Appendix 2 – Flood Assessment

hkma ENGINEERS

General Manager
Parramatta City Council
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PARRAMATTA NSW 2150

September 21, 2015

PROJECT: *122 WIGRAM STREET, HARRIS PARK*
RE: *PLANNING PROPOSAL*

This letter is prepared in support of the Planning Proposal for 122 Wigram Street, Harris Park. The letter has been prepared to respond to the relevant key issues contained within the Section 117 Direction in relating to flooding. The relevant provisions are outlined below with a response provided against each point. The Planning Proposal contains an address of all 117 Directions while this letter is confined to the key flooding issues that must be considered.

(4) A planning proposal must include provisions that give effect to and are consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 (including the Guideline on Development Controls on Low Flood Risk Areas).

- The existing LEP contains flood related planning development controls that would apply to any development proposal on the subject site. These provisions are retained and the underlying zone of the land remains unchanged.

- The redevelopment of the allotment is able to occur in a manner consistent with the provisions of the Floodplain Development Manual 2005 and Councils own flooding controls that would apply to the development. It is expected that detailed assessment of flooding and analysis of consistent with Councils flood related development controls would occur at DA stage.

(6) A planning proposal must not contain provisions that apply to the flood planning areas which:

(a) permit development in floodway areas,

- The entire site is within the designated 1:100 year ARI (1%AEP) floodway area
- The site is classified as flood prone land as it *is "land susceptible to flooding by the PMF"* as described in the Floodplain Development Manual 2005
- The appropriate Flood Planning Level (FPL) for this site will be the 1% AEP (1 in 100 year) Flood Event plus 0.5m freeboard.

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- Flood management strategies will be implemented for events up to the PMF event and will be detailed in a Flood Risk Assessment Report with any Development Application.
- Parramatta City Council have approved a Flood Impact Assessment Report with a current development application for the site. The report includes a detailed Flood Risk Assessment as well as two-dimensional modelling of flood flows through the site.

It is important to note that the NSW Floodplain Management Manual 2005 states the following:

"it is neither feasible nor socially or economically justifiable to adopt the PMF as the basis for FPL's. FPL's for typical residential development would generally be based around the 1% AEP flood event plus an appropriate freeboard (typically 0.5m)"

For the purpose of this project, the following flood levels are applicable

- R.L. 7.75m AHD as the 100 year flood level
- R.L. 9.59m AHD as the PMF level.

GROUND FLOOR LEVELS

The Ground Floor commercial level has been set R.L. 9.00m AHD (i.e 1250mm above the 1 in 100 year level).

BASEMENT ACCESS RAMPS

Any access ramp from Wigram Street will ramp up to a crest of R.L. 9.00m AHD in order to achieve an additional 500mm of flood protection for the basement.

RESIDENTIAL LEVELS

Given that the ground floor will be commercial/retail and floor to floor heights in this zone would typically exceed 4m, the first floor level will be at least R.L. 13.00m AHD

This means all residential levels will be above the PMF level.

(b) permit development that will result in significant flood impacts to other properties,

- Parramatta City Council have approved a Flood Impact Assessment Report with a current development application for the site. The report includes a detailed Flood Risk Assessment as well as two-dimensional modelling of flood flows through the site.
- The planning proposal retains the floodway zone through the site in a similar manner to the currently approved Development Application

(c) permit a significant increase in the development of that land,

- The Planning Proposal will result in additional occupants on the site. As the site is in a highly urbanized catchment, the flood durations are relatively short and occupants are likely to shelter in place rather than evacuate the site. Accordingly, the need for increased services is considered minimal.

- For storm events up to the 100 year event, it is possible to evacuate the site via the south eastern corner of the site and travel in a southerly direction along Wigram Street. The footpath at the corner of Wigram Street and Parkes Street is at or above the 100 year flood level and Wigram Street to the south of the site is flood free ground. Vehicle are also able to evacuate the basement car park as flood depths at the driveway entry are below the maximum allowable depth of 200mm for vehicle egress.

- For storm events greater than the 100 year flood event and up to and including the PMF, occupants will shelter in place. The car lift and warning systems in the basement car park will be linked to the alarm system and vehicular egress will be prohibited.

- As occupants shelter in their own property (which is above the PMF level) the number of occupants and increase in development of land will not impact on the flood regime as the currently approved DA has already factored the critical flood risk measures in its design. The additional height applied for in this planning proposal will accordingly not alter the impacts as previously approved in the original development consent.

- A revised Flood Risk Assessment and Flood Warning, Evacuation and Management Plan will be lodged with the Development Application and detail the measures that will be incorporated for this site.

(d) are likely to result in a substantially increased requirement for government spending on flood mitigation measures, infrastructure or services, or

- Development on the site will not, in all likelihood, result in a need for substantially increased requirements for government spending on flood mitigation measures, infrastructure, or services as the floodwater and flooding impacts can be addressed through design measures rather than broader measures that would require changes to the catchment. The proposal does not create a need for any spending for flood mitigation measures or infrastructure as the design at ground level does not create any detrimental effects on the flood regime at the site and throughout the associated catchment. This will be comprehensively detailed in the flood risk assessment which will be submitted at the DA stage.

I trust explains our position regarding this application, if you have any queries, please do not hesitate to contact me on (02) 9687-9222

Sincerely Yours,

Steve Arraj
Director – Civil Engineering

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Appendix 3 – Traffic and Transport Assessment

Reference: 14.504l01v3

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20 November 2014

Parramatta City Council
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For the Attention of the Assessment Manager

Re: Proposed Mixed Use Development at 122 Wigram Street, Harris Park
Planning Proposal – Traffic Statement

Dear Sir / Madam,

TRAFFIX was engaged to provide traffic advice in relation to a planning proposal for a development to be located at 122 Wigram Street, Harris Park, within Parramatta City Centre.

A development approval was granted in June 2012 for the construction of a seven storey mixed use development containing 32 dwellings over 6 levels, and one level of commercial space, over basement car parking with strata subdivision (Development Consent No. DA/397/2010).

Subsequent to this, commercial requirements necessitated changes to the ground and basement levels in particular. In May 2014, a Section 96 application was lodged for a modified scheme, which proposed the construction of an eight storey Residential Flat Building containing 38 apartments and one level of commercial and retail space over basement car parking (Development Application No. DA/251/2014). It is understood that this application is still under assessment.

This planning proposal proposes a 16-storey building which will comprise a total of 91 residential units, and 170m² GFA of commercial area.

Our assessment of the new proposal involved investigation into and advice regarding the key traffic elements, taking into consideration previous approvals and applications over the site, as outlined in the following sections.

Existing Site

The site is located 19km to the west of Sydney, and approximately 350m to the east of Parramatta station. The site lies on the north-west corner of the intersection of Parkes Street and Wigram Street with a third frontage on the western side facing Charles Street.

A location and site plan are presented in **Figures 1 & 2** respectively. A photographic record, which provides a general appreciation of traffic conditions in the locality of the site, is provided in **Attachment 1**.

The site has an irregular configuration, with a total site area of approximately 890m^2. It has an eastern frontage of 33 metres to Wigram Street, a southern frontage of 25 metres to Parkes Street and a western frontage of 22 metres to Charles Street. The northern boundary is 37 metres in length and is directly adjacent to a stormwater drainage channel.

Whilst the site is currently vacant, vehicular access to the previous use on the site was provided via a 3.5 metre wide combined entry / exit driveway onto Wigram Street, at the north-east corner of the site.

Figure 1: Location

Figure 2 Site Plan

Description of Surrounding Roads

The adjacent road network is shown in **Figure 2**, with the following roads of particular interest:

- Wigram Street — an unclassified local road that traverses in a north-south direction beginning at Hassel Street in the north and terminating near the M4 motorway in the south. It is subject to 50km/h speed zoning. It permits kerbside parking (both metered/timed and unrestricted) along its length.
- Parkes Street — a classified RMS Secondary Road (SR2049) that traverses in an east-west direction between the Great Western Highway in the west and Hassall Street in the east. It carries approximately 29,000 vehicles per day in the vicinity of the site and is subject to 60km/h speed zoning. No parking is permitted on Parkes Street in the vicinity of the site. It carries two lanes of traffic in either direction, with a carriageway width of approximately 13 metres.
- Charles Street — an unclassified local road that runs in a north-south direction between Parkes Street in the south and Phillip Street in the north. It is restricted to northbound movements only, with one lane of traffic and two lanes marked as a holding bay for local buses. It is subject to 50km/h speed zoning. Including the bus bays, the road width is approximately 13 metres.

Public Transport

The existing rail and bus services that operate in the locality are shown in **Figure 3**. It is evident that the site benefits from excellent access to public transport services, being conveniently located within approximately 350m of the Parramatta Bus and Rail Interchange.

Rail services from Parramatta include the T1 line to Sydney CBD and the North Shore; and the T5 line to Blacktown and Campbelltown, the Blue Mountains line also Parramatta.

The bus services available in proximity to the site provide connections to such centres as Sydney CBD, West Ryde, Chatswood, Macquarie University, Epping, Liverpool, Bankstown and Hurstville.

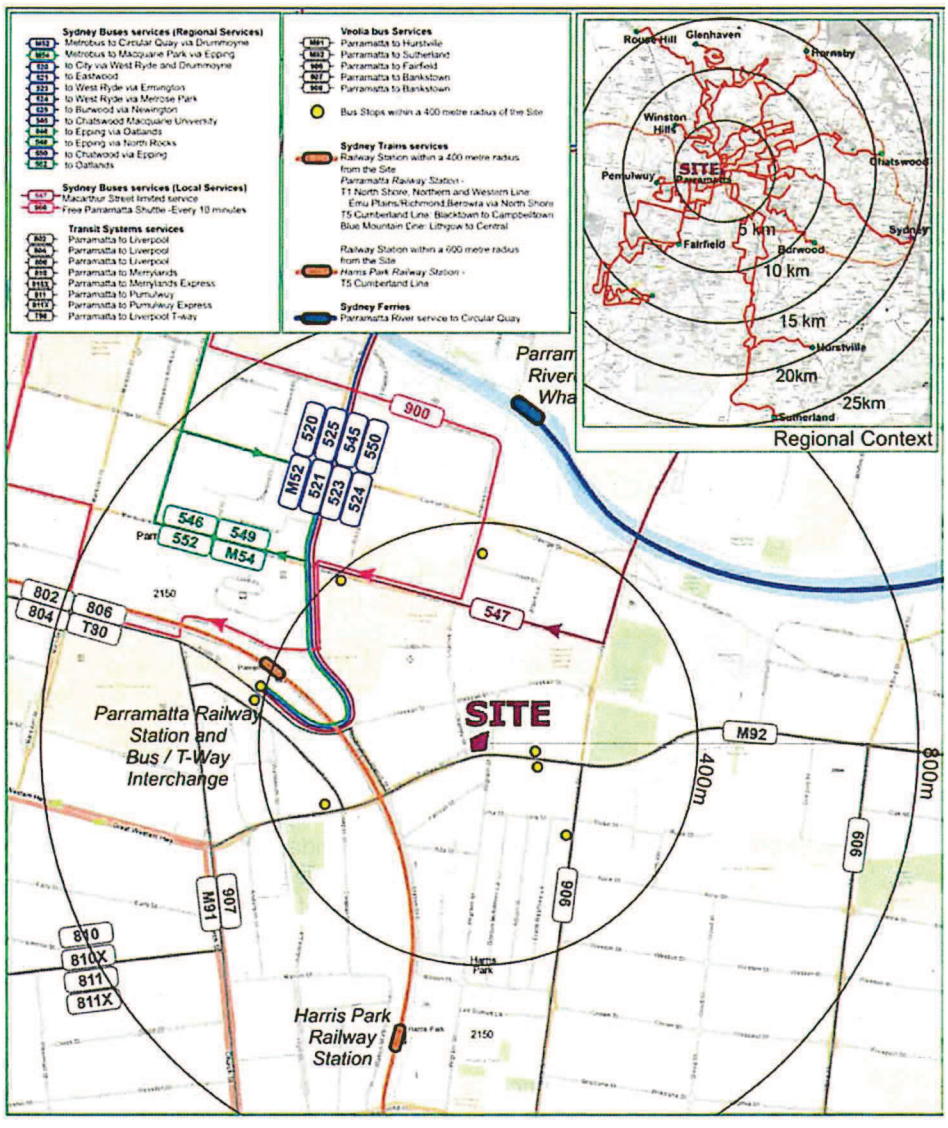


Figure 3: Public Transport Services

Proposed Development

The proposal is shown in the ground and basement level concept plans included as **Attachment 2**, and a detailed description is provided in the Statement of Environmental Effects prepared separately. In summary, the development for which approval is now sought comprises the following components:

- Construction of a mixed use development comprising approximately:
    - 29 x one bedroom apartments,
    - 52 x two bedroom apartments,
    - 10 x three bedroom apartments, and
    - 170m^2 GFA of commercial area.
- The provision of basement level car parking with a total of 32 car spaces and 4 motorcycle spaces, accessed via a car lift.

Parking requirements

Car parking rates for Parramatta City Centre are contained in Clause 22C of Parramatta City Centre LEP 2007. The rates are listed as maximums which cannot be exceeded, and are as follows:

- For multi dwelling housing of 1, 2 and 3 bedrooms, a maximum of 1 parking space for every dwelling plus 1 parking space for every 5 dwellings for visitors.
- For commercial property, a maximum of 1 parking space provided for every 100m^2 of gross floor area.

Following these guidelines, with 91 dwellings and 170m^2 of commercial space, the proposed development is permitted a maximum of 113 car parking spaces.

The development proposes two basement levels providing 32 car parking spaces, and therefore complies with the requirements of the Parramatta City Centre LEP in this regard.

Whilst a number of dwellings within the development would therefore not have access to an on-site car park, the on-street parking restrictions in the area would limit the potential for or impact of resident/visitor parking in the surrounding streets.

In summary, the suppression of on-site parking is considered to be an appropriate outcome given the proximity of the site to the Parramatta CBD, local services, and public transport.

Accessible Parking Requirements

Section 4.3.3.5 (d) of the Parramatta Development Control Plan 2011 specifies that 1-2% of parking should be accessible.

The development proposes that two of the 32 spaces be signposted for use by people with disabilities thus providing 6% disabled parking, meeting the Council requirement.

Motorcycle Parking Requirements

Section 4.3.3.5 (d) of the Parramatta Development Control Plan 2011 requires separate parking for motorcycles for an area equal to 1 car parking space, as a minimum, for every 50 car parking spaces provided, or part thereof.

The development proposes four motorcycle parking spaces with a total equivalent area of approximately one car space (12m²). With a total of 32 car parking spaces, the 4 motorcycle spaces therefore meet the minimum requirements of Council's DCP in this regard.

Bicycle Parking Requirements

Section 3.6.2 of the Parramatta Development Control Plan 2011 requires one bicycle space per two dwellings and one bicycle space per 200m² for business, office, and retail premises, with storage space meeting the requirements of a 'Class 2' compound as specified in AS2890.3 – Bicycle Parking Facilities. This standard specifies that the storage rooms must have lockable doors and a rail for securing bicycles.

Accordingly, with 91 dwellings and 170m² of commercial space, the requirement is for the development to provide secure parking for 47 bicycles.

Storage areas are shown in the basement plans (refer **Attachment 2**), which could be used for the purpose of bicycle parking.

Servicing and Refuse Collection

Given the nature of the proposed use, it is anticipated that servicing requirements would be limited to regular refuse collection, and occasional access by a service vehicle such as a courier/trade vehicle or a furniture removal truck.

It is anticipated that service vehicles would use on-street parking or loading zones in the vicinity of the site, and refuse collection would occur on-street following transfer of bins to this area.

It is however envisaged that the site servicing arrangements would be dealt with at Development Application Stage.

Traffic Impacts Associated With the Development

The parking and traffic impacts arising from the development are discussed below. Reference should be made to the plans submitted separately to Council which are presented at a reduced scale in **Attachment 2**.

Residential

The development falls within the definition of a high density residential development under the RMS *Guide to Traffic Generating Developments* 2002 (RMS Guide). According to the RMS technical direction (TDT 2013/04a: Guide to Traffic Generating Developments – Updated Traffic Surveys), the following trip generation rates should be assumed:

- 0.15 trips/car space in the AM peak; and
- 0.12 trips/car space in the PM peak.

Application of these rates to the 32 car spaces that are proposed results in an anticipated traffic generation of 5 vehicle trips during the AM peak period and 4 in the PM peak period.

Commercial

The RMS Technical Direction (TDT 2013/04a: Guide to Traffic Generating Developments – Updated Traffic Surveys) recommends application of a traffic generation rate of 1.6 trips / 100m^2 GFA and 1.2 trips / 100m^2 GFA during the AM and PM peak periods respectively, for commercial developments. The proposed development does not provide dedicated parking spaces for the commercial premises so it is assumed the metered on street parking will be used. Following these rates this development is conservatively estimated to generate 3 vehicle trips in the AM peak period and 2 vehicle trips in the PM peak period.

Combined

Having regard for the above, the combined traffic generation of development is expected to be as follows:

- 8 veh/hr during the AM peak
- 6 veh/hr during the PM peak

Traffic Impact

The previously approved development was predicted to generate an additional 16 vehicle trips in the peak hours, on the surrounding road network.

Given that the previously approved development was determined to have a negligible impact upon the surrounding road network, and the development which is now proposed is expected to generate only half the volume of traffic as that previously approved (6 – 8 vehicle trips in the peak hours), it follows that the proposed development is expected to have a negligible impact upon the road network.

In any event, this level of traffic generation equates to only one vehicle trip every 7 - 10minutes, which will have no measureable impact on road network performance in the vicinity of the site.

Internal Design Elements

Access

The development nominally requires a Category 1 Driveway under AS 2890.1 (2004), being a combined entry / exit driveway of 3.0 to 5.5 metres in width. In response, the development proposes a 6.0 metre wide combined entry / exit driveway which exceeds the requirements of AS 2890.1 (2004).

Notwithstanding the above, swept path analysis has been undertaken of the proposed access arrangements demonstrating satisfactory operation for a B99 vehicle, entering and exiting the car lift and basement. These swept paths are included as **Attachment 3**.

In addition, the proposed ramp arrangement as currently shown meets the requirements of AS2890.1 (Section 3.3), which permits a maximum grade of 1:8 for the first 6m inside the property boundary where the following conditions are satisfied:

(i) The grade is a downgrade for traffic leaving the property and entering the frontage road.
(ii) The user class is Class 1, 1A or 2 only (medium – long term parking); and
(iii) The maximum car park size is 100 car spaces (as Wigram Street is a local road).

Internal Design

The internal design has generally been designed in accordance the requirements of AS 2890.1 (2004) and AS/NZS 2890.6 (2009). The following characteristics are noteworthy:

- All 32 car parking spaces are accessed via a lift from the ground floor to the basement car park levels. The internal arrangements of this system should be designed by a lift consultant, in accordance with relevant Standards.

- The proposed lift doorway width of 3.1 meters requires an aisle apron width of 5.6 metres to exit the lift. The proposed apron width of 6m exceeds this design requirement.

- The parking design planned provides for a minimum aisle width of 6 metres, which exceeds the 5.8m required for Class 1A User parking.

In summary, the internal design arrangements have been designed generally in accordance with the requirements of AS 2890.1 (2004) and AS/NZS 2890.6 (2009). It is however envisaged that a condition of consent would be imposed requiring compliance with these standards and as such any minor amendments considered necessary (if any) can be dealt with at Development Application Stage, if necessary.

Conclusions

In summary, the planning proposal proposes a mixed-use development comprising 91 residential apartments and 170m^2 of commercial area.

The development proposes a total of 32 car parking spaces, which meets the requirements set out under Council's LEP for a maximum 113 car spaces (noting that the site is within convenient proximity to the Parramatta CBD, local services, and public transport).

The development is expected to generate 8 vehicle trips and 6 vehicle trips during the AM and PM peak periods respectively, which is lower than that anticipated to be generated by the previously approved development, and expected to have no noticeable impact on the performance of the road network in the vicinity of the site. In this regard, the traffic impacts of the development are considered acceptable.

The application is therefore considered supportable on traffic planning grounds.

Please contact the undersigned should you have any queries or require any further information or assistance.

Yours faithfully,

traffix

Geoff Higgins
Senior Engineer

Email: Geoff.Higgins@traffix.com.au

Attachments: 1) Photographic record
2) Reduced Plans
3) Swept Path Analysis

Attachment 1

Wigram Street near Hassell Street, looking south towards Parkes Street (subject site on right surrounded by hoarding)

Wigram Street near Parkes Street, looking north towards Hassell Street (subject site on left surrounded by hoarding)

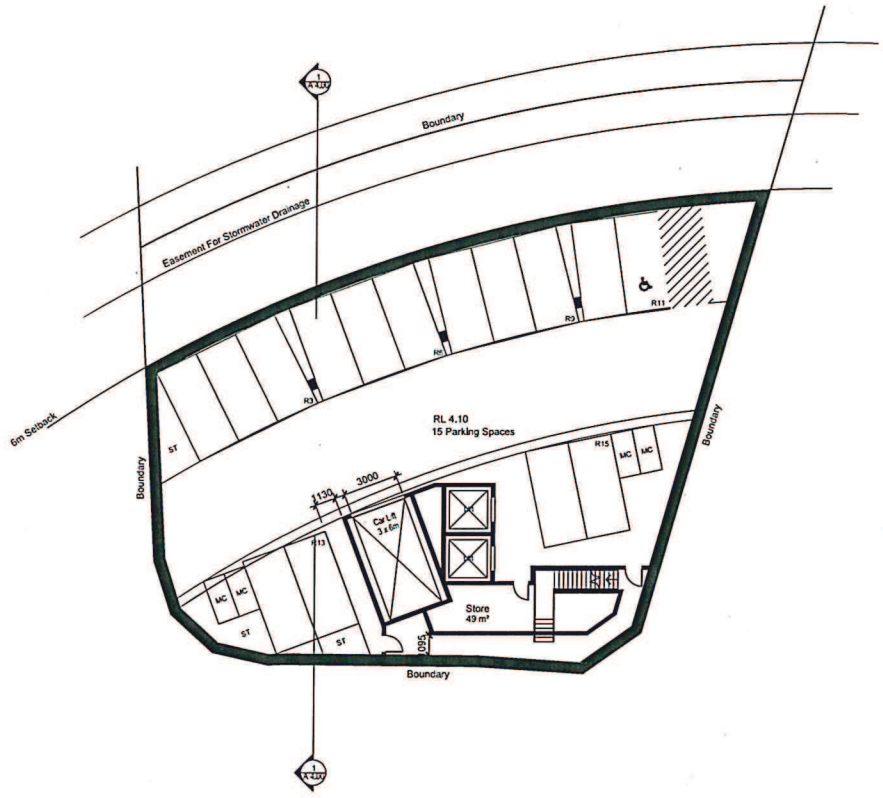
Corner of Wigram Street, looking west along Parkes Street (subject site on right surrounded by hoarding)

Parkes Street looking east towards Wigram Street (subject site on left surrounded by hoarding)

Corner of Parkes Street, looking north along Charles Street (subject site on right surrounded by hoarding)

Zebra crossing across Charles Street near Parkes Street (subject site on right surrounded by hoarding)

Attachment 2



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Rev	Description	Date

Client Name
Coronation Property Co.

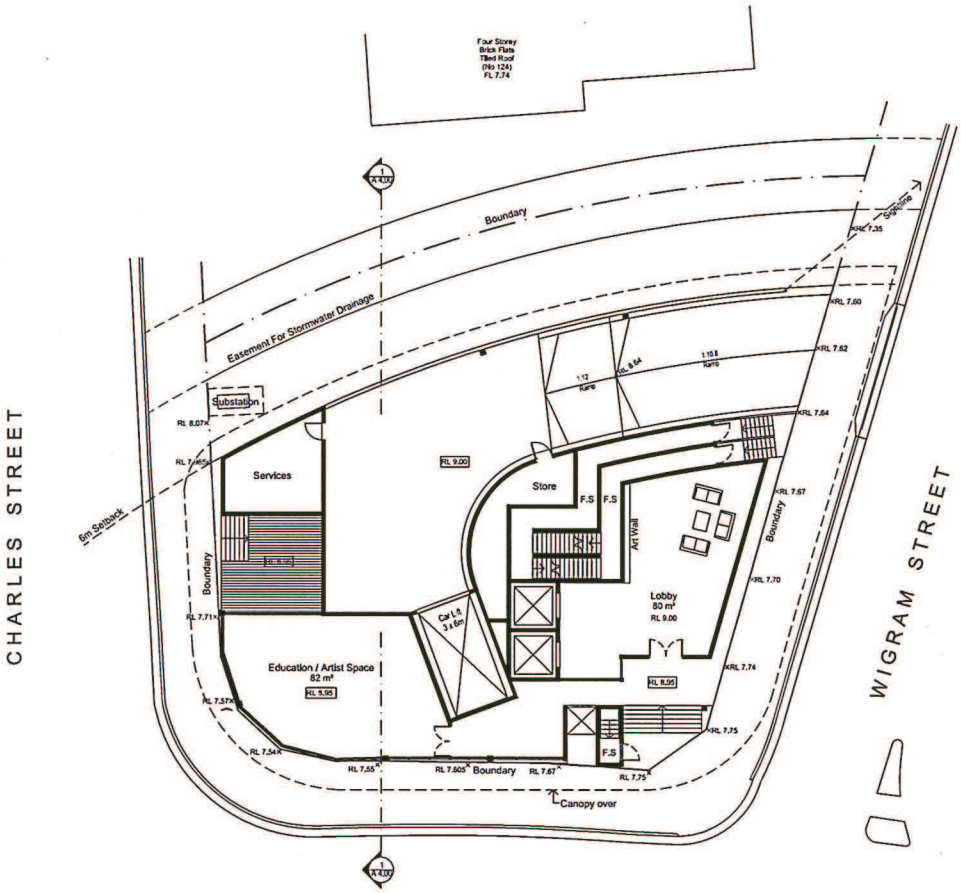
Project Name
122 Wigram St. Harris Park

Drawing Title
Basement 1 Plan

SCALE	Date	Drawing no:
1 : 200 @A3		A 2.01

Project No.
A14013

ISSUE



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Rev	Description	Date

Client Name
Coronation Property Co.

Project Name
122 Wigram St. Harris Park

Drawing Title
Ground Floor Plan

SCALE	Date	Drawing no:	ISSUE
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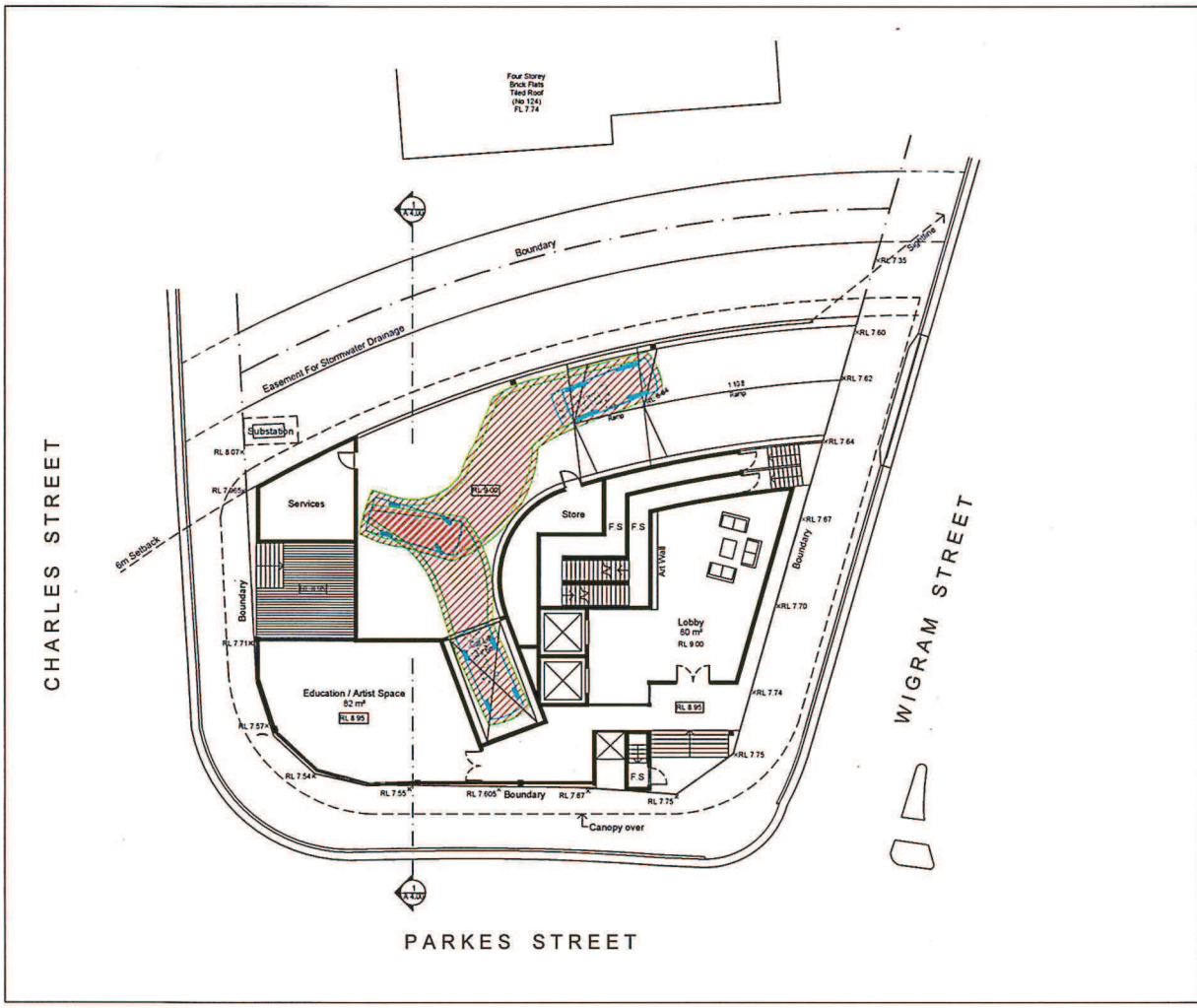
Project No.
A14013

Attachment 3



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no.	revision note	by	date

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Tony Leung

client
Carnivson Property Co PTY LTD

scale
1:200 @ A3

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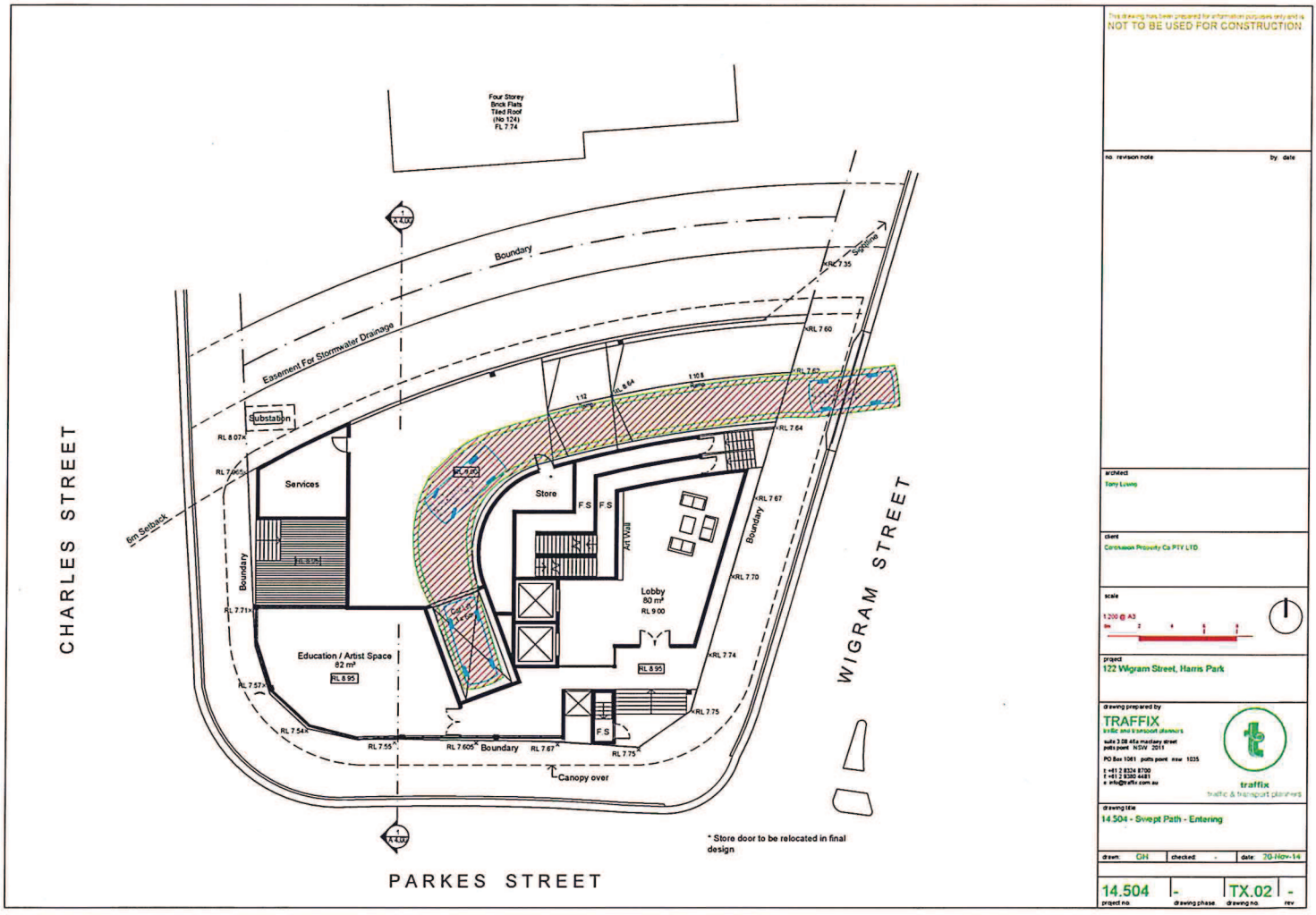
drawing title
14.504 - Swept Path - Exiting

drawn	checked	date
GH	-	18-Nov-14

project no.	drawing phase	drawing no.	rev
14.504	-	TX.01	-



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no	revision note	by	date

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14.504 - Swept Path - Entering

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GH	-	20-Nov-14

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14.504	-	TX.02	-

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