard depth in Walker and Hampden Streets with all associated stormwater infrastructure (junction stormwater pits). The line must connect the stormwater gully pit in Walker Street to the existing Council pit located downstream - on the eastern side of the property.
  - (ii) The pipes within the road reserve are to be reinforced concrete class 2 with the final capacity and minimum diameter to be provided.
  - (iii) Bedding shall be in accordance with Australian Standard AS 3725 – (Loads on buried concrete pipes). The developer shall be responsible for carrying out any service investigations to allow a gravity connection.
  - (iv) A hydraulic grade line is to be added to the drainage long-section to ensure that the drainage has sufficient capacity.
  - (v) The final alignment and capacity of the pipes must be submitted.



- (vi) The existing pipe is 5m deep in some locations, pit designs and a pit schedule must also be provided for approval.

Plans and specifications required by this condition must be submitted for approval by Council's Manager Infrastructure and Engineering, before works commence.

Works must not commence without the formal written approval of Council (as Roads Authority) under the Roads Act 1993.

The required plans and specifications are to be designed in accordance with North Sydney Council's current documents Infrastructure Specification for Road Works, Drainage and Miscellaneous Works and Performance Guide for Engineering Design and Construction. The drawings must detail existing utility services and trees affected by the works, erosion control requirements and traffic management requirements during the course of works. A detailed survey must be undertaken as required. Traffic management is to be certified on the drawings as being in accordance with the documents SAA HB81.1 – 1996 – Field Guide for Traffic Control at Works on Roads – Part 1 and RMS Traffic Control at Work Sites (1998).

**Construction of the works must proceed only in accordance with any conditions attached to the Council Roads Act 1993 approval.**

***Note:** A minimum of 21 days will be required for Council to assess Roads Act submissions. Early submission is recommended to avoid any delays in obtaining approval. A fee to cover cost of assessment (set out in Council's adopted fees and charges) is payable and Council will withhold any consent and approved plans until full payment of the correct fees. Plans and specifications must be marked to the attention of Council's Development Engineers. In addition, a copy of this condition must be provided, together with a covering letter stating the full address of the property and the accompanying DA number.*

***Tree preservation and protection***

- q) Details of the following matters shall be submitted:
- (i) A project arborist shall be appointed **to physically supervise** all demolition works in order to ensure that these are carried out in a tree sensitive manner.
  - (ii) Upon completion of all works, the site shall be regraded, retaining existing levels within the Tree Protection Zone of protected trees, and laid with soft leaf buffalo turf. An establishment and ongoing maintenance plan (including mowing) shall be included for approval by council.
  - (iii) No objection is raised to removal of public trees T41 & T42 subject to replacement with 1 x *Tristaniopsis laurina* 'Luscious' (75l) and 1 x *Corymbia maculata* (75l) in approximately the same location.
  - (iv) Retention and protection of all site trees in accordance with AS4970, and retention and protection of all public trees in accordance with AS4970,

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- (v) 2 x Platanus street trees on the western side of Walker St, and 1 x Platanus street trees on the eastern side of Walker St, immediately to the north of the Walker St & Berry St intersection shall be protected in accordance with AS4970, have branch protection installed for branches overhanging the roadway, and have a collective tree bond of \$20,000 applied. (These trees are located along the proposed entry and exit route under the lodged construction management plan and may be at risk of damage if not adequately protected).
- (vi) The central roadway planting (referred to as Group 2 in the arborist's report) including but not limited to 1 x *Jacaranda mimosifolia*, 2 x *Pittosporum rhombifolium*, 1 x *Glochidion ferdinandii*, 9 x *Callistemon sp.*, 2 x *Pittosporum undulatum*, 5 x *Cyathea sp.*, 1 x clump *Strelitzia nicholii*, associated underplanting of *Clivea sp.*, *Asplenium aethiopicum*, *Lomandra longifolia* and *Calathea sp.*, & *Ficus rubiginosa* at the eastern street terminus, and all associated sandstone walls including upper heritage handrail between Hampden Streets lower and upper shall be retained and protected in accordance with AS4970. 1.8m high steel mesh tree protection fencing shall be installed to completely enclose this garden bed, no pruning shall be permitted, and a collective tree bond of \$120,000 shall be applied.
- (vii) An amended arborist report shall be submitted, assessing any amendments to existing proposal, and confirming that Group 3 - 8 x Platanus street trees along Walker St (upper), or any other street trees along this stretch of road will not be impacted by any associated works, including stormwater or other services, installation of cranes or heavy machinery etc. These trees shall be protected in accordance with AS4970, but no bond or tree protection shall be conditioned at this stage unless these trees are shown to be impacted by the proposal in the amended arborist report. The amended arborist report shall include a detailed Tree Protection Management Plan for all retained and protected trees, including transplanting of T22, T23, T27 & T28 as outlined above. This report shall also consider pruning requirements, and impact of any hoarding and scaffolding.
- (viii) An AQ5 qualified project arborist shall be appointed to oversee all works within the TPZ of any protected tree.
- (ix) Sensitive construction techniques including hand excavation, pier & beam construction, and flexible location of piers/footings shall be used within the TPZ of any protected tree. No canopy pruning shall be permitted unless specifically detailed in amended and approved arborist report, and shall be carried out by an AQ3 qualified arborist in accordance with AS4373. "
- (x) Where not inconsistent with other requirements of this condition or other conditions of this consent, the recommendations of the arboricultural impact assessment prepared by Tree Management Strategies, 25 September 2023 must be implemented by the detailed tree protection management plan required by paragraph (vii).

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**Ongoing community liaison**

- r) A community liaison plan must be prepared for the proposed works that is consistent with cl. 11.8.2 Part 11 North Sydney DCP 2013 and implements the recommendations of the submitted preliminary construction management plan by Logic Projects, 10 November 2022. The plan is to be prepared for and be applied during detailed planning and carrying out of the proposed works and the during the rehabilitation and maintenance of the site, until works commence for the site's development for residential use or other permissible purposes, the subject of another consent.

**Site rehabilitation and management plan**

- s) A comprehensive and detailed site rehabilitation and management plan shall be submitted for approval, to demonstrate how the site will be properly reformed, rehabilitated, landscaped and maintained, upon completion of all demolition and site preparation works until such time as a construction certificate is issued to commence works in accordance with another consent to construct residential accommodation, or other development permitted on the site.

**Local Infrastructure Contribution**

- t) A monetary contribution pursuant to the provisions of Section 7.12 of the Environmental Planning and Assessment Act 1979 is to be paid to Council, prior to any works authorised by the is consent commencing, in accordance with the North Sydney Council's Contribution Plan, to provide for local infrastructure improvements.

Based on the cost of development at the date of determination, the total contribution payable to Council is \$30,087.17.

Reason To eliminate, mitigate or manage the environmental impacts of the proposed works, to ensure that local residential amenity is reasonably maintained and to ensure applicable legislative requirements and obligations of the applicant can be satisfied.

**Operational consent**

**This consent shall not operate until such time as the written approval from Council's Manager Development Services stating that the requirements of this condition has been satisfied.**

**Upon satisfaction of the deferred commencement condition, the following standard conditions apply:**

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**A. *Conditions that Identify Approved Plans***

**Development in Accordance with Plans/Documentation**

- A1. The development must be carried out in accordance with the following Early Works Civil Development Application Report, Taylor Thomson Whitting (NSW), 6 September 2023 and Detailed Site Investigation, Douglas Partners, 23 September 2022 or cited by other conditions, and as amended by other conditions of this consent.

**Note:** Plans submitted in satisfaction of Condition AA1 to be included in Condition A1, when the operational consent is issued.

(Reason: To ensure that the form of the development undertaken is in accordance with the determination of Council, Public Information)

**Plans on Site**

- A2. A copy of all plans endorsed with Council's approval stamp, specifications and documents (including the plans, specifications and documents submitted and approved, as required by deferred consent condition AA1) must be kept on site at all times so as to be readily available for perusal by any officer of Council.

All documents kept on site in accordance with this condition must be provided to any officer of the Council upon their request.

(Reason: To ensure that the form of the development undertaken is in accordance with the determination of Council, Public Information and to ensure ongoing compliance)

**D. *Prior to the Commencement of any Works (and continuing where indicated)***

**Notice of Proposed Work (Remediation Work)**

- D1. Notice of proposed work must be given to the Council in accordance with Clause 16 of State Environmental Planning Policy No 55—Remediation of Land.

The following additional information must be submitted with the notice to the Council:

- a) Copies of any preliminary investigation, detailed investigation and remediation action plan for the site; and
- b) Contact details for the remediation contractor and any other party responsible for ensuring compliance of remediation work with regulatory requirements.

Note: 30 days' notice is required for any remediation work. In the case of work required to be carried out immediately under the terms of a remediation order a minimum of two days' notice is required)

(Reason: Protection of the environment, SEPP 55 compliance)

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**Public Liability Insurance – Works on Public Land**

- D2. Any person or contractor undertaking works on public land must take out Public Risk Insurance with a minimum cover of \$20 million in relation to the occupation of public land and the undertaking of approved works within Council's road reserve or public land, as approved by this consent. The Policy is to note and provide protection/full indemnification for North Sydney Council, as an interested party. A copy of the Policy must be submitted to Council prior to commencement of any works. The Policy must be valid for the entire period that the works are being undertaken.

(Note: Applications for hoarding permits, vehicular crossings etc will require evidence of insurance upon lodgement of the application.)

(Reason: To ensure the community is protected from the cost of any claim for damages arising from works on public land)

**Sydney Water Approvals**

- D3. Prior to the commencement of any works, the approved plans must be submitted to Sydney Water to determine whether the development application will affect Sydney Water's sewer and water mains, stormwater drains and/or easements, and if further requirements need to be met. The applicant must provide evidence to Council that demonstrates that Sydney Water has appropriately stamped the plans before the commencement of any works requiring their approval.

Notes:

- **Sydney Water Building Plan Approvals** can be obtained from the Sydney Water Tap in™ online service. Building plans must be submitted to the Tap in™ to determine whether the development will affect any Sydney Water sewer or water main, stormwater drains and/or easement, and if further requirements need to be met. For further information visit <http://www.sydneywater.com.au/tapin/index.htm> or call 13 000 TAP IN (1300 082 746) for further information.

(Reason: To ensure compliance with Sydney Water requirements)

**Asbestos Material Survey**

- D4. Prior to the commencement of any works, a report must be prepared by a suitably qualified person in relation to the existing building fabric to be demolished and/or disturbed identifying the presence or otherwise of asbestos contamination and, if asbestos contamination is present, making recommendations as to the work required to safely address the contamination.

Any demolition works or other works identified in the report as having to be carried out must be carried out in accordance with the recommendations of the report and the following:

- a) the removal of asbestos must be undertaken by a WorkCover licensed contractor;

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- b) all removal must be in strict accordance with the requirements of the WorkCover Authority in relation to the removal, handling and disposal of material containing asbestos and any Work Safe Australia requirements.
- c) during the removal of any asbestos a sign stating "DANGER ASBESTOS REMOVAL IN PROGRESS" must be erected in a visible position at the boundary of the site; and
- d) Waste disposal receipts must be provided to Council as proof of correct disposal of asbestos laden waste.

The report must be submitted to Council for approval before works commence, to ensure compliance with this condition and relevant WorkCover requirements and law.

(Reason: To ensure the long-term health of workers on site and occupants of the building is not put at risk unnecessarily)

**Commencement of Works' Notice**

- D5. Building work, demolition or excavation in accordance with this development consent must not be commenced until the developer has given at least 2 days notice to North Sydney Council of the person's intention to commence building work, demolition or excavation in accordance with this development consent.

(Reason: To ensure appropriate safeguarding measures are in place prior to the commencement of any building work, demolition or excavation)

**E. *During Demolition and Building Work***

**Parking Restrictions**

- E1. Existing public parking provisions in the vicinity of the site must be maintained at all times during works. The placement of any barriers, traffic cones, obstructions or other device in the road shoulder or kerbside lane is prohibited without the prior written consent of Council. Changes to existing public parking facilities/restrictions must be approved by the North Sydney Local Traffic Committee. The Developer will be held responsible for any breaches of this condition and will incur any fines associated with enforcement by Council regulatory officers.

(Reason: To ensure that existing kerbside parking provisions are not compromised during works)

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**Road Reserve Safety**

- E2. All public footways and roadways fronting and adjacent to the site must be maintained in a safe condition at all times during the course of the development works, with no obstructions caused to the said footways and roadways. Construction materials and plant must not be stored in the road reserve without approval of Council. A safe pedestrian circulation route and a pavement/route free of trip hazards must be maintained at all times on or adjacent to any public access ways fronting the construction site.

Where public infrastructure is damaged, repair works must be carried out in when and as directed by Council officers (at full Developer cost). Where pedestrian circulation is diverted on to the roadway or verge areas, clear directional signage and protective barricades must be installed in accordance with AS1742-3 (1996) "Traffic Control Devices for Work on Roads". **If pedestrian circulation is not satisfactorily maintained across the site frontage, and action is not taken promptly to rectify the defects, Council may undertake proceedings to stop work.**

(Reason: Public Safety)

**Temporary Disposal of Stormwater Runoff**

- E3. During construction, stormwater runoff must be disposed in a controlled manner that is compatible with the erosion and sediment controls on the site. Immediately upon completion of any impervious areas on the site (including roofs, driveways, paving) and where the final drainage system is incomplete, the necessary temporary drainage systems must be installed to reasonably manage and control runoff as far as the approved point of stormwater discharge. Such ongoing measures must be to the satisfaction of Council.

(Reason: Stormwater control during construction)

**Geotechnical Stability during Works**

- E4. A contractor with specialist excavation experience must undertake the excavations for the development and a suitably qualified and consulting geotechnical engineer must oversee the excavation procedure.

Geotechnical aspects of the development work, namely appropriate excavation method and vibration control, support and retention of excavated faces, and hydrogeological considerations must be undertaken in accordance with the recommendations of the [INSERT REPORT] prepared by [INSERT], dated [INSERT] and all subsequent geotechnical inspections carried out during the excavation and construction phase.

Approval must be obtained from all affected property owners, including North Sydney Council where rock anchors (both temporary and permanent) are proposed below adjacent private or public property.

(Reason: Ensure appropriate professional are engaged at appropriate stages during construction)

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**Council Inspection of Public Infrastructure Works**

E5. During the works on public infrastructure reverting to Council's care and control, Council's development engineer is to be contacted to undertake inspections of the works at the following hold points: -

- a) Stormwater pit installation, diversion and connection

All works must proceed in accordance with Roads Act 1993 approvals or other permits relating to roads issued by Council. A minimum of 48 hours notice must be given to Council to book an inspection. Work must not proceed until the works or activity covered by the inspection is approved.

(Reason: To ensure quality of construction joints and connections in the drainage system)

**Dust Emission and Air Quality**

E6. The following must be complied with at all times:

- (a) Materials must not be burnt on the site.
- (b) Vehicles entering and leaving the site with soil or fill material must be covered.
- (c) Dust suppression measures must be carried out to minimise wind-borne emissions in accordance with the NSW Department of Housing's 1998 guidelines - Managing Urban Stormwater: Soils and Construction.
- (d) Odour suppression measures must also be carried out where appropriate so as to prevent nuisance occurring at adjoining properties.

(Reason: To ensure residential amenity is maintained in the immediate vicinity)

**Noise and Vibration**

E7. The works must be undertaken in accordance with the "Interim Construction Noise Guideline" published by the NSW Environment Protection Authority, to ensure excessive levels of noise and vibration do not occur so as to minimise adverse effects experienced on any adjoining land.

(Reason: To ensure residential amenity is maintained in the immediate vicinity)



**Compliance with Construction Noise Management Plan**

- E8. All works conducted on site which form part of this development must be carried out in accordance with the submitted Construction Noise Management Plan and all conditions of consent.

(Reason: To ensure noise generating activities are appropriately managed and nearby sensitive receivers protected)

**Developer's Cost of Work on Council Property**

- E9. The Developer or the person, company or other entity that is acting upon this consent, must bear the cost of all works associated with the development that occurs on Council's property, including the restoration of damaged areas.

(Reason: To ensure the proper management of public land and funds)

**Construction Hours**

- E10. Construction activities and works approved under this consent must be restricted to within the hours stipulated in the following table:

Standard Construction Hours		
Location	Day	Hours
R4 Zone	Monday - Friday	7.00am - 5.00pm
	Saturday	8.00am - 1.00pm
	Sunday Public holiday	No work permitted

Construction activities for development approved under this consent must be carried out in accordance with the standard construction hours above, the EPA Noise Policy for Industry 2017 and any Construction Noise Management Plan required under this consent.

In the event of breach to the approved hours of construction Council take may take enforcement action under Part 9 of the EP & A Act 1979 and in accordance with Council's adopted Compliance & Enforcement Policy.

(Reason: To ensure that works do not interfere with reasonable amenity expectations of residents and the community)

**Installation and Maintenance of Sediment Control**

- E11. Erosion and sediment controls must be installed and maintained at all times in accordance with the sediment and erosion control plan.

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Erosion and sediment measures must be maintained in accordance with the publication *Managing Urban Stormwater: Soils and Construction* (4th Edition, Landcom, 2004), commonly referred to as the "Blue Book" and can only be removed when development activities have been completed and the site fully stabilised.

(Reason: To protect the environment from the effects of sedimentation and erosion from development sites)

**Sediment and Erosion Control Signage**

E12. A durable sign must be erected during building works in a prominent location on site, warning of penalties should appropriate erosion and sedimentation control devices not be maintained. A sign of the type referred to in this condition is available from Council.

(Reason: To protect the environment from the effects of sedimentation and erosion from development sites)

**Remedial Action Plan (Contaminated Land)**

E13. The remediation work must be carried out in accordance with the Remedial Action Plan approved under this consent and all relevant guidelines issued under the Contaminated Land Management Act.

(Reason: To ensure the proper management of contaminated land)

**Site Amenities and Facilities**

E14. Where work involved in the erection and demolition of a building is being carried out, amenities which satisfy applicable occupational health and safety and construction safety regulations, including any WorkCover Authority requirements, must be provided and maintained at all times. The type of work-place determines the type of amenities required.

Further information and details can be obtained from the Internet at [www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au)

(Reason: To ensure the health and safety of the community and workers on the site)

**Health and Safety**

E15. All work undertaken must satisfy applicable occupational health and safety and construction safety regulations, including any SafeWork NSW Authority requirements to prepare a health and safety plan. Site fencing must be installed sufficient to exclude the public from the site. Safety signs must be erected that warn the public to keep out of the site and provide a contact telephone number for enquiries.

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Further information and details regarding occupational health and safety requirements for construction sites can be obtained from the internet at [www.workcover.nsw.gov.au](http://www.workcover.nsw.gov.au).

(Reason: To ensure the health and safety of the community and workers on the site)

**Prohibition on Use of Pavements**

E16. Building materials must not be placed on Council's footpaths, roadways, parks or grass verges, (unless a permit is obtained from Council beforehand). A suitable sign to this effect must be erected adjacent to the street alignment.

(Reason: To ensure public safety and amenity on public land)

**Plant and Equipment Kept Within Site**

E17. All plant and equipment used in the undertaking of the development/ works, including concrete pumps, wagons, lifts, mobile cranes, hoardings etc, must be situated within the boundaries of the site (unless a permit is obtained from Council beforehand) and so placed that all concrete slurry, water, debris and the like must be discharged onto the building site, and is to be contained within the site boundaries.

Details of Council requirements for permits on public land for standing plant, hoardings, storage of materials and construction zones and the like are available on Council's website at [www.northsydney.nsw.gov.au](http://www.northsydney.nsw.gov.au).

(Reason: To ensure public safety and amenity on public land)

**Waste Disposal**

E18. All records demonstrating the lawful disposal of waste must be retained and kept readily accessible for inspection by regulatory authorities such as North Sydney Council and the Environmental Protection Authority.

(Reason: To ensure the lawful disposal of construction and demolition waste)

**Asbestos Removal**

E19. All demolition works involving the removal and disposal of asbestos cement must only be undertaken by contractors who hold a current WorkCover Asbestos or "Demolition Licence" and a current WorkCover "Class 2 (Restricted) Asbestos Licence and removal must be carried out in accordance with National Occupational Health and Safety Commission.

(Reason: To ensure works are carried out in accordance with relevant WorkCover requirements)

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**Service Adjustments**

- E20. The adjustment or inclusion of any new utility service or facilities must be carried out by an appropriately contractor in accordance with the requirements of the relevant utility authority.

These works shall be at no cost to Council. It is the Applicant's responsibility to contact the relevant utility authorities to ascertain the impacts of the proposal upon utility services prior to the commencement of any work, including demolition (including water, phone, gas and the like).

Council accepts no responsibility for any impact on or influence upon utility services provided by another authority.

(Reason: To ensure the service requirements are met)

**F. *Prescribed Conditions imposed under EP&A Act and Regulations and other relevant Legislation*****Commencement of Works'**

- F1. Building work, demolition or excavation in accordance with this development consent must not be commenced until the developer has given at least two days' notice to North Sydney Council of the person's intention to commence the erection of the building.

(Reason: Statutory; To ensure appropriate safeguarding measures are in place prior to the commencement of any building work, demolition or excavation)

**Excavation/Demolition**

- F2. 1) All excavations and backfilling associated with the erection or demolition of a building must be executed safely and in accordance with appropriate professional standards.
- 2) All excavations associated with the erection or demolition of a building must be properly guarded and protected to prevent them from being dangerous to life or property.
- 3) Demolition work must be undertaken in accordance with the provisions of AS2601- Demolition of Structures.

(Reason: To ensure that work is undertaken in a professional and responsible manner and protect adjoining property and persons from potential damage)

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**Protection of Public Places**

- F3.
- 1) A hoarding and site fencing must be erected between the work site and adjoining public place.
  - 2) If necessary, an awning is to be erected, sufficient to prevent any substance from, or in connection with, the work falling into the public place.
  - 3) The work site must be kept lit between sunset and sunrise if it is likely to be hazardous to persons in the public place.
  - 4) Any such hoarding, fence or awning is to be removed when the work has been completed.
  - 5) No access across public reserves or parks is permitted.

Note: Prior to the erection of any temporary fence or hoarding over property owned or managed by Council, written approval must be obtained. Any application needs to be accompanied by plans indicating the type of hoarding and its layout. Fees are assessed and will form part of any approval given. These fees must be paid prior to the approval being given. Approval for hoardings will generally only be given in association with approved building works, maintenance or to ensure protection of the public. An application form for a Hoarding Permit can be downloaded from Council's website.

(Reason: To ensure public safety and the proper management of public land)

**Site Sign**

- F4.
- 1) A sign must be erected in a prominent position on the site
    - a) stating that unauthorised entry to the work site is prohibited; and
    - b) showing the name of the principal contractor (or person in charge of the work site), and a telephone number at which that person may be contacted at any time for business purposes and outside working hours.
  - 2) Any such sign must be maintained while to building work or demolition work is being carried out but must be removed when the work has been completed.

(Reason: Prescribed - Statutory)

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**G. Prior to the Issue of an Occupation Certificate****Infrastructure Repair and Completion of Works**

- G1. Prior to the issue of any Occupation Certificate any and all works relating to the development:
- a. in the road reserve must be fully completed; and
  - b. to repair and make good any damaged public infrastructure caused as a result of any works relating to the development (including damage caused by, but not limited to, delivery vehicles, waste collection, contractors, sub-contractors, concrete vehicles) must be fully repaired;

to the satisfaction of Council Engineers at no cost to Council. Council's development engineer must be contacted to arrange inspections of the completed works in the Public Domain.

(Reason: Maintain quality of Public assets)

**Certification – Civil Works**

- G2. a) Prior to any works commencing, an appropriately qualified and practising Civil Engineer must certify to Council that the stormwater drainage system is constructed in accordance with this consent and the provisions of the applicable Australian Standard.
- b) Prior to any works commencing, an appropriately qualified and practicing Civil Engineer must certify to Council that the vehicular crossing and associated works and road works were constructed in accordance with this consent and any approval for works in the road reserve issued by the Council.

(Reason: Compliance with the Consent)

**Works as Executed Drawings and Video**

- G3. A works-as-executed survey drawing (W.A.E.) of the completed stormwater drainage system must be obtained. The W.A.E. survey drawing must show the alignment, depth and grade of the stormwater drainage pipelines, pits and ancillary plumbing. The W.A.E survey drawing must be reviewed by a qualified and practising civil engineer and certification provided to Council that the as-built system achieves the design intent of the approved plans. Certification must be provided with the W.A.E survey drawing upon completion of the approved works.

(Reason: Compliance with the Consent)

***I. On-Going / Operational Conditions*****Connection to Sewers of Sydney Water Corporation**

11. In the event a Trade Waste licence is required, waste water arising from the use must be directed to the sewers of the Sydney Water Corporation (**SWC**) under a Trade Waste License Agreement. Details of the Corporation's requirements should be obtained prior to the commencement of any work.

(Reason: To ensure compliance with Sydney Water's requirements and protect the environment)

**Noise and Vibration Impact**

12. The on-going use of the premises approved under this consent must comply with all conditions pertaining to noise and vibration specified in this consent.

(Reason: To ensure compliance with the specified levels of noise and vibration and to maintain the amenity of surrounding land uses)

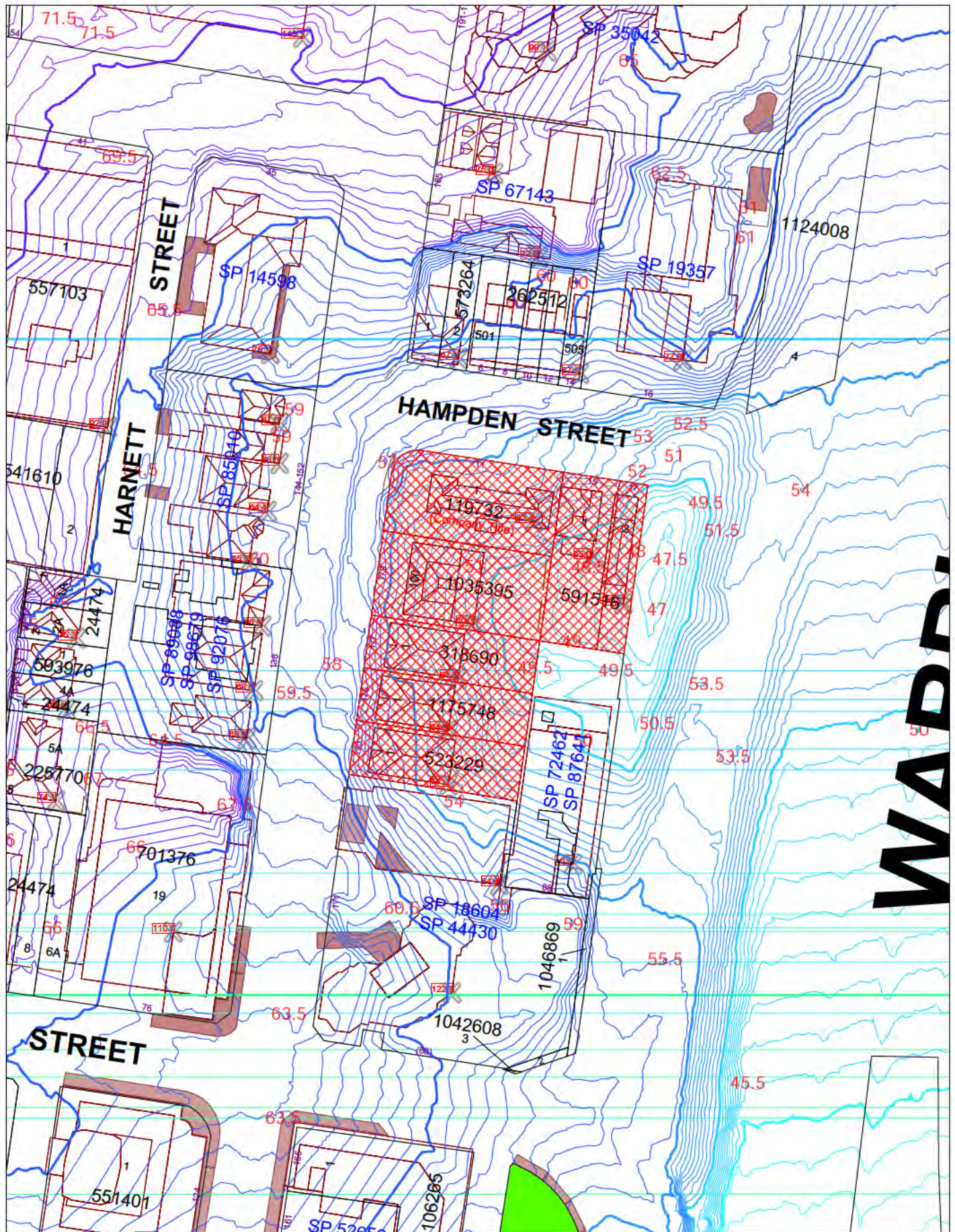
**Maintenance of Approved Landscaping**

13. The owner of the premises at [INSERT] is to maintain the landscaping approved by this consent generally in accordance with drawing number/s [INSERT] dated [dated] as modified by conditions [insert].

Any replacement plants required shall be advanced in growth and be selected to maintain the anticipated mature height, canopy density and nature of those plant species as originally approved.

Should it be desired to substitute plants which are not of the same mature height, canopy density and nature (particularly flowering for non-flowering, native for exotic, deciduous for non-deciduous or the reverse of any these) a modification to this consent will be required.

(Reason: To ensure maintenance of the amenity, solar access and views of adjoining properties)



WARD



North Sydney Council

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Further details can be obtained by calling (02) 9936 8100 or e-mail [mapping@northsydney.nsw.gov.au](mailto:mapping@northsydney.nsw.gov.au)

Scale: 1:1200 approx.





**General notes**  
All dimensions and existing conditions shall be checked and verified by the contractor before proceeding with the work.  
All levels relative to 'Australian Height Datum'.  
Do not scale drawings.  
Use figured dimensions only.

**Legend**



**GWSNS 173 Walker Street**  
173 Walker Street  
Sydney NSW 2060

**General & Data** **Scale**  
Demolition Plan 1:250 @ A1

**Project Code** **First Issued**  
ARC 1005 7/11/2022

**Sheet No.** **Rev**  
ARC 1005 AA

# **Early Works Civil Development Application Report**

**173 – 179 East Walker Street, North  
Sydney**

Prepared for Cbus Property / 6 September 2023

211541

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## 1.0 Introduction

Taylor Thomson Whitting Pty. Ltd (TTW) has been engaged by Cbus Property to provide the associated design and documentation for the civil early works required for the proposed redevelopment of 173-179 Walker Street. This report has been prepared to support the Early Works Development Application (DA) submission.

The development site is located at 173-179 Walker Street, North Sydney 2060 and 11-17 Hampden Street, North Sydney 2060. The site is legally defined under the following boundaries:

- Lot 1 and Lot 2 of DP591516
- DP 119732
- SP 64615
- SP 9808
- SP 86752
- SP 11082

The site is situated within the North Sydney region of North Sydney Council and is bounded to the north by Hampden Street, south by residential housing, east by the Warringah Expressway On-Ramp, and west by Hampden and Walker Street. The site location is shown in Figure 1.1 and covers an area of 3,952 square metres.

The proposed site currently consists of 7 residential buildings. Vehicular access to site is provided by Hampden Street which diverts off and runs parallel to Walker Street as shown in Figure 1.2 below. Hampden Street then extends along the northern boundary of site to access adjacent properties.

The site grades from west to east with an informal concrete drainage basin located on the eastern boundary of the site. Site levels are approximately RL 57.00m AHD at the sites west and drop to approximately RL 48.00 AHD at the eastern boundary.

The site drainage mechanism is via overland flow and inground drainage pipe network through the western site boundary.



Figure 1.1- Location of Site



Figure 1.2 – Site Access via Hampden Street

## 2.0 Existing Services

A utility connection investigation was undertaken by Neuron to support the development application. A copy of the investigation has been appended to this report.

### 2.1 Existing Power Infrastructure

As indicated by Ausgrid network maps, the site is not currently served by a sufficient power source. An existing 11KV high voltage network adjacent to 173 Walker Street will likely be utilised to serve the development. Ausgrid has provided preliminary approval for the connection and capacity. The existing overhead cables will likely require to be undergrounded as part of the works.

### 2.2 Existing Water Mains

Sydney Water currently operates two water mains along Walker Street that could potentially service the site. The most viable pipe for the site is the 200mm water main that runs along the opposite side of Walker Street. A Section 73 Compliance Certificate will be required.

### 2.3 Existing Gas

There are existing gas mains on Walker Street and Hampden Street that can potentially serve the site. Connection to the existing 7kPa main on Hampden Street is proposed, with a gas meter and regulator room subject to approval by Jemena.

### 2.4 Existing Sewer

Currently, there is a 225mm sewer main owned by Sydney Water that services the residential properties within the site. The sewer main appears to terminate within the lot of 171 Walker Street. The proposed extent of the future development will encroach on this existing main. Due to this, relocation of this sewer main is necessary. A copy of a utility report by Neuron is appended to the end of this report that provides further information.

#### 2.4.1 Sewer Diversion

A new sewer line is proposed to be installed that runs along the eastern boundary between the development and 88 Berry Street. The line will connect to the existing line to the south of the site. Three manholes are proposed; two where the sewer line changes direction and one at the connection point.

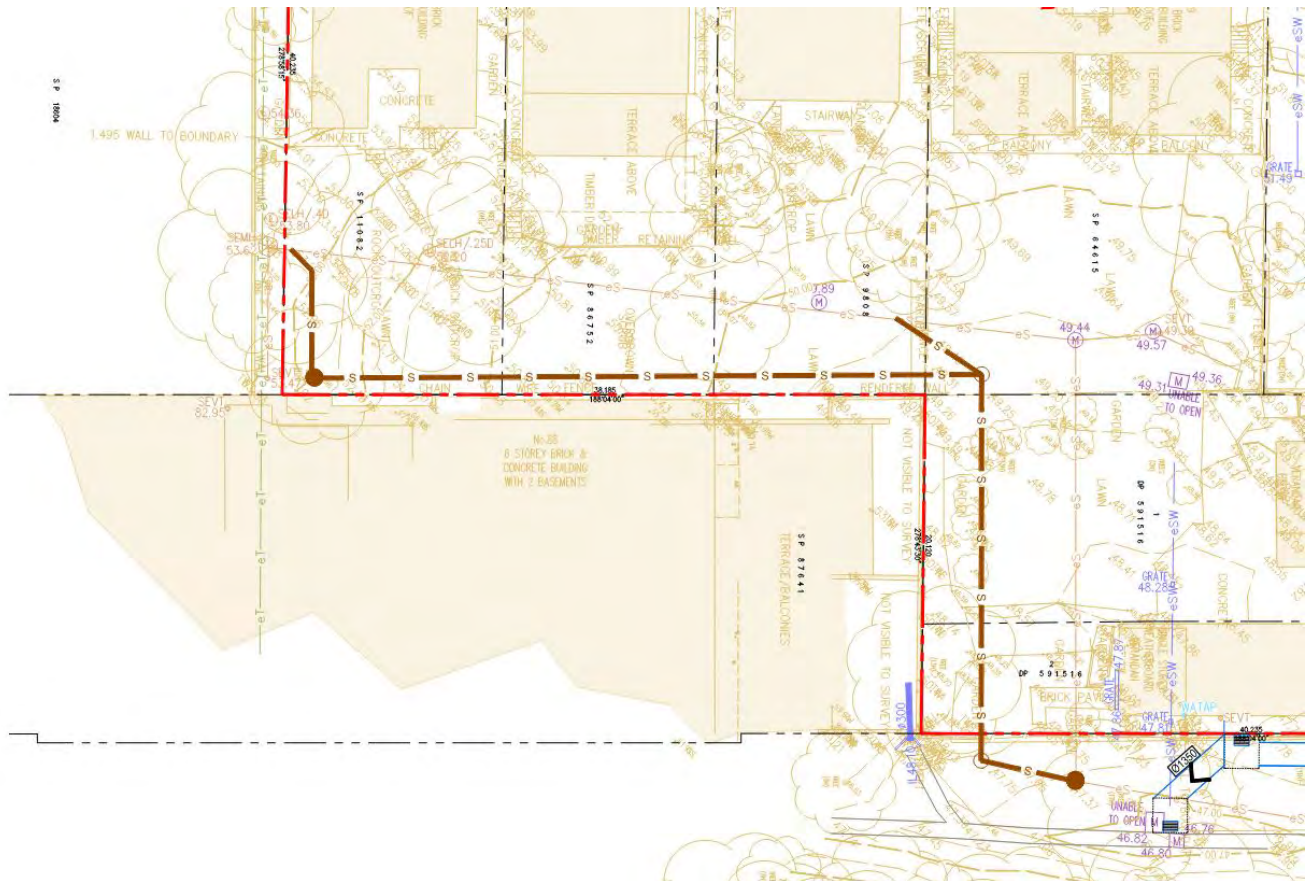


Figure 2.2 - Proposed Sewer Diversion

## 3.0 Stormwater Design

### 3.1 Existing Stormwater

As part of this DA, a Dial Before You Dig (DBYD) was performed to identify the extent of existing subterranean assets in and around the proposed development site. This was further augmented by a site survey to identify the location of these assets.

North Sydney council has indicated that an 860mm x 1000mm stormwater pipe extends from Walker Street and Hampden Street to within the site boundary. This extends from DP 119732 before transitioning to a 1050mm pipe beneath Lots 1 and 2 of DP 591516. The stormwater system then exits to the east of site and extends beneath the Warringah Freeway to discharge to Sydney Harbour at Milson Park. Refer Figure 3.1 for the location of assets pertaining to site provided by North Sydney council below.



Figure 3.1 – Asset Map Provided by Council Detailing Adjacent Stormwater Systems

An informal concrete basin is located to east of site. This has been confirmed by North Sydney Council as a by-product of the construction of the Warringah Freeway and has not been designed for the detention of main flows. Modelling of the existing stormwater system around site has been performed to identify peak pipe flows during the 1% AEP and PMF storm events for both upstream and downstream systems. These have been summarised in the Table 3.1 below. The Hydraulic Grade Line (HGL) at the pit location in this basin is 48.24m in the 1% AEP and 50.63m during the PMF, with a ground floor level of 46.70m.



PEAK STORMWATER FLOW RATE		
STORMWATER SYSTEM LOCATION	1%AEP PEAK FLOW RATE (m <sup>3</sup> /s)	PMF PEAK FLOW RATE (m <sup>3</sup> /s)
Upstream from Basin (1050mm Pipe)	3.9	5.1
Downstream from Basin (1200mm Pipe)	5.2	6.95

Table 3.1 – Impact to Stormwater Discharge due to Informal Basin

### 3.2 Proposed Stormwater

To enable development of the 173 – 179 East Walker Street site, the existing stormwater is proposed to be relocated from running through the site to Hampden Road and up sized to a 1350mm diameter concrete pipe.

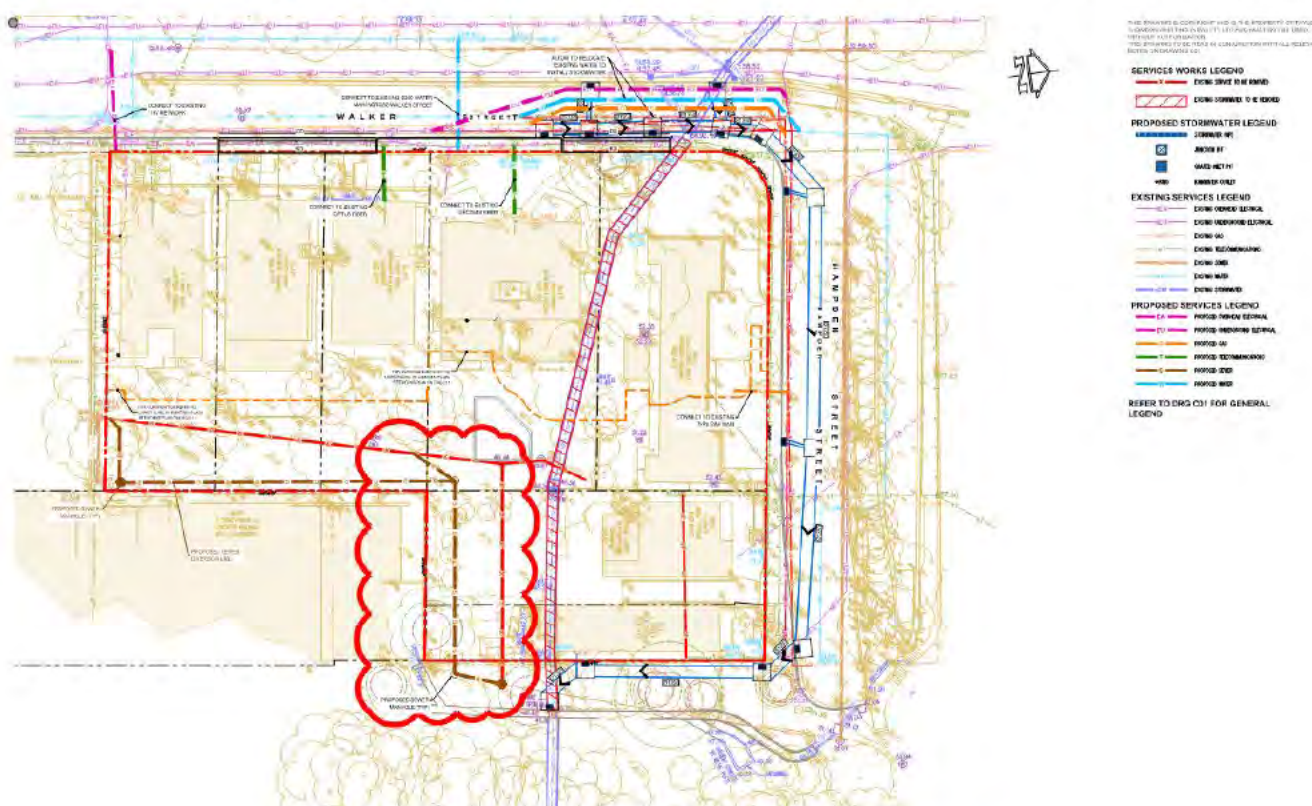


Figure 3.2 – Proposed Stormwater and services diversion Plan

#### 3.2.1 Stormwater Diversion

During development, it is proposed that the 860mm x 1000mm and 1050mm stormwater pipe located beneath the proposed development is relocated to extend around the north site boundary and beneath Hampden Street. This will then reconnect to the existing pipeline downstream and east of site at its current location. The proposed diversion works is provided in Figure 4.3.

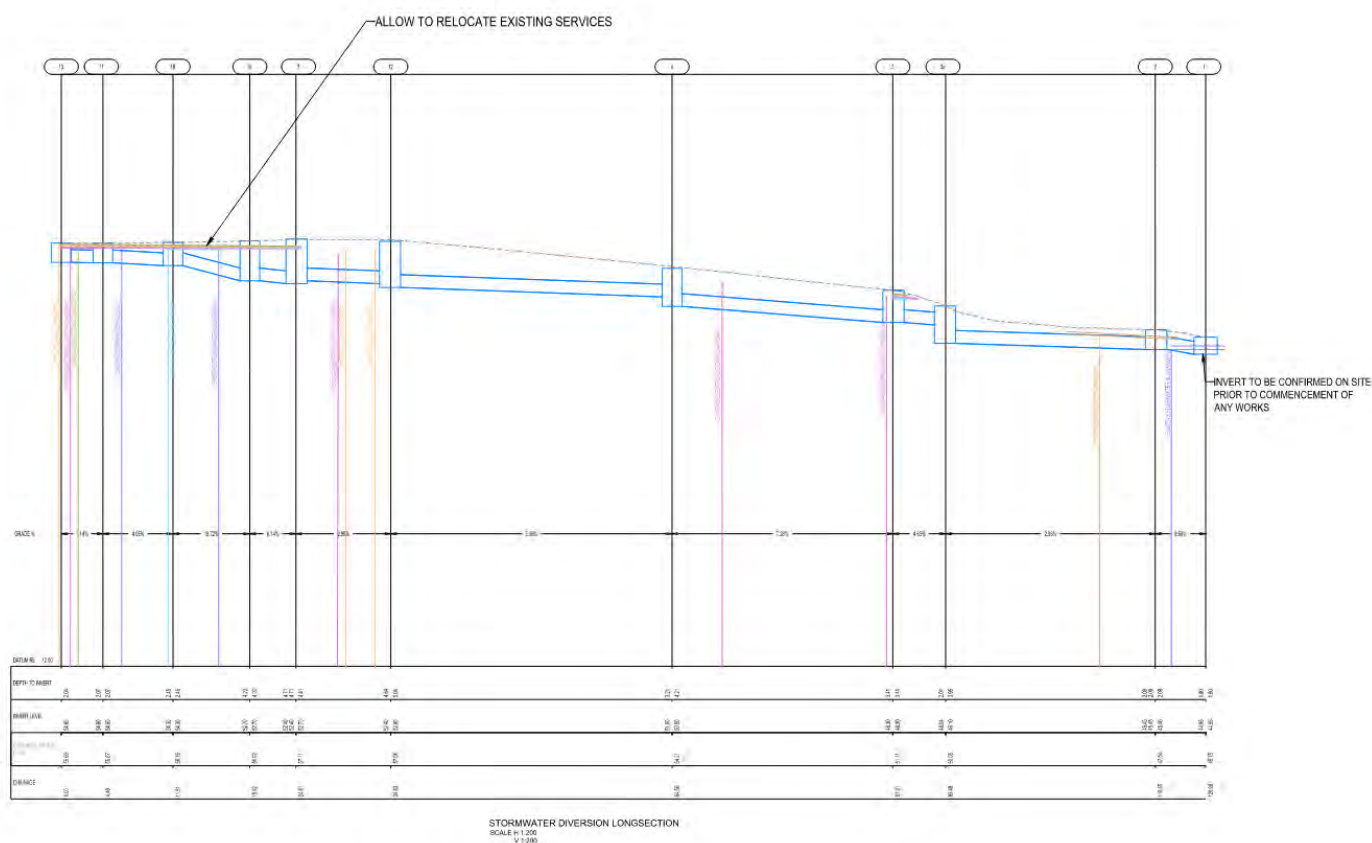


Figure 3.3 – Proposed Stormwater Diversion Works

### 3.2.2 Stormwater Quality During Construction

During the construction stage of the project, sediment and erosion control measures will be installed and maintained until construction is completed. The proposed sedimentation and erosion control measures will prevent sediment laden stormwater from flowing into adjoining properties, bushland, roadways or receiving water bodies. Stormwater controls onsite are detailed in an erosion and sediment control plan which is in accordance with the relevant regulatory authority guidelines including North Sydney Council's DCP and Landcom NSW's Managing Urban Stormwater, Soils and Construction ("Blue Book"). Refer to the attached civil engineering plans in Appendix A for the proposed concept sediment and erosion control plan.

## 4.0 Flood Design Management

### 4.1 Existing Flooding

The site is subject to flooding during both the 1% Annual Exceedance Probability (AEP) storm event and Probable Maximum Flood (PMF) scenarios. Flooding is primarily associated with overland flow from the upstream catchment to the west of site. This overland flow currently flows between the existing buildings and fills the informal basin to the east of site before discharging towards the Warringah Freeway. This extends to cover all subject lots during the PMF. The flood levels for the existing site during the 1% AEP are provided in Figure 4.1.

Council have provided TTW with the existing North Sydney LGA Flood Study and model (WMA Feb 2017). This has been used to as a basis for the flood modelling completed as part of this report. The only change to the existing flood model was to include pipes sized under 450mm in the vicinity of site which were originally excluded.

Flood modelling was completed for the 1% AEP. The critical duration adopted for the peak flood levels was the 24-hour storm in accordance with the existing Council flood model.



Figure 4.1 – Existing 1% AEP Flood Levels

## 4.2 Post Development Flooding

For the post development scenario, the existing flood model has been updated to include:

- The proposed building developments and associated works.
- The stormwater diversion works shifting the 860mm x 1000mm stormwater pipe to beneath Hampden Street.
- Proposed filling, grading, and external levels of site and surrounding areas.

All other parameters of the flood model have remained unchanged.

A flood impact assessment for the proposed development was undertaken to ensure no offsite impacts caused due to the development and is provided in Table 4.1. Based on the assessment, the proposed development would generally result in negligible offsite impact on the surrounding properties in the 1% AEP flood event. There is a very small increase to water level increase at western site boundary, although this is primarily due to alterations made to the grade and external levels along this boundary as part of Council stormwater diversion. These level increases have already been factored into the flood planning requirements. Flood depths are to decrease by 400mm to the eastern boundary site within the concrete basin.

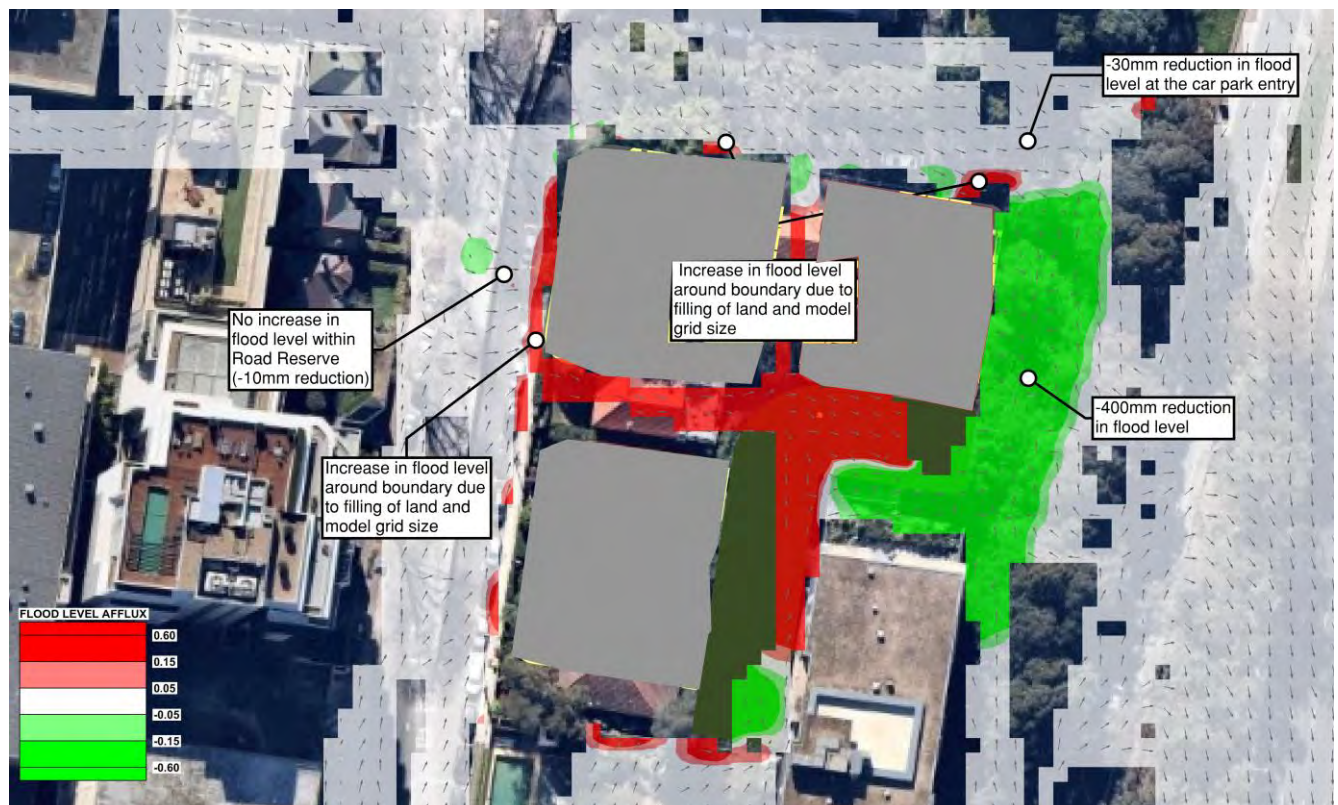


Figure 4.2 Flood afflux for 100 year flood event

The proposed development has no significant flood impact associated with the development in accordance with the North Sydney Council DCP requirements.

## 4.3 Flood Planning Requirements

In accordance with the North Sydney Council DCP, the Flood Planning Level is to be designed as the 1%AEP + 500mm freeboard. This requirement extends to carpark entry for the development to the north of the site off

Hampden St. The design floor level is to be at RL 57.49m AHD and car park entry is to be at RL 52.15 m AHD and meets Council DCP requirements as demonstrated in Table 4.1 below.

Site Boundary	Existing 1%AEP Flood Level (AHD)	Proposed 1% AEP Flood Level (AHD)	Proposed Flood Panning Level (1%+500mm) (AHD)	Proposed Floor Level (AHD)	Meets FPL
Hampden Street (west)	57.01 m	57.00 m	57.50m	57.50 m	YES
Hampden Street (Car park Entry)	51.68 m	51.65m	52.15m	52.25m	YES
Site Boundary (east)	49.71 m	49.38 m	49.88m	51.975m	YES

*Table 4.1 – Flood Planning Requirements*

## 5.0 Conclusion and Recommendations

A diversion of the existing 860mm x 1050mm stormwater line dissecting the site is proposed as part of this development. This diversion is to extend around the site boundaries beneath Hampden Street and will connect to the existing pipeline downstream of site within the existing concrete dish drain to the site's eastern boundary.

The site is flood affected during both the 1% AEP and PMF storm events and thus the site is subject to flood development controls. A flood study has been conducted as part of this site to identify the required Flood Planning Levels in line with Council standards. These are provided in Table 4.1 of this report, and may be summarised as 57.50m AHD for entry via site west on Hampden Street, 52.25m AHD for vehicular entry at the driveway car park entry/exit located to the site north bounding Hampden Street, and 49.975m AHD for the eastern site boundary.

Flood depths are to be reduced by 400mm within the existing concrete dish drain located to the site's eastern boundary, with an additional decrease of 30mm within the Hampden Street Road reserve.

Prepared by  
**TAYLOR THOMSON WHITTING (NSW) PTY LTD**  
in its capacity as trustee for the  
**TAYLOR THOMSON WHITTING NSW TRUST**

Authorised By  
**TAYLOR THOMSON WHITTING (NSW) PTY LTD**  
in its capacity as trustee for the  
**TAYLOR THOMSON WHITTING NSW TRUST**

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**WILLIAM BEVER**  
William Bever

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**STEPHEN BRAIN**  
Stephen Brain

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## Appendix A

# Civil Early Works Drawings

# 173-179 WALKER STREET EARLY WORKS CIVIL WORKS



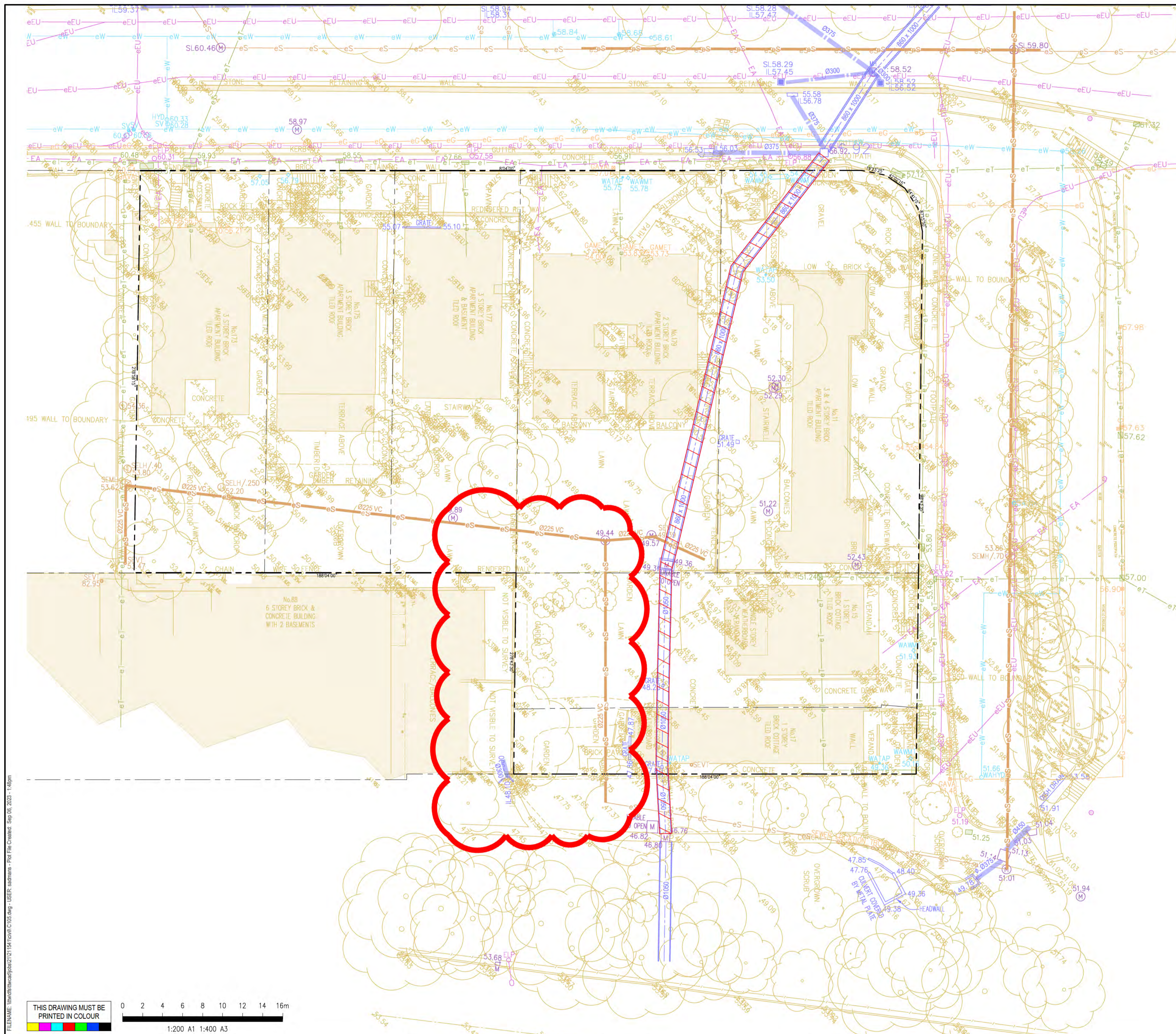
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C105	EXISTING SERVICES PLAN
C106	SERVICES COORDINATION PLAN
C141	SITE CLEARANCE PLAN
C180	STORMWATER LONGSECTION
C190	EXISTING SEWER LONGSECTION
C200	DETAIL SHEET 1
C300	SECTIONS SHEET

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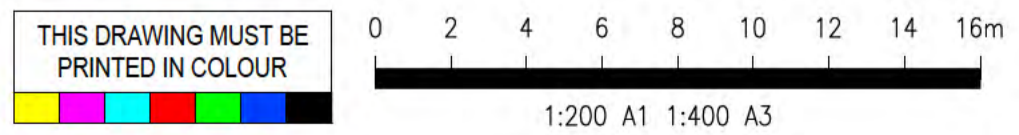




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  - GRATED INLET PIT
  - RWO RAINWATER OUTLET
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  - eT EXISTING TELECOMMUNICATIONS
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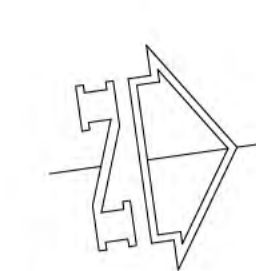
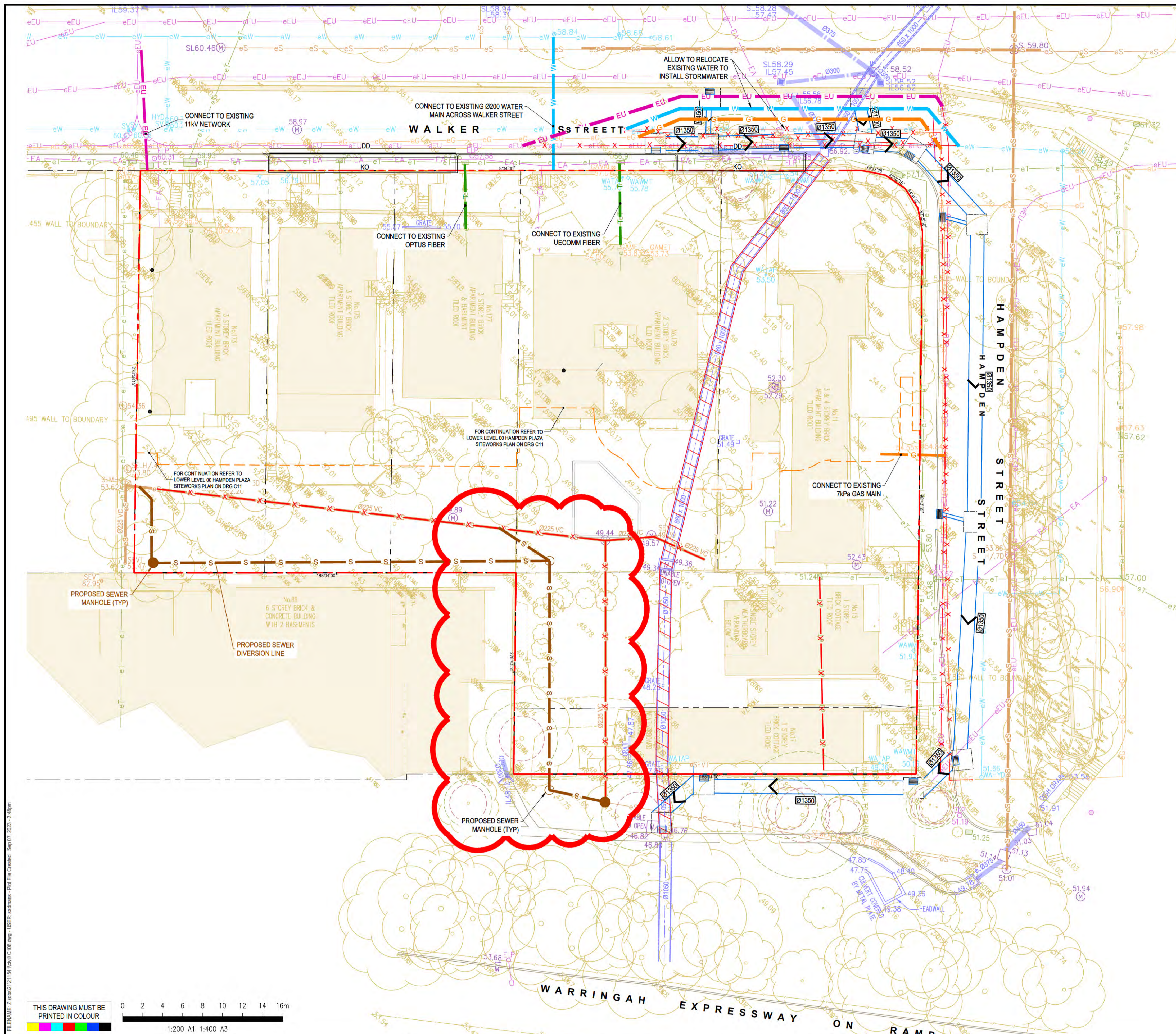
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NORTH SYDNEY**

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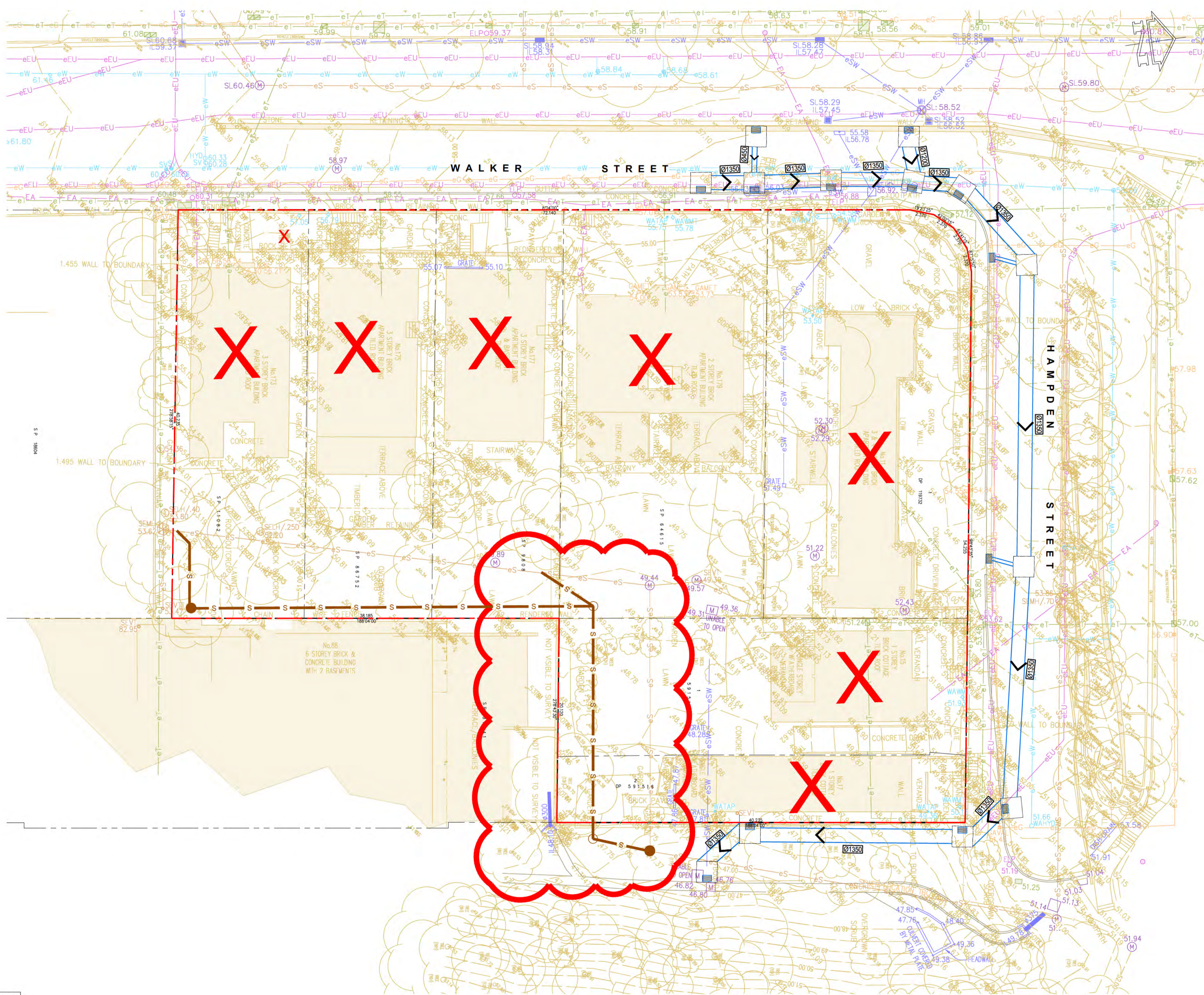
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 NORTH SYDNEY**

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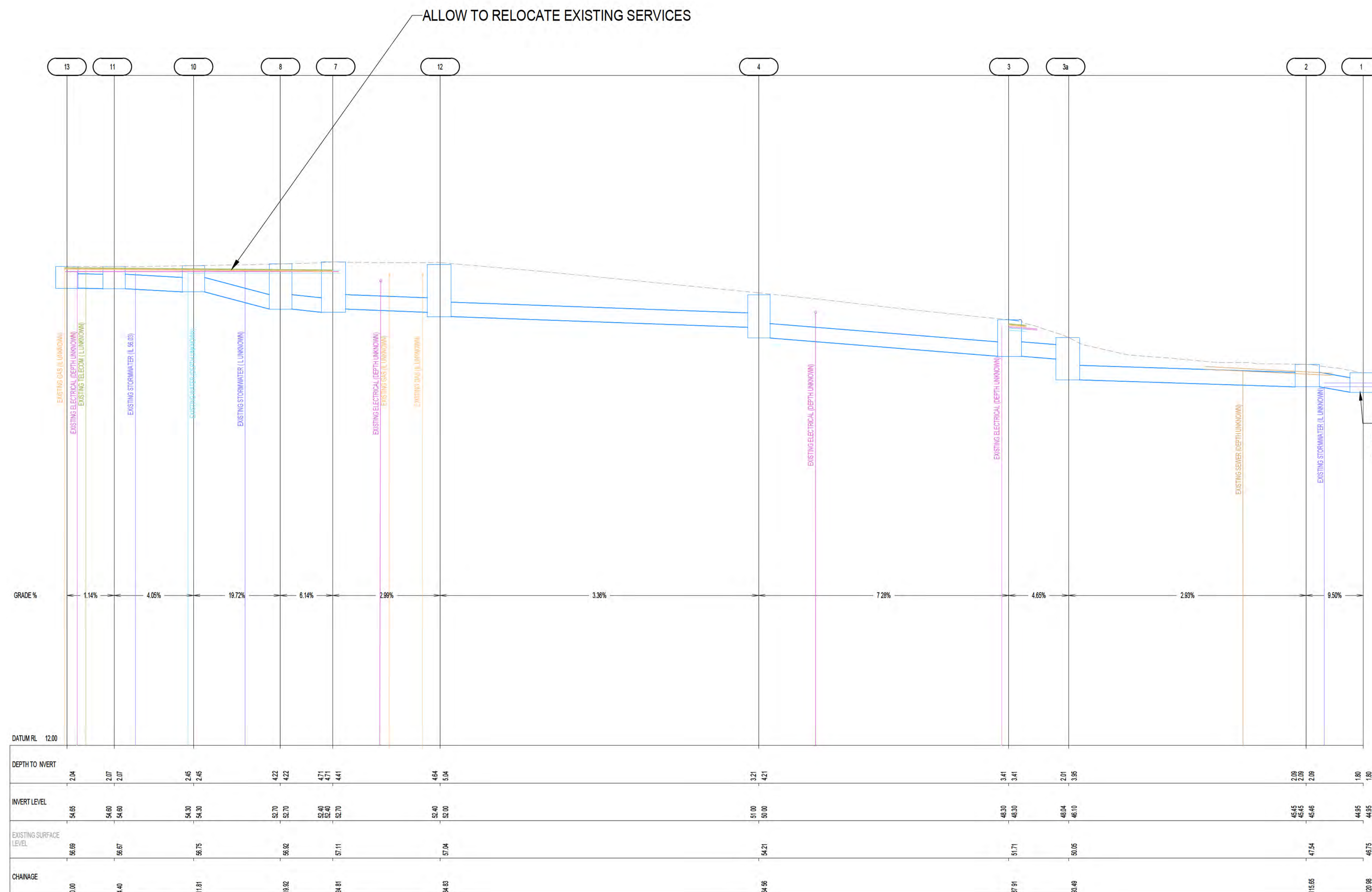
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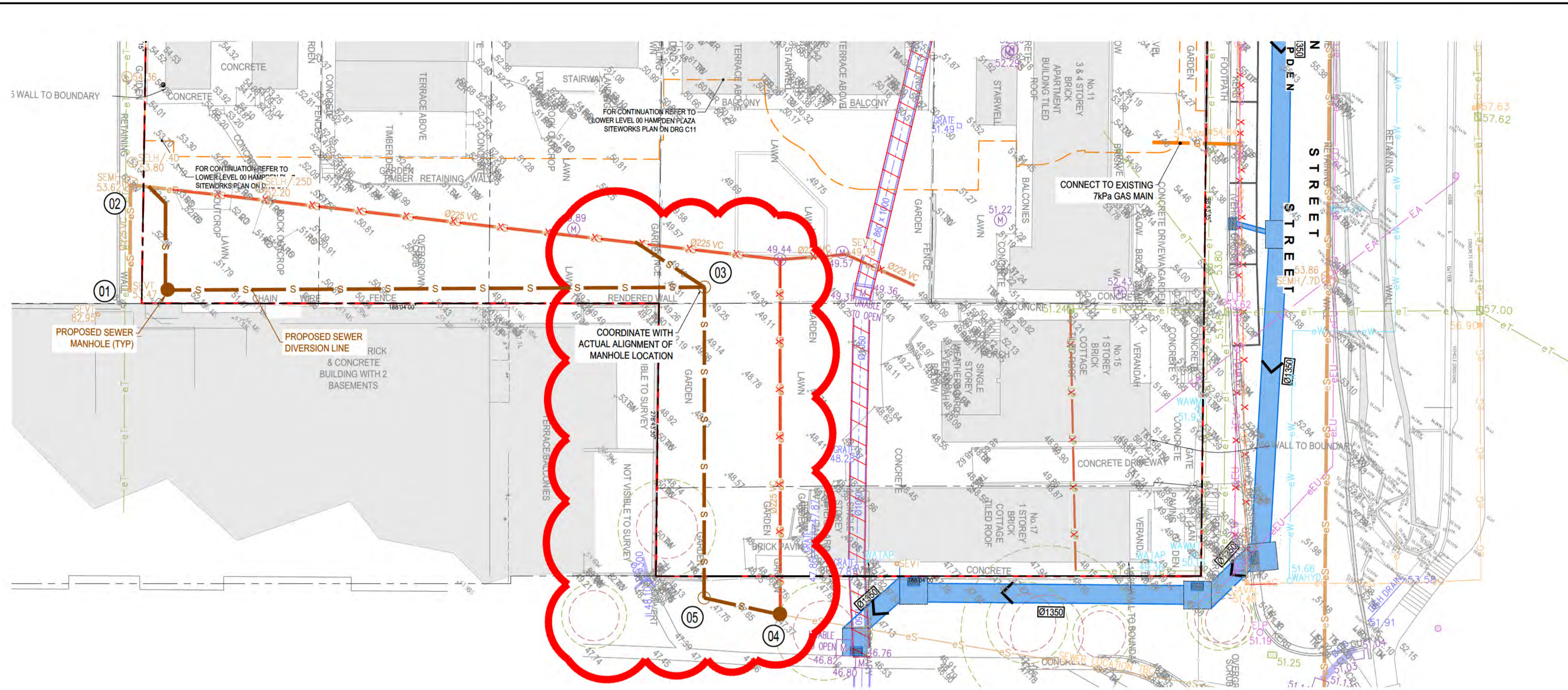
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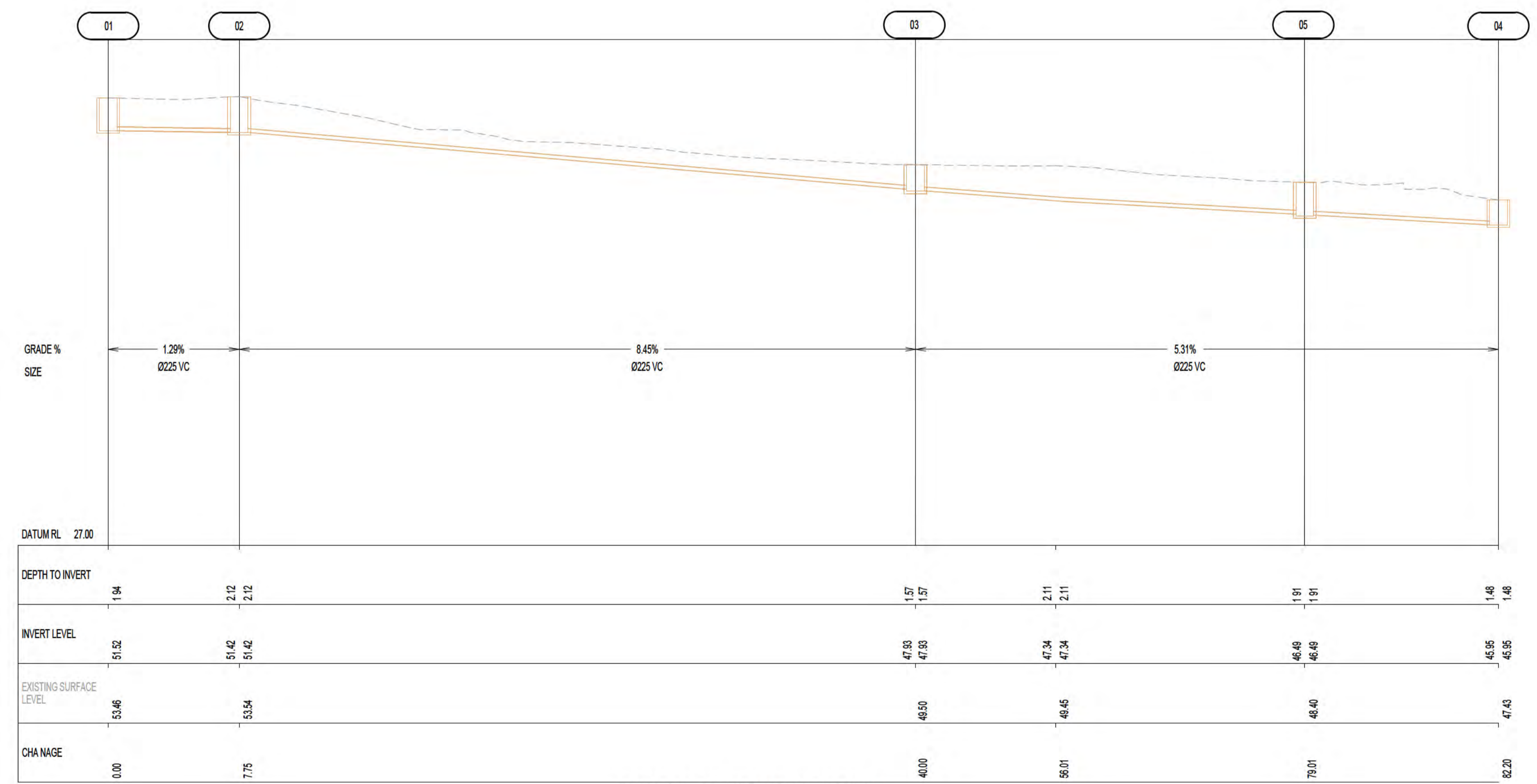
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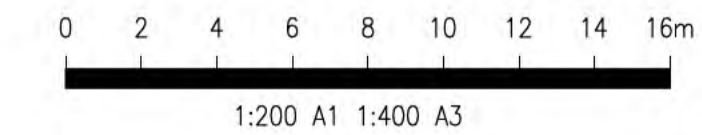
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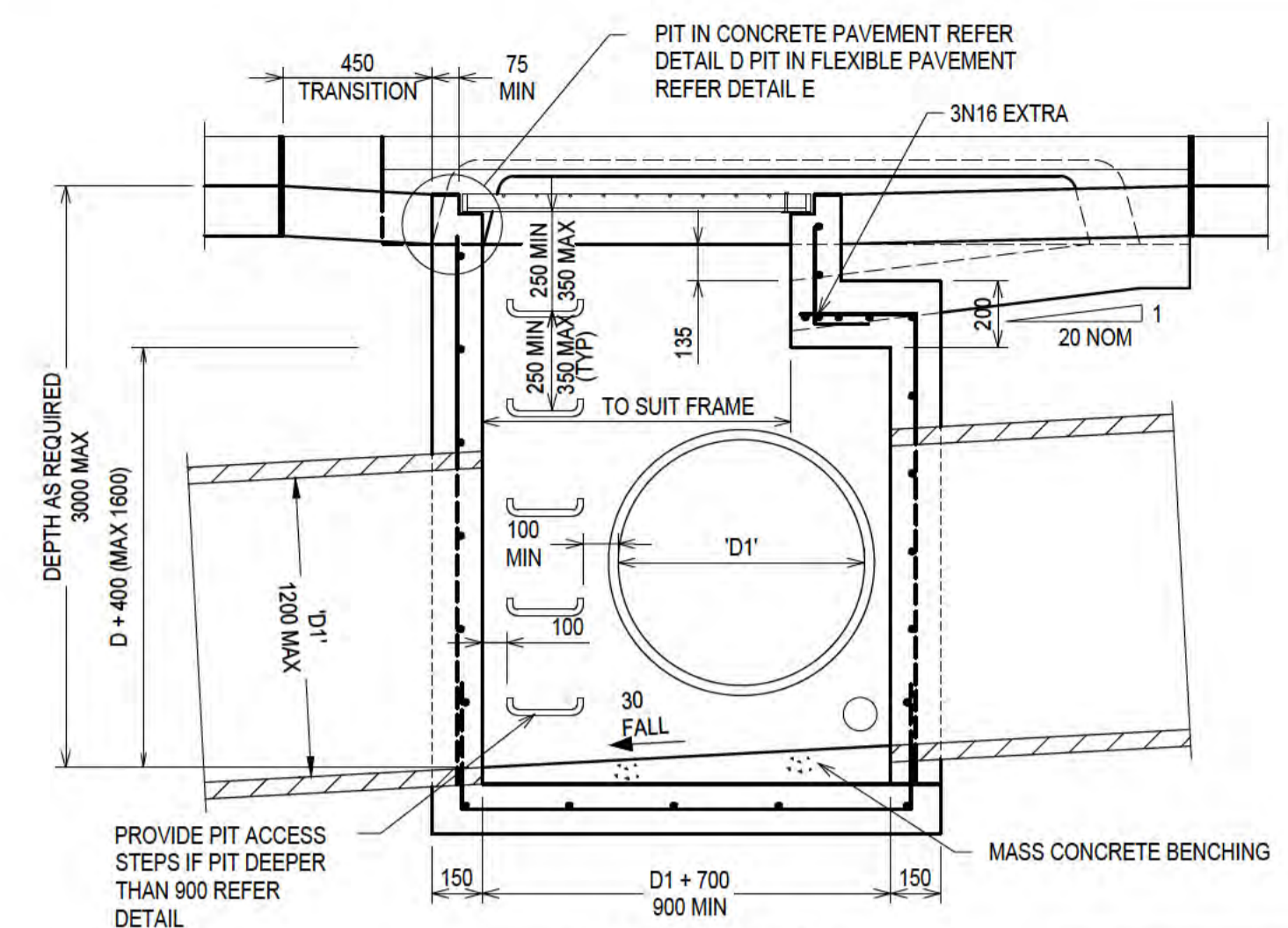


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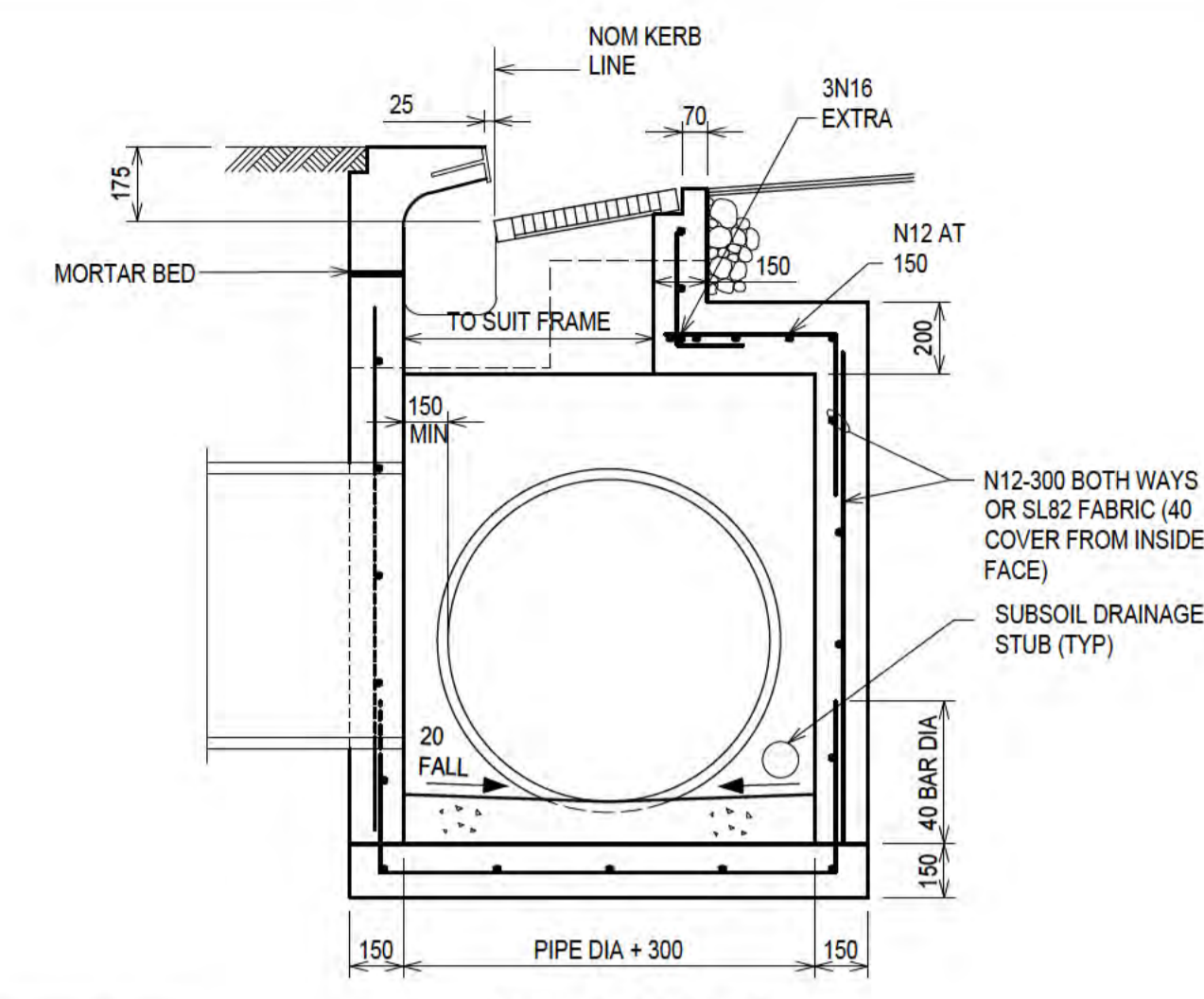
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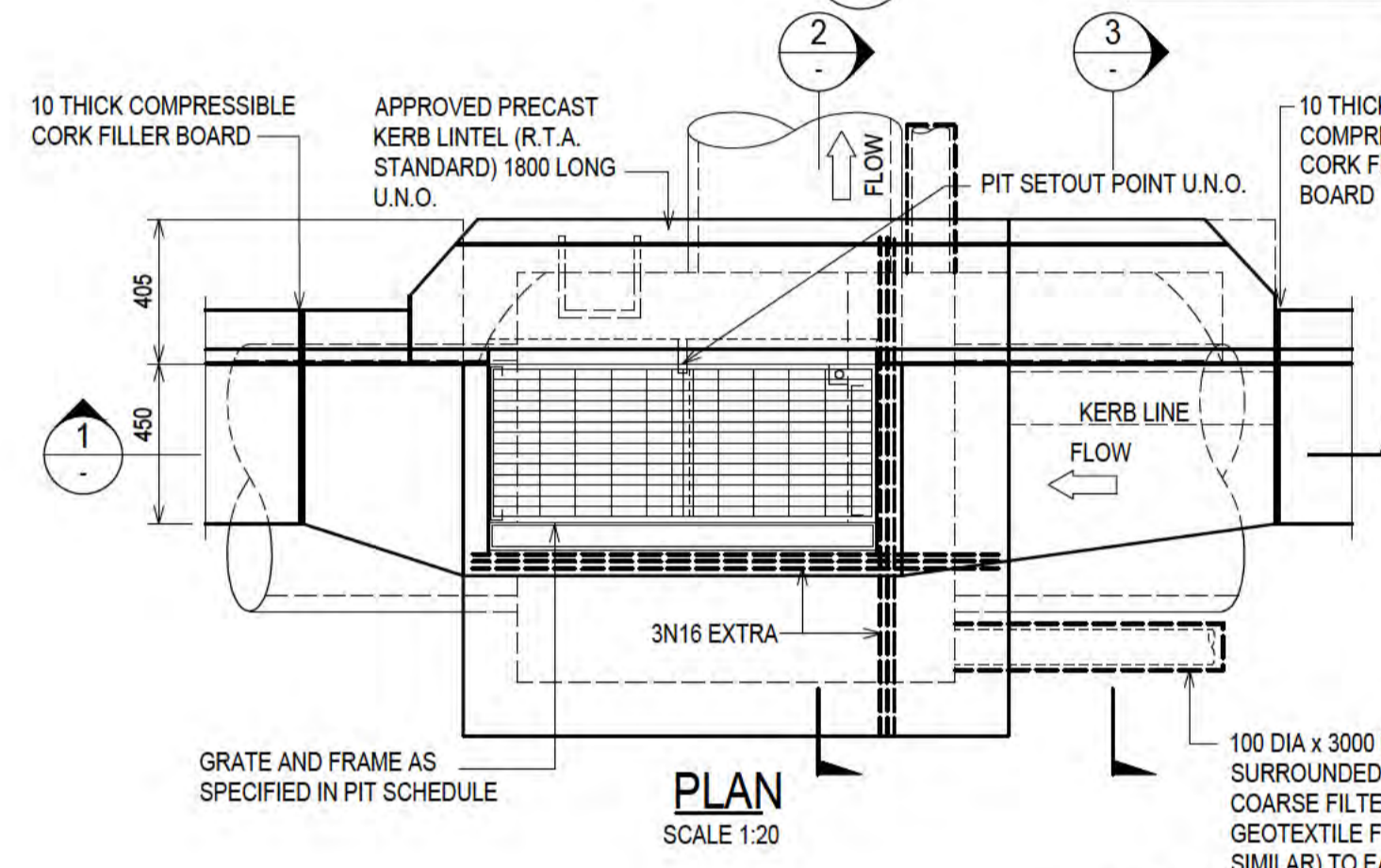
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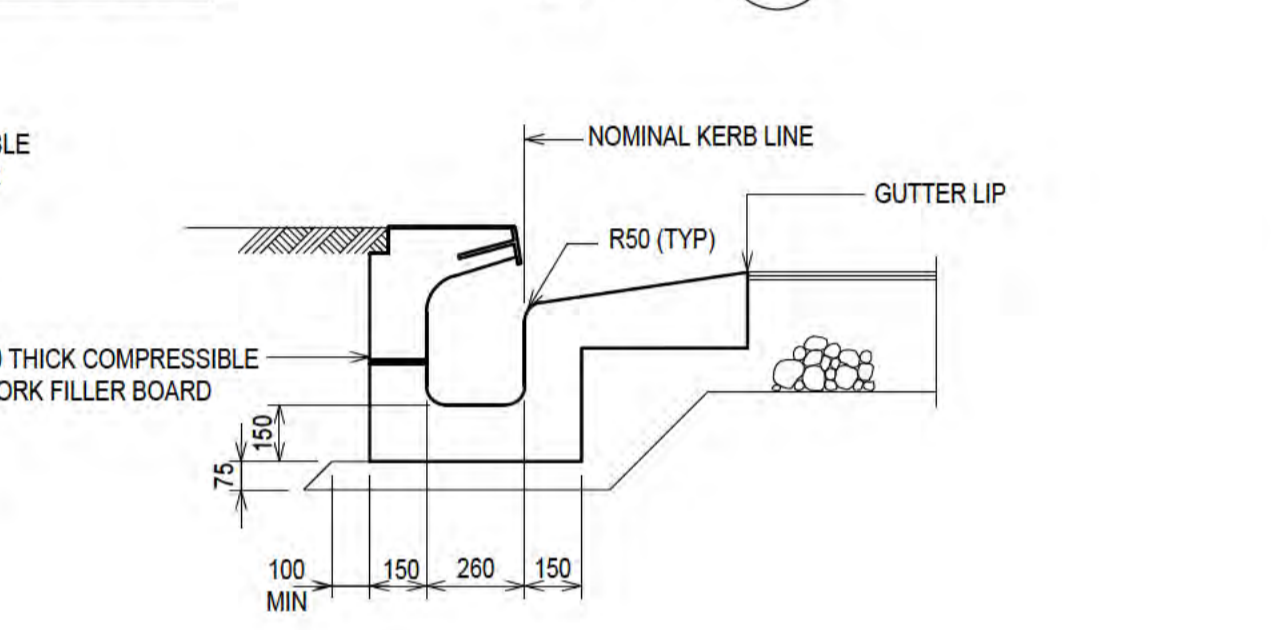


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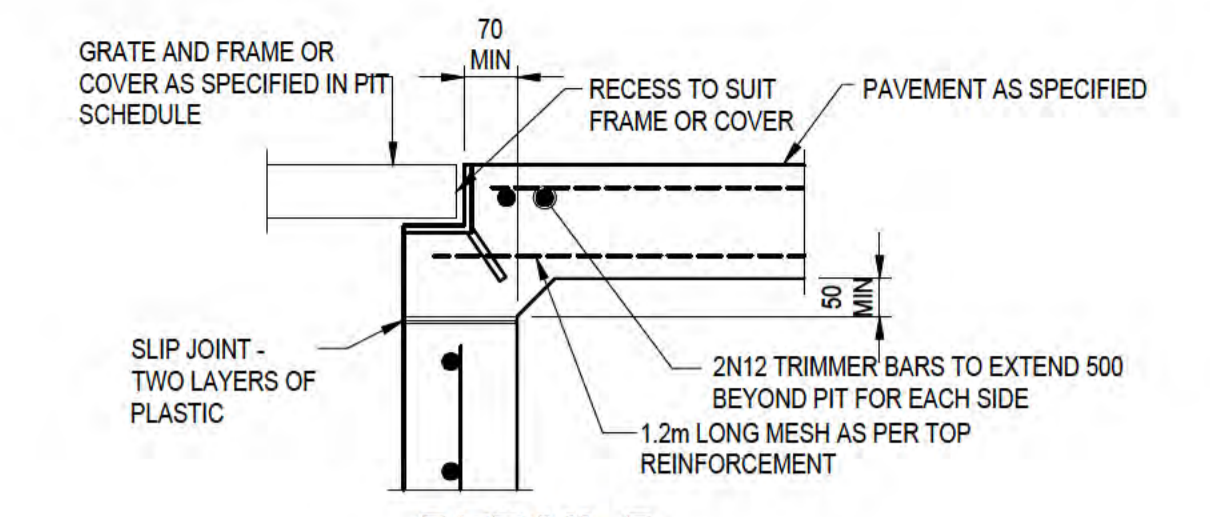


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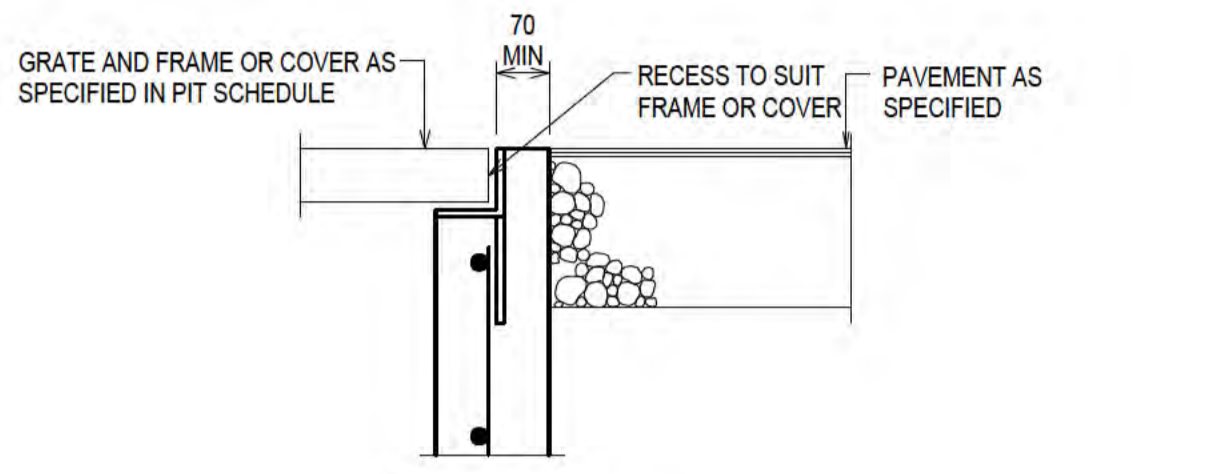
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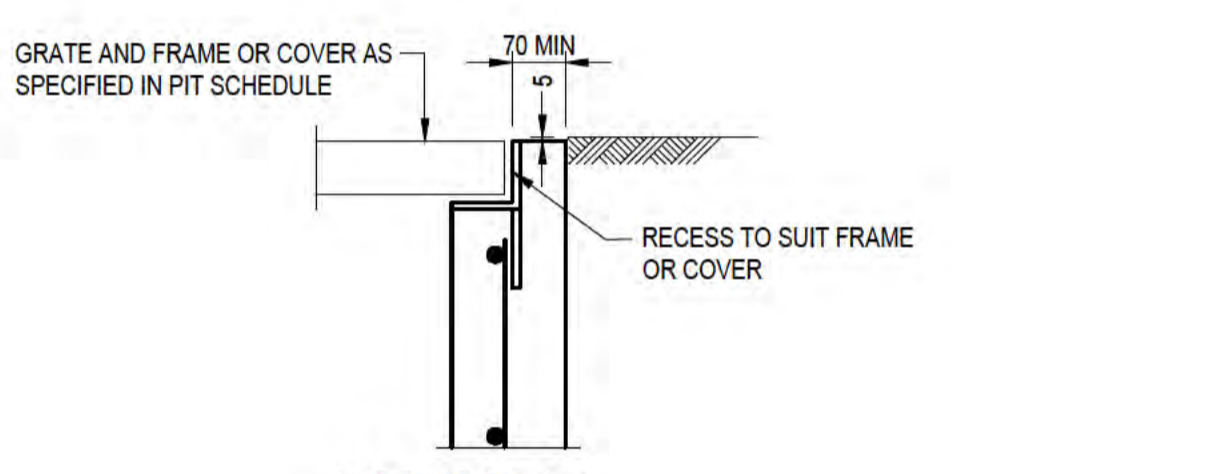
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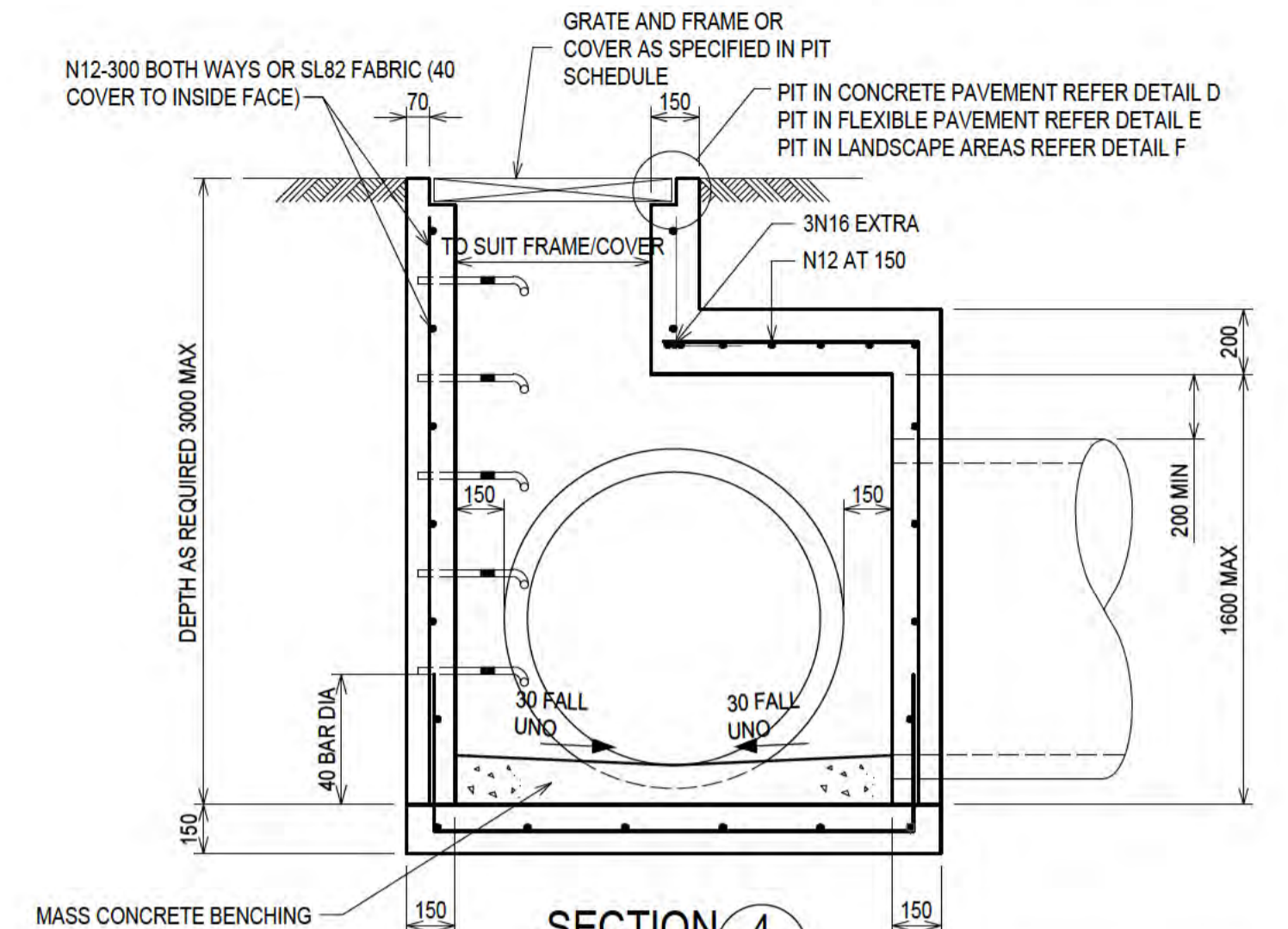
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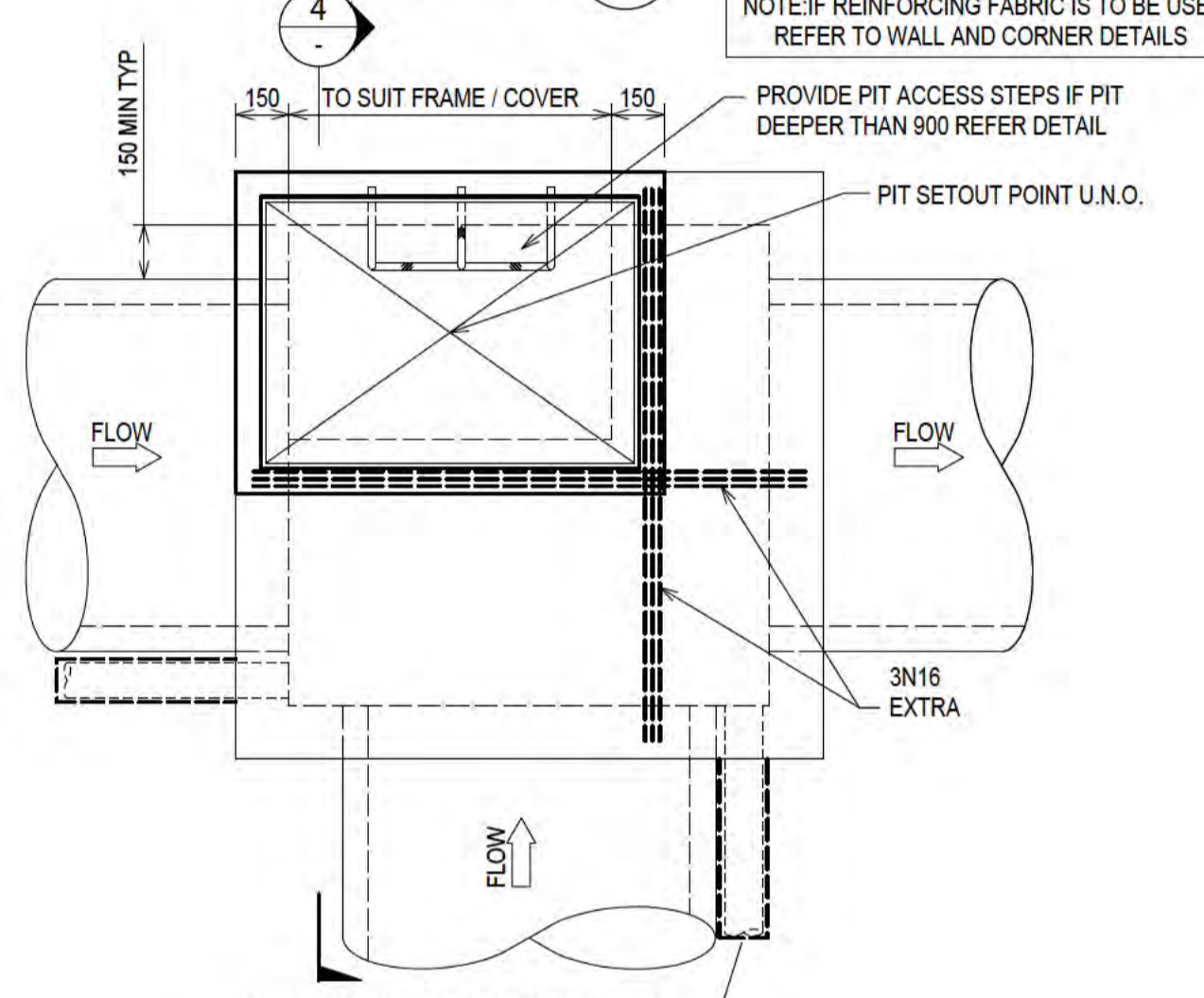
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DETAIL F  
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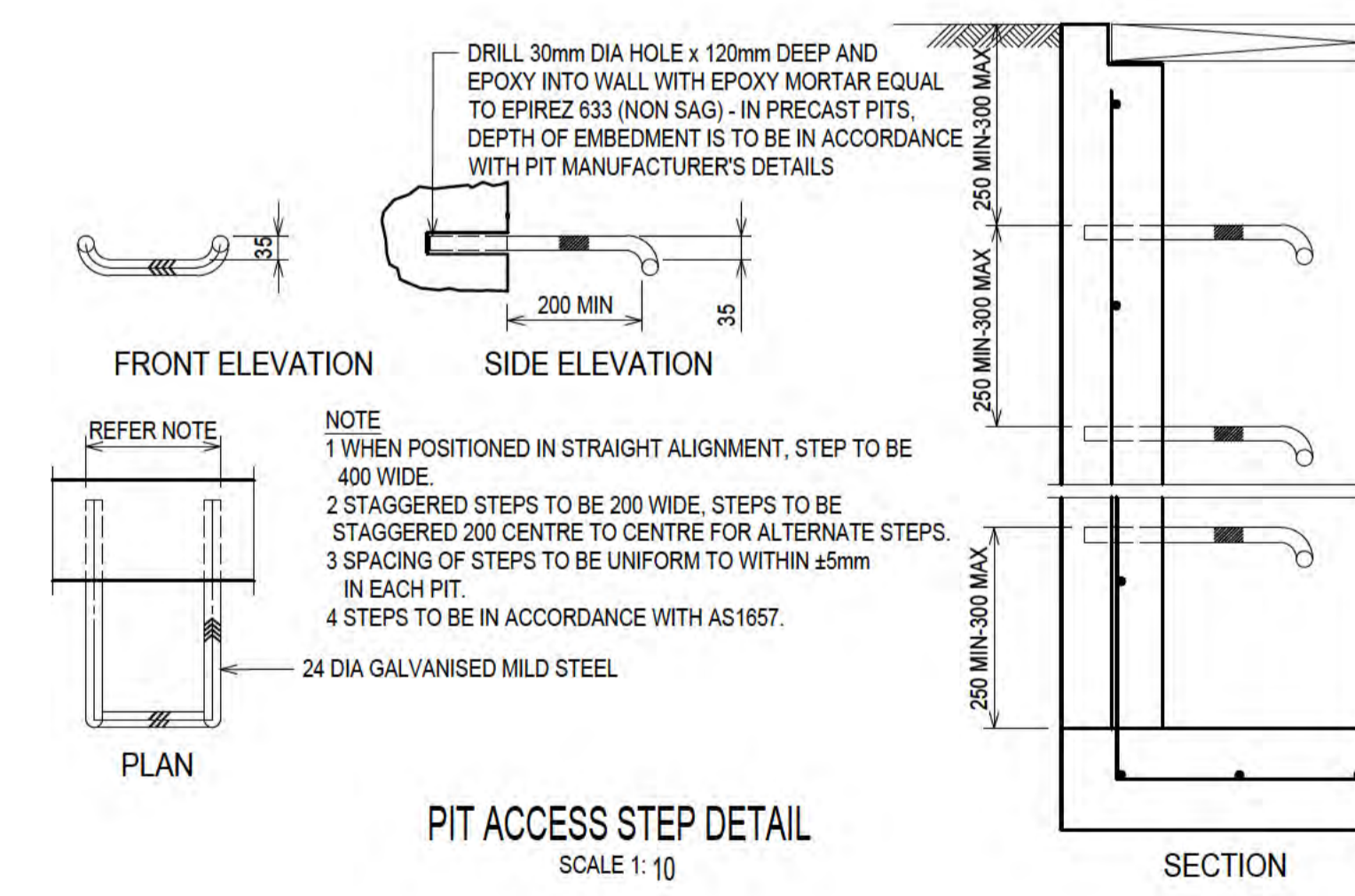


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PLAN  
SCALE 1:20

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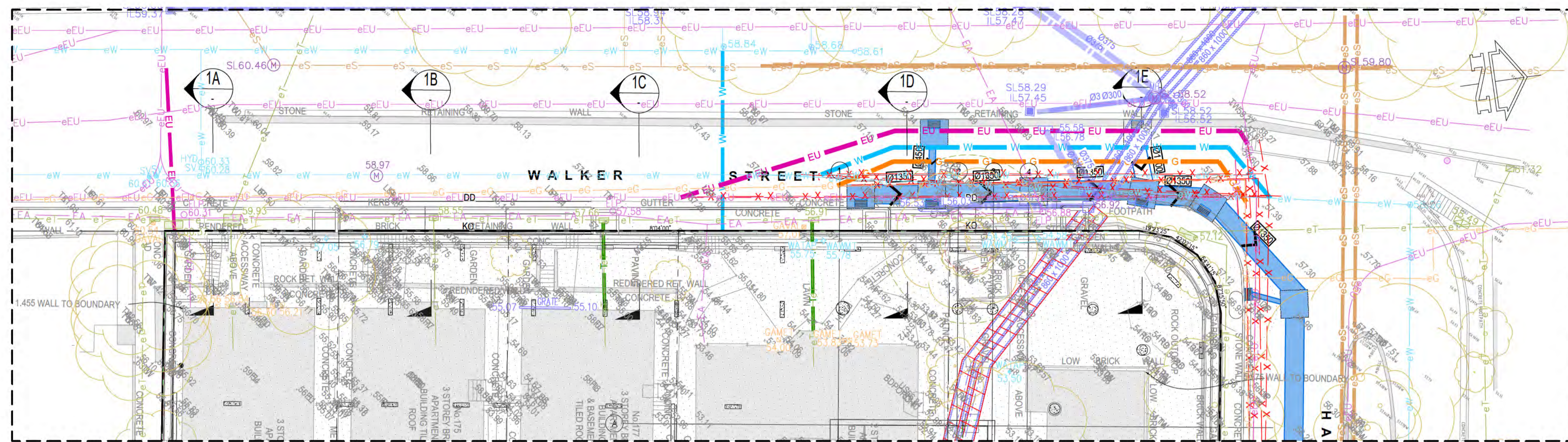


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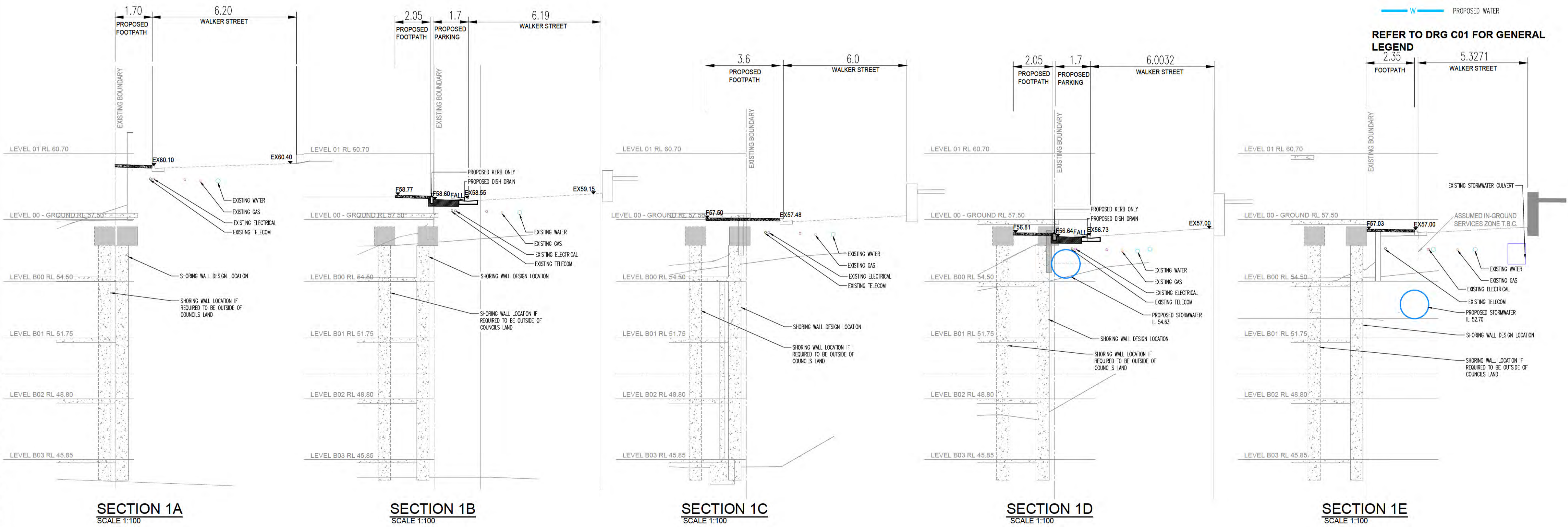
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PLAN  
SCALE 1:200

- SERVICES WORKS LEGEND**
- X — EXISTING SERVICE TO BE REMOVED
  - ▨ EXISTING STORMWATER TO BE REMOVED
- PROPOSED STORMWATER LEGEND**
- STORMWATER PIPE
  - ⊠ JUNCTION PIT
  - ⊞ GRATED INLET PIT
  - RWO RAINWATER OUTLET
- EXISTING SERVICES LEGEND**
- eEA EXISTING OVERHEAD ELECTRICAL
  - eEU EXISTING UNDERGROUND ELECTRICAL
  - eG EXISTING GAS
  - eT EXISTING TELECOMMUNICATIONS
  - eS EXISTING SEWER
  - eW EXISTING WATER
  - eSW EXISTING STORMWATER
- PROPOSED SERVICES LEGEND**
- EA PROPOSED OVERHEAD ELECTRICAL
  - EU PROPOSED UNDERGROUND ELECTRICAL
  - G PROPOSED GAS
  - T PROPOSED TELECOMMUNICATIONS
  - S PROPOSED SEWER
  - W PROPOSED WATER

REFER TO DRG C01 FOR GENERAL LEGEND



SECTION 1A  
SCALE 1:100

SECTION 1B  
SCALE 1:100

SECTION 1C  
SCALE 1:100

SECTION 1D  
SCALE 1:100

SECTION 1E  
SCALE 1:100

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P3 ISSUED FOR DRAFT DA	SB	LW 18.01.23			
P2 ISSUED FOR DRAFT DA	SB	LW 17.01.23			
P1 DRAFT ISSUE	SB	LW 15.12.22			

ARCHITECT:  
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ENGINEER:  
**TTW** Structural  
Civil  
Façade  
612 9439 7288 | Level 6, 73 Miller Street, North Sydney, NSW 2060

PROJECT:  
**173-179 WALKER STREET,  
NORTH SYDNEY**

DRAWING NAME:  
**EARLY WORKS  
SECTION SHEET**

SCALE : A1 <b>1:200</b>	DRAWN BY LA	AUTHORISED BY NB
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## Appendix B

# Neuron Utilities Connections Assessment





# Tree Management Strategies

## Arboricultural Impact Assessment

EAST WALKER STREET NORTH  
SYDNEY  
25-9-23

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## Summary

Tree Management Strategies have been commissioned by Cbus Property to provide an Arboricultural Impact Assessment for 173-179 Walker Street & 11-15 East Walker Street, North Sydney to support the Early Works Development Application (DA) submission.

This report aims to:

- Assess the health, condition and retention value of forty individual trees and three groups of trees on the subject site and neighbouring properties.
- Calculate the impact the proposed development will have on forty individual trees and three groups of trees on the subject site and neighbouring properties.
- Suggest sensitive construction methods to retain high to medium value trees on the subject site and neighbouring properties.
- Recommend the retention or removal of trees on the subject site and neighbouring properties.

A site inspection was conducted on the 20-4-22. All accessible trees potentially impacted by the proposed development, equal to or greater than 5 metres were numbered, tagged and assessed.

The Tree Location Plan (Figure 1) displays the forty-two trees and three groups assessed. The trees on-site are a collection of native and exotic species of varying maturity, health and condition.

The Health, Condition, Retention Value and General data of forty-two trees is displayed in the Tree Data Schedule (Appendix 1).

The Tree Impact Plans (Appendix 2), highlight the retention value and Tree Preservation Zone (TPZ) incursions of all trees assessed.

All tree retention values are in accordance with IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©.

The developmental Impacts are shown in the Tree Impact Plan (Appendix 2) and explored in (Section 2) Developmental Impacts, of this report.

A total of 2 trees are recommended for removal.

### Conclusion

Trees 7 and 8 located within the adjacent property have a minor incursion to their TPZ's by the proposed sewer design that is deemed acceptable considering adequate tree protection measures are allowed for.

Tree 41 located in the adjoining easement has a major incursion to its TPZ's by the proposed stormwater design that requires its removal to support the proposed development.

Tree 42 a weed species (Small Leaved Privet) is located in the adjoining easement is given a low retention value. Tree 41 has a major incursion to its TPZ's by the proposed stormwater design that requires its removal to support the proposed development.

Trees 17, 32, 33, 34 and 39 located within the subject site have a minor incursion to their TPZ's by the proposed sewer and storm water design that is deemed acceptable considering adequate tree protection measures are allowed for.

The Tree Management Plan is designed to offer detailed design modifications or sensitive construction methods and a step-by-step timeline for Tree Protection Measures for trees to be retained.

#### Recommendations

- Remove trees 41 and 42. Tree removal work to be undertaken in accordance with the relevant Australian Standard for the Pruning of Amenity Trees, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).
- Adhere to the Tree Management Plan (Section 4) of this report to ensure the ongoing health of trees to be retained.



## 1. Introduction

Tree Management Strategies have been commissioned by Cbus Property to provide an Arboricultural Impact Assessment for 173-179 Walker Street & 11-15 East Walker Street, North Sydney to support the Early Works Development Application (DA) submission.

The proposed Early Works involve the following scope:

- Demolition of existing Buildings;
- Diversion of existing sewer main;
- Diversion of existing storm water; and
- Tree removal to enable diversion works.

The Tree Location Plan (Figure 1) displays the forty-two individual trees and three groups of trees assessed on the subject site and surrounding properties. The trees assessed are a collection of native and exotic species of varying maturity, health and condition. Trees 35, 36, 37, 38, 40 and trees within Group 1 have recently been removed as part of works not associated with this application.

North Sydney Council is the consenting authority for the proposed development.

This report aims to:

- Assess the health, condition and retention value of forty-two individual trees and three groups of trees on the subject site and neighbouring properties.
- Calculate the impact the proposed development will have on forty-two individual trees and three groups of trees on the subject site and neighbouring properties.
- Suggest sensitive construction methods to retain high to medium value trees on the subject site and neighbouring properties.
- Recommend the retention or removal of trees on the subject site and neighbouring properties.

## 2. Grouped Trees

A site inspection was conducted on the 20-4-22. In order to capture the aesthetic and retention value of the surrounding site vegetation, the decision to (Group) together three areas of trees and vegetation was made, refer to the Tree Location Plan (Figure 1).

---

### Group 1

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The Group 1 tree species shown in (Table 1) and (Figure 2) are predominantly *Corymbia maculata* (Spotted Gum) of varying health and condition. The trees within Group 1 are given a high retention value due to their health, condition, longevity and position in the landscape, refer to the Tree Location Plan (Figure 1). Group 1 trees have been removed as part of works not related to this project.

Table 1: Tree Species

Scientific Name	Common Name
<i>Corymbia maculata</i>	Spotted Gum
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark
<i>Eucalyptus punctata</i>	Grey Gum
<i>Ficus rubiginosa</i>	Port Jackson Fig

Figure 2: Group 1



Figure 2: Group 1 highlighted in green.

---

## Group 2

---

The Group 2 tree species shown in (Table 2) and (Figure 3) are predominantly *Callistemon viminalis* (Bottle Brush) of varying health and condition. The trees within Group 2 are given a medium retention value due to their health, condition, longevity and position in the landscape, refer to the Tree Location Plan (Figure 1). There are no developmental impacts associated with the Group 2 trees.

Table 2: Tree Species

Scientific Name	Common Name
<i>Callistemon viminalis</i>	Bottlebrush
<i>Jacaranda mimosifolia</i>	Jacaranda
<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Syzygium paniculatum</i>	Magenta Lily
<i>Cyathea cooperi</i>	Coopers Tree Fern

Figure 3: Group 2 Trees



Figure 3: Group 2 highlighted in green.

---

### Group 3

---

The Group 3 trees are *Platanus x acerifolia* species shown in (Table 3) and (Figure 4). The trees within Group 3 are given a high retention value due to their health, condition, longevity and position in the landscape, refer to the Tree Location Plan (Figure 1). There are no developmental impacts associated with the Group 3 trees.

Table 3: Tree Species

Scientific Name	Common Name
<i>Platanus x acerifolia</i>	London Plane Tree

Figure 4: Group 3 Trees



Figure 4: Group 3 highlighted in green.



### 3. Developmental Impacts/Observations

The Health, Condition, Retention Value, General data of forty-two trees is displayed in the Tree Data Schedule (Appendix 1).

The Tree Impact Plan (Appendix 2) highlights the retention value and Tree Preservation Zone (TPZ) incursions of all trees assessed within the subject site and neighbouring properties.

All tree retention values are in accordance with IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©.

The tree impacts detailed below are based on the plans referenced in (Section 4) of this report.

The incursion percentages affecting the theoretical Tree Preservation Zones (TPZ) of the subject trees assessed are shown in the Tree Data Schedule (Appendix 1) and on the Tree Impact Plan (Appendix 2).

North Sydney Council gives permission to remove trees under 5 metres in height or canopy width, with a circumference under 500mm. Trees that fall under this regulation were not assessed as part of this report and may be removed as part of the development. All other accessible trees were tagged and numbered.

Trees 7 and 8 located within the adjacent property have a minor incursion to their TPZ's by the proposed sewer design that is deemed acceptable considering adequate tree protection measures are allowed for, refer to the Tree Management Plan (Section 4) of this report.

Trees 29 and 30 located within the subject site have a modified root system due to their position below an existing retaining wall and therefore are unaffected by the proposed stormwater design.

Trees 17, 32, 33, 34 and 39 located within the subject site have a minor incursion to their TPZ's by the proposed sewer and stormwater design that is deemed acceptable considering adequate tree protection measures are allowed for, refer to the Tree Management Plan (Section 4) of this report.

Tree 41 located in the adjoining easement is given a low retention value due to its age, health, condition and position in the landscape. Tree 41 has a major incursion to its TPZ's by the proposed stormwater design that requires their removal to support the proposed development.

Tree 42 located in the adjoining easement is given a low retention value and has a minor incursion of 4.7% to its TPZ by the proposed stormwater design. The incursion to Tree 42 is deemed acceptable, however tree removal is recommended due to the species being recognised as a noxious weed.



All trees to be retained have a potential impact from the demolition of existing structures as part of the early works DA. A final Construction Management Plan, including final demolition procedure, will be developed prior to commencement of any works and will include the following protection measures:

- Demolition will begin from Lower Hampden St to facilitate greater access within the site boundary and allow access to demolition vehicles without the removal of trees to allow a clear pathway.
- Large excavators will be utilised to demolish the buildings in a controlled manner with Heavy Rigid Vehicles (HRVs) backloading the waste. These vehicles will likely encroach into trees TPZ zones but only to the extent that they will be under the trees canopies to get to the building structures and not touch the tree trunks themselves.

Groups 2 and 3 are unaffected by the development. Following the early works approval, the conditions of consent should ensure a Tree Protection Plan is prepared for all trees to be retained. The Tree Protection Plan should outline the protection measures required to safeguard the remaining trees nominated for retention.

## 4. Tree Management Plan

The Tree Management Plan is designed to offer detailed design modifications or sensitive construction methods and a step-by-step timeline for Tree Protection Measures.

### Pre-Construction

#### Step 1: Erect Tree Protection Fence

All trees recommended for retention require tree protection fencing to be erected to ensure their preservation throughout construction. The fence detailed in (Figure 5) needs to be erected throughout construction and may be dismantled when landscaping begins.

Signs identifying the TPZ should be placed around the edge of the TPZ and be visible from within the development site.

The Project Arborist must certify the protection measures are installed in a practicable location to the specifications prior to commencement of construction.

Figure 5: Tree Protection Fence Detail

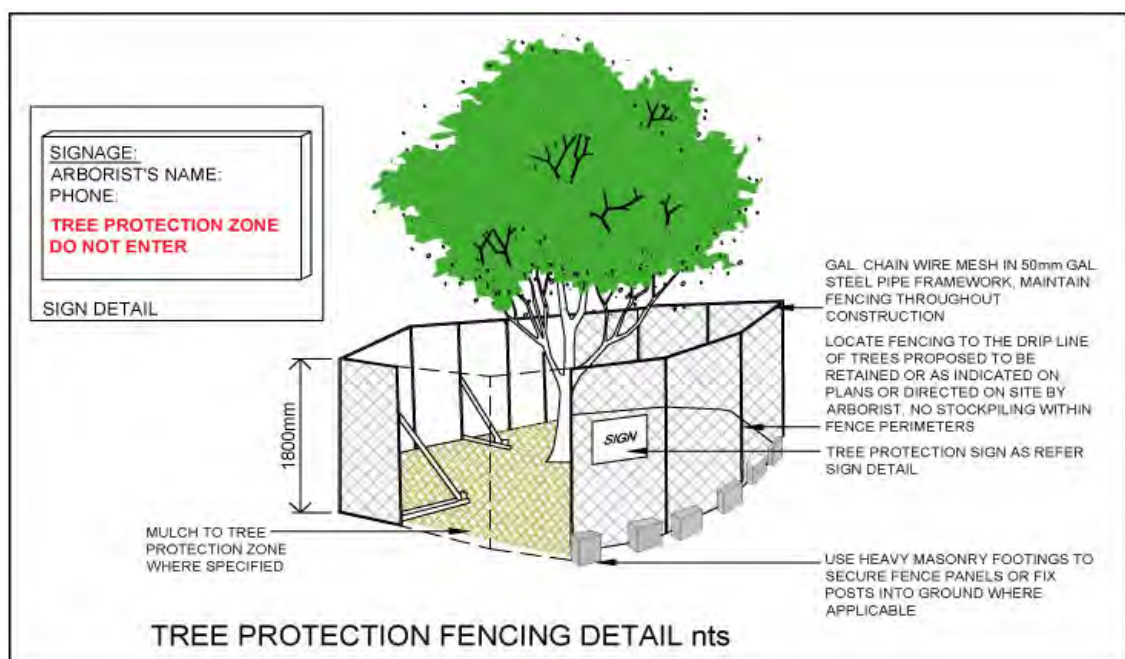


Figure 5: Tree Protection fence detail (CSA 2009).



## **Construction Stage**

### Step 2: Monitoring

The Project Arborist must inspect all trees to be retained bi-monthly to ensure tree protection measures are being adhered to and the health of all trees is not being adversely affected.

In order to ensure that protection measures are being adhered to during the pre-construction and construction stages, there should be a predetermined number of site inspections carried out by the project arborist. Matters to be monitored and reported should include tree condition, tree protection measures and impact of site works which may arise from changes to the approved plans.

If there is non-compliance with tree protection measures or if trees have been damaged, a timeframe for compliance and remedial works should be specified by the project arborist. The determining authority may need to be notified of non-compliance issues. Monitoring, reporting and certification should be carried out at the following critical stages of construction.

### Site establishment

The project arborist will monitor the impacts of demolition, bulk earth works, installation of temporary infrastructure including bunding, sediment control works and drainage works.

The construction management plan (site establishment plan) should be checked for compliance with the tree protection plan. The construction management plan normally includes location of site sheds, stockpile areas, temporary access roads and sediment control devices.

At completion of site establishment, the project arborist should certify that tree protection measures comply with the tree protection plan.

The project arborist will monitor the impacts of general construction works on retained trees. Monitoring should be done at regular intervals or in consultation with the site manager. Monitoring is to be recorded for inclusion in certification at practical completion.

Critical stages typically include installation of services, footings and slabs, scaffolding, works within the TPZ and at completion of building works.

### Landscape works

The landscape plan should be checked for compliance with the tree protection plan. The project arborist may need to approve the staged removal of protection measures required to allow for landscape works. The project arborist should supervise any works within TPZs, including retaining walls, irrigation and lighting installation, topdressing, planting and paving. The project arborist should specify any remedial works above and below ground. Monitoring is to be recorded for inclusion in certification at practical completion.

### Practical completion

Practical completion assumes that all construction and landscaping works are finished. At practical completion all remaining tree protection measures should be removed. The project arborist should assess tree condition and provide certification of tree protection.

### Step 3: General Exclusions Within the TPZ

The following activities shall be excluded within the TPZ, refer to (Figure 6).

Figure 6: TPZ Exclusions

<p><b>4.2 ACTIVITIES RESTRICTED WITHIN THE TPZ</b></p> <p>Activities generally excluded from the TPZ include but are not limited to—</p> <ul style="list-style-type: none"> <li>(a) machine excavation including trenching;</li> <li>(b) excavation for silt fencing;</li> <li>(c) cultivation;</li> <li>(d) storage;</li> <li>(e) preparation of chemicals, including preparation of cement products;</li> <li>(f) parking of vehicles and plant;</li> <li>(g) refuelling;</li> <li>(h) dumping of waste;</li> <li>(i) wash down and cleaning of equipment;</li> <li>(j) placement of fill;</li> <li>(k) lighting of fires;</li> <li>(l) soil level changes;</li> <li>(m) temporary or permanent installation of utilities and signs, and</li> <li>(n) physical damage to the tree.</li> </ul>
---

*Figure 6: Activities Restricted within the TPZ. Exert from 'AS4970 Protection of Trees on Development Sites'.*

The Project Arborist must be notified in the event any disturbance within the TPZ of trees to be retained is required.

### Step 4: Final Certification

The project arborist should assess the condition of trees and their growing environment and make recommendations for any necessary remedial actions.

Following the final inspection and the completion of any remedial works, the project arborist should certify (as appropriate) that the completed works have been carried out in compliance with the approved plans and specifications for tree protection. Certification should include a statement on the condition of the retained trees, details of any deviations from the approved tree protection measures and their impacts on trees. Copies of monitoring documentation may be required.



## 5. Referenced Documents

Plans that were referred to for this report include:

<b>Plan Title</b>	<b>Drawing Number</b>	<b>Consultant</b>	<b>Revision</b>
Services Coordination Plan	C106	TTW	5-9-23 Rev P6
Site Location Plan	Figure 1	IEMA	20-6-22
Tree Impact Plan	Appendix 2	IEMA	5-12-22



## 6. Conclusions & Recommendations

### Conclusion

Trees 7 and 8 located within the adjacent property have a minor incursion to their TPZ's by the proposed sewer design that is deemed acceptable considering adequate tree protection measures are allowed for.

Tree 41 located in the adjoining easement has a major incursion to its TPZ's by the proposed stormwater design that requires its removal to support the proposed development.

Tree 42 a weed species (Small Leaved Privet) is located in the adjoining easement is given a low retention value. Tree 41 has a major incursion to its TPZ's by the proposed stormwater design that requires its removal to support the proposed development.

Trees 17, 32, 33, 34 and 39 located within the subject site have a minor incursion to their TPZ's by the proposed sewer and storm water design that is deemed acceptable considering adequate tree protection measures are allowed for.

The Tree Management Plan is designed to offer detailed design modifications or sensitive construction methods and a step-by-step timeline for Tree Protection Measures for trees to be retained.

### Recommendations

- Remove trees 41 and 42. Tree removal work to be undertaken in accordance with the relevant Australian Standard for the Pruning of Amenity Trees, using a qualified Arborist (minimum Australian Qualification Framework (AQF3) Level Arborist).
- Adhere to the Tree Management Plan (Section 3) of this report to ensure the ongoing health of trees to be retained.



## 7. References

Shigo, A., 1986, *A New Tree Biology and Dictionary: facts, photos, and philosophies on trees and their problems and proper care*, Snohomish, WA

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### Disclaimer:

By the nature of their size, weight and miscellaneous structure, constant exposure to the weather and the elements, susceptibility to insects, pest and decay organisms, and trees always pose an inherent degree of hazard and risk from breakage or failure.

There is no guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future. No responsibility will be accepted for partial or full failure of any tree. No responsibility will be accepted for any damage or injury caused by any tree or part thereof referred to in this report.

While great care is taken to accurately diagnose the condition of a tree, it is impossible to accurately determine the true structural condition of the entire tree and any diagnosis, opinions or recommendations expressed are based on several methods of determining tree health.





## 8. Appendices

### Appendix 1: Tree Data Schedule

## APPENDIX 1 – TREE DATA SCHEDULE

No	Genus-species	Common Name	DAB metres (radius) Above Buttress	DBH metres (radius) Breast Ht	SRZ (radius) Metres	TPZ (radius) Metres	Height Metres	Age Young, Semi-Mature, Mature Over Mature	Canopy Spread (Metres) (radius)	TPZ Incursion	Health Good Fair/Poor Poor Dead	Condition Good Fair/Poor Poor Failed	Useful Life Expectancy High Medium Low	Landscape significance High Medium Low	Retention value High Medium Low	Retain/Remove	Notes
1	Strelitzia nicolai	Giant White Bird Of Paradise	0.15	0.13	1.49	1.56	6.00	Mature	1.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
2	Casuarina cunninghamiana	River Oak	0.40	0.33	2.25	3.96	16.00	Mature	2.00	-	Fair	Fair/Poor	Medium	Medium	Medium	Retain	
3	Casuarina cunninghamiana	River Oak	0.45	0.35	2.37	4.20	16.00	Mature	5.00	-	Fair	Fair/Poor	Medium	Medium	Medium	Retain	
4	Casuarina cunninghamiana	River Oak	0.59	0.41	2.65	4.92	16.00	Mature	4.00	-	Fair	Fair	Medium	Medium	Medium	Retain	
5	Strelitzia nicolai	Giant White Bird Of Paradise	0.15	0.13	1.49	1.56	12.00	Mature	2.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
6	Strelitzia nicolai	Giant White Bird Of Paradise	0.15	0.13	1.49	1.56	10.00	Semi Mature	1.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
7	Casuarina cunninghamiana	River Oak	0.68	0.59	2.81	7.08	18.00	Mature	6.00	0.9	Fair	Fair/Poor	Medium	Medium	Medium	Retain	
8	Casuarina cunninghamiana	River Oak	0.30	0.23	2.00	2.76	14.00	Semi Mature	5.00	8	Fair/Poor	Fair/Poor	Medium	Low	Low	Retain	
9	Melaleuca bracteata	Black Tea-Tree	0.25	0.20	1.85	2.40	12.00	Mature	2.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
10	Morus alba	Mulberry	0.35	0.24	2.13	2.88	8.00	Mature	6.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
11	Lagerstroemia indica	Crepe Myrtle	0.50	0.40	2.47	4.80	8.00	Mature	6.00	-	Poor	Poor	Low	Low	Low	Retain	Tree in senescence.
12	Glochidion ferdinandi	Cheese Tree	0.56	0.44	2.59	5.28	14.00	Mature	8.00	-	Fair	Fair	Medium	Medium	Medium	Retain	
13	Hibiscus sp	Hibiscus	0.30	0.20	2.00	2.40	8.00	Mature	4.00	-	Fair/Poor	Poor	Low	Low	Low	Retain	
14	Jacaranda mimosifolia	Jacaranda	0.42	0.35	2.30	4.20	12.00	Mature	8.00	-	Fair	Poor	Medium	Low	Low	Retain	Tree on a severe lean.
15	Hibiscus sp	Hibiscus	0.20	0.15	1.68	1.80	6.00	Mature	3.00	-	Poor	Poor	Low	Low	Low	Retain	
16	Persea americana	Avocado	0.70	0.51	2.85	6.12	16.00	Mature	8.00	-	Fair	Poor	Medium	Low	Low	Retain	
17	Syzygium paniculatum	Magenta Lilly Pilly	0.48	0.34	2.43	4.08	14.00	Mature	4.00	1.5	Fair	Fair	Medium	Low	Low	Retain	
18	Melaleuca bracteata	Black Tea-Tree	0.49	0.34	2.45	4.08	14.00	Mature	4.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
19	Ficus benjamina	Weeping Fig	0.45	0.28	2.37	3.36	12.00	Mature	4.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
20	Bauhinia variegata	Orchid Tree	0.34	0.33	2.10	3.96	8.00	Mature	8.00	-	Fair/Poor	Poor	Medium	Low	Low	Retain	Tree on a severe lean.
21	Celtis sinensis	Chinese Hackberry	0.36	0.28	2.15	3.36	12.00	Mature	6.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	Weed species
22	Livistona australis	Cabbage-Tree Palm	0.15	0.13	1.49	1.56	18.00	Mature	2.00	-	Fair	Fair	Medium	Medium	High	Retain	
23	Livistona australis	Cabbage-Tree Palm	0.15	0.13	1.49	1.56	18.00	Mature	2.00	-	Fair	Fair	Medium	Medium	High	Retain	
24	Cinnamomum camphora	Camphot Tree	1.20	0.98	3.57	11.76	16.00	Mature	8.00	-	Poor	Poor	Low	Low	Low	Retain	Tree in severe decline.
25	Banksia integrifolia	Coast Banksia	0.25	0.20	1.85	2.40	6.00	Semi Mature	2.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	

**APPENDIX 1 – TREE DATA SCHEDULE**

No	Genus-species	Common Name	DAB metres (radius) Above Buttress	DBH metres (radius) Breast Ht	SRZ (radius) Metres	TPZ (radius) Metres	Height Metres	Age Young, Semi-Mature, Mature Over Mature	Canopy Spread (Metres) (radius)	TPZ Incursion	Health Good Fair/Poor Poor Dead	Condition Good Fair/Poor Poor Failed	Useful Life Expectancy High Medium Low	Landscape significance High Medium Low	Retention value High Medium Low	Retain/Remove	Notes
26	Celtis sinensis	Chinese Hackberry	0.78	0.60	2.98	7.20	16.00	Mature	10.00	-	Fair	Fair	Medium	Low	Low	Retain	
27	Archontophoenix cunninghamiana	Bangalow Palm	0.15	0.13	1.49	1.56	16.00	Mature	1.00	-	Fair	Fair	Medium	Low	Low	Retain	
28	Archontophoenix cunninghamiana	Bangalow Palm	0.15	0.13	1.49	1.56	16.00	Mature	1.00	-	Fair	Fair	Medium	Low	Low	Retain	
29	Jacaranda mimosifolia	Jacaranda	0.65	0.52	2.76	6.24	15.00	Mature	6.00	-	Fair	Fair/Poor	Medium	Medium	Medium	Retain	
30	Syzygium leuhmannii	Lily Pilly	0.22	0.18	1.75	2.16	6.00	Semi Mature	2.00	-	Fair	Fair/Poor	Medium	Low	Low	Retain	
31	Camelia sasanqua	Camelia	0.25	0.22	1.85	2.64	6.00	Mature	3.00	-	Fair	Fair	Medium	Low	Low	Retain	
32	Jacaranda mimosifolia	Jacaranda	0.53	0.40	2.53	4.80	14.00	Mature	10.00	4.2	Fair	Fair	Medium	Medium	Medium	Retain	
33	Nerium oleander	Oleander	0.60	0.50	2.67	6.00	6.00	Mature	3.00	9.2	Fair	Poor	Medium	Low	Low	Retain	
34	Nerium oleander	Oleander	0.60	0.50	2.67	6.00	6.00	Mature	3.00	8.2	Fair	Poor	Medium	Low	Low	Retain	
35	Callistemon viminalis	Bottle Brush	0.22	0.18	1.75	2.16	7.00	Semi Mature	2.00		Fair/Poor	Fair/Poor	Medium	Low	Low	Previously Removed	
36	Melaleuca quinquenervia	Broad-leaved Paperbark	0.62	0.53	2.71	6.36	16.00	Mature	6.00		Fair	Fair/Poor	Medium	Medium	Medium	Previously Removed	
37	Melaleuca quinquenervia	Broad-leaved Paperbark	0.35	0.25	2.13	3.00	10.00	Mature	4.00		Fair/Poor	Fair/Poor	Medium	Low	Low	Previously Removed	
38	Corymbia citriodora	Lemon-scented Gum	0.40	0.30	2.25	3.60	16.00	Mature	6.00		Fair	Fair	Medium	Medium	Medium	Previously Removed	
39	Jacaranda mimosifolia	Jacaranda	0.40	0.30	2.25	3.60	14.00	Mature	6.00	8	Fair	Fair	Medium	Medium	Medium	Retain	
40	Melaleuca quinquenervia	Broad-leaved Paperbark	0.25	0.20	1.85	2.40	10.00	Semi Mature	4.00	-	Fair/Poor	Fair/Poor	Medium	Low	Low	Retain	
41	Ligustrum lucidum	Small Leaf Privot	0.25	0.2	1.85	2.4	5	Mature	3	18.4	Fair/Poor	Fair/Poor	Medium	Low	Low	Remove	
42	Grevillea species	Grevillea	0.2	0.16	1.7	2	5	Mature	2	4.7	Fair/Poor	Fair/Poor	Medium	Low	Low	Remove	



## Appendix 2: Tree Impact Plan



Scale: 1:500

**LEGEND**

- Site boundary
- Existing Site
- Building Footprints
- TPZ - Tree Protection Zone

- Retention Value - Trees to be retained**
- Low (25)
  - Medium (37)
  - High (48)

- Retention Value - Trees for removal**
- Low (2)

- Retention Value - Trees Previously Removed**
- Low (3)
  - Medium (2)

- Water management impacts**
- Existing to be removed
  - Proposed OSD
  - Proposed sewer
  - Proposed stormwater

- TPZ Stormwater and sewer impacts**
- TPZ Impacts < 20%

- Tree Groups**
- Tree Group 1 - Medium retention
  - Tree Group 2 - Medium retention
  - Tree Group 3 - Medium retention



GDA 1994 MGA Zone 56  
21/09/2023

**Walker Street North Sydney**

**Tree Impact Plan  
Stormwater / Sewer DA  
Appendix 2**



## Appendix 3: Method

### Site Assessment

From the ground, the following information was recorded and displayed in the Tree Data Schedule (Appendix 1).

- Tree genus and species.
- Approximate height spread if deemed applicable.
- Trunk diameter at breast height and above the buttress.
- Age class: young, semi mature, mature, over mature.
- Health.
- Condition.

Observations were recorded and photographed.

### Research

The following legislation, documents or websites were reviewed:

- The Australian Standard for the Protection of Trees on Development Sites (AS 4970 – 2009).
- North Sydney Council Development Control Plan 2013.
- North Sydney Council Environmental Plan 2013.



## Tree Data Schedule Method

The Health and Condition of all trees are shown in the Tree Data Schedule (**Appendix 1**) with the methods explained below:

### Tree Health

<b>Overall Health (Vigour/Vitality)</b>	Tree vigour is exhibited by crown density, crown cover, leaf colour, leaf size, leaf texture, presence of epicormic growth, ability to withstand predation by pest and disease, resistance and degree of dieback.
<b>Good (Excellent)</b>	Good tree vigour exhibited by no decline in overall health and vigour, height and shape. The specimen is observed to be of excellent condition displaying characteristics that is known for that particular species (what would be the expected condition for that particular species of that age in that location), 0% dieback, full crown density, leaf health, no pest or disease present.
<b>Fair</b>	Fair tree vigour exhibited by moderate decline in overall health and vigour, height and shape. The specimen is observed to be of moderate condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), less than 10% dieback, 90% of crown foliage density, more than 90% leaf health, acceptable level of pest or disease is evident for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).
<b>Fair/Poor</b>	Fair to poor tree vigour exhibited by considerable decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 10-20% dieback, considerable foliage deficiencies, 70-90% foliage density, 70-90% leaf health, pest or disease infestation at acceptable thresholds for the assessing arborist (where it is considered the tree's overall health or condition will not be affected or lead to irreversible decline from pest or disease).
<b>Poor</b>	Poor vigour exhibited by substantial decline in overall health and vigour, height and shape. The specimen is observed to be of poor condition by not displaying characteristics adequately that is known for that particular species (what would be

	<p>expected for that particular species of that age in that location), 20-30% dieback, considerable foliage deficiencies, 50-70% leaf health, pest or disease infestation at unacceptable infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).</p>
<b>Very Poor</b>	<p>Very poor vigour exhibited by irreversible decline in overall health and vigour, height and shape. The specimen is observed to be of less than acceptable condition by not displaying characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), 15-50% dieback; severe foliage deficiencies; 30-50% density; 30-50% leaf health; pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).</p>
<b>Dead</b>	<p>Dead tree vigour exhibited by complete decline in overall health and vigour, height and shape. The specimen is observed to be dead by not displaying any characteristics adequately that is known for that particular species (what would be expected for that particular species of that age in that location), tree holds less than 15% foliage; branching is dead throughout canopy, pest or disease infestation at severe infestation level that exceeds thresholds for the assessing arborist (where it is considered the tree's overall health or condition will be affected or lead to irreversible decline from pest or disease).</p>





## Tree Condition

<b>Overall Condition (Structure/Stability)</b>	The tree condition as identified by the arborist in regard to defects in structure and stability.
<b>Good</b> (Exceptional specimen)	No damage or decay observed to the root plate, visible basal and /or root flare, stable in ground, well tapered branches with sound open unions. All characteristics within thresholds for the assessing arborist.
<b>Fair</b> (Standard tree – no observable major defects to suggest that there is an increased likelihood of tree or part of tree failure)	Minor damage or decay observed to root plate, trunk or primary branches or branch unions (1 <sup>st</sup> or 2 <sup>nd</sup> branch order or scaffolding branch), well-formed branch unions, minor branch end weight or over-extensions within thresholds for the assessing arborist.
<b>Fair/Poor</b>	Moderate damage or decay observed to root plate, trunk or primary branches or branch unions (1 <sup>st</sup> or 2 <sup>nd</sup> branch order or scaffolding branch); minimal basal/root flare; acute branch; past branch failure(s); moderate branch end-weight or over-extension approaching thresholds for the assessing arborist.
<b>Poor</b>	Major damage or decay observed to root plate, trunk or primary branches or branch unions (1 <sup>st</sup> or 2 <sup>nd</sup> branch order or scaffolding branch) no observable basal and /or root flare; acute branch unions starting to include bark; major branch end-weight or over-extension at or exceeds thresholds for the assessing arborist.
<b>Very Poor</b>	Excessive damage or decay observed to root plate, trunk, primary branch or branch unions (1 <sup>st</sup> or 2 <sup>nd</sup> branch order or scaffolding branch), excessive decay or hollows compromising the structural integrity, unstable in ground, excessive branch end-weight, included-bark unions, exceeding thresholds for assessing arborist. Failure probable.
<b>Failed</b>	Failure of root plate or trunk or primary branch or branch unions (1 <sup>st</sup> or 2 <sup>nd</sup> branch order or scaffolding branch) or active split between branch unions or severe damage to primary tree structure.

## Tree Retention Value Method

### **IACA Significance of a Tree, Assessment Rating System (STARS) © (IACA 2010) ©**

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

#### Tree Significance - Assessment Criteria



#### **High Significance in landscape**

- The tree is in good condition and good vigour. The tree has a form typical for the species.
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age.
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered Ecological Community or listed on a council's Significant Tree Register.
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity.
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values.
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ - tree is appropriate to the site conditions.



### **Medium Significance in landscape**

- The tree is in fair to good condition and good or low vigour.
- The tree has form typical or atypical of the species.
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area.
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street.
- The tree provides a fair contribution to the visual character and amenity of the local area.
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

### **Low Significance in landscape**

- The tree is in fair to poor condition and good or low vigour.
- The tree has form atypical of the species.
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings.
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area.
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen.
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ - tree is inappropriate to the site conditions.
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms.
- The tree has a wound or defect that has potential to become structurally unsound.
- Environmental Pest/Noxious Weed Species.
- The tree is an Environmental Pest Species due to its invasiveness or poisonous/allergenic properties.
- The tree is a declared noxious weed by legislation.
- Hazardous and or Irreversible Decline.
- The tree is structurally unsound and/or unstable and is considered potentially dangerous.
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a mono-cultural stand in entirety.



**Useful Life Expectancy (ULE)**

Useful life expectancy (ULE) is a measure of a trees remaining lifespan regarding its health, condition and locality ULE categories were measured as:

- a) Long (greater than 40 years)
- b) Medium (between 15 and 40 years)
- c) Short (between 1 and 15 years)
- d) Dead

**Tree Retention Value - Priority Matrix**

		Significance				
		1. High Significance in Landscape	2. Medium Significance in Landscape	Significance in Landscape	3. Low Environmental Pest / Noxious Weed Species	Hazardous / Irreversible Decline
Estimated Life Expectancy	1. Long >40 years					
	2. Medium 15-40 Years					
	3. Short <1-15 Years					
	Dead					

Legend for Matrix Assessment	
	<b>Priority for Retention (High)</b> - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 Protection of trees on development sites. Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone.
	<b>Consider for Retention (Medium)</b> - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	<b>Consider for Removal (Low)</b> - These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
	<b>Priority for Removal</b> - These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

**REFERENCES**

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, [www.icomos.org/australia](http://www.icomos.org/australia)

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturist (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, [www.footprintgreen.com.au](http://www.footprintgreen.com.au)



## Tree Protection Zone and Structural Root Zone Method

Following the VTA, The Tree Preservation Zones and Structural Root zones were calculated and added to the Tree Data Schedule (Appendix 1) and the Tree Impact Plan (Appendix 2) with the methods explained below:

The Structural Root Zone (SRZ) is the area around the base of a tree required for its stability. The woody root growth and soil cohesion in this area are necessary to hold the tree upright; therefore, there are no variations to its size. The SRZ is normally circular with the trunk at its centre and is expressed by its radius in metres (AS – 4970). Due to the potential of causing instability of a tree, it is highly recommended that no roots within its SRZ are pruned or removed. SRZ, which is the area required for tree stability, was calculated as follows: SRZ radius =  $(D \times 50) 0.42 \times 0.64$ .

The Tree Protection Zone (TPZ) is the principle means of protecting trees on development sites. The TPZ is a combination of the root area and crown area that requires protection. It is an area isolated from construction disturbance, so that the tree remains viable (AS – 4970). The radius of the TPZ is calculated for each tree by multiplying its DBH x 12. TPZ = DBH x 12 (DBH = trunk diameter measured at 1.4m above ground level). The radius of the TPZ is measured from COT (Centre of the trunk).

### Variations to the Tree Protection Zone (TPZ)

#### *General*

It may be possible to encroach into or make variations to the standard TPZ. Encroachment Includes excavation, compacted fill and machine trenching.

#### *Minor encroachment*

If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. Variations must be made by the project arborist considering relevant factors. (Figure 7) demonstrates some examples of possible encroachment into the TPZ up to 10% of the area.

#### *Major encroachment*

If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ the project arborist must demonstrate that the tree(s) would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods and consideration of relevant factors listed in the Clause.

Figure 7

