

3.10 Heritage Parameters – Annexure 9 Report

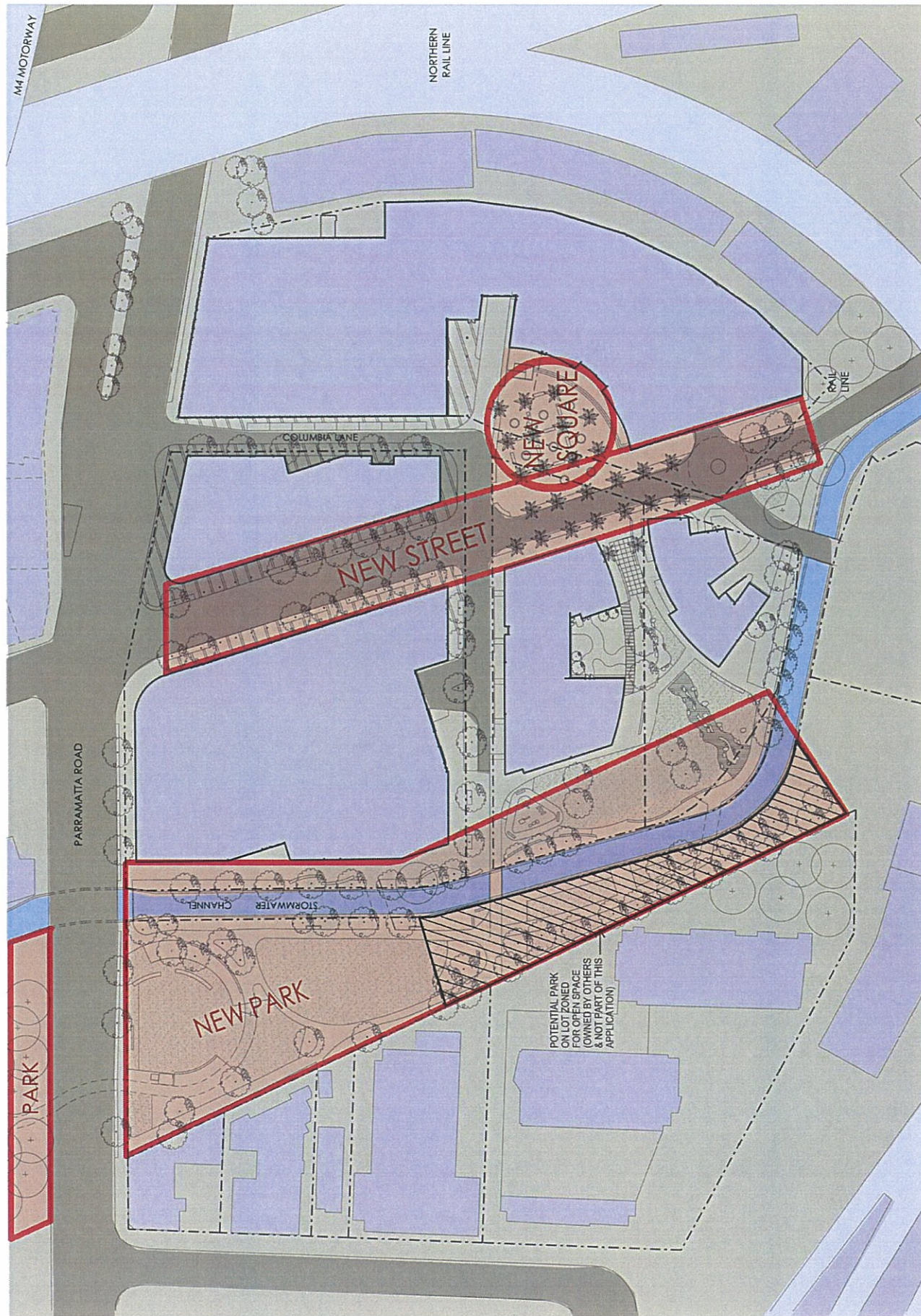
Although the Columbia Precinct land has no identified heritage standing, heritage consultants Noel Bell Ridley-Smith+Partners were retained to evaluate the draft concept plans and to provide opinions and recommendations from the broader heritage perspective where thought appropriate, noting the accepted heritage significance of the Bakehouse Quarter and the nearby railway bridge over Parramatta Road in accordance with the DGR's. That report has looked in detail at the proposed works in the context of the adjacent built form and their heritage attributes. It also provides a useful historical background to the development and use of the Columbia Precinct for a variety of warehousing, manufacturing and office type uses over the years. Their report should be consulted for detail, but in summary it concludes that *"...the proposed works...do not adversely affect the identified heritage significance of the items in the vicinity..."*

3.11 Landscaping – Annexure 8 Report

Site Image's primary role was to research and propose a Landscape Concept Plan and accompanying Design Report to form part of the Concept Application. Their landscape design inputs have focussed on open space works within the Powells Creek corridor, on adjacent works within the body of the development site, and on pedestrian linkages within and adjoining the site generally. Site Image has worked with the WSUD/water quality/stormwater project consultants SLR P/L in making provision for such considerations in the open space design, notably adjoining the stormwater canal which will need to remain as a concrete-lined facility in recognition of its primary hydraulic function. Publicly accessible space outside buildings will be some 46% of the consortium land, and deepsoil landscaping will in turn constitute one half of that publicly accessible space. In addition, the existing public roads will remain 100% publicly accessible in the future.

Other key components of Site Image's landscape design concept have included:-

- Strong emphasis on pedestrian scale, priority, connectivity, accessibility and amenity
- Close design detail to new public spaces (e.g. Columbia Place neighbourhood space)
- Landscaping of podium levels for resident use (both private and communal)



Issue	Amendment Description	Date
B	ENVIRONMENTAL ASSESSMENT ISSUE	18-09-11
A	CONCEPT PLAN DRAFT SUBMISSION	05-01-11

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Design Principles
OPEN SPACE FRAMEWORK

Project
CONCEPT PLAN APPLICATION FOR:
columbia precinct
regeneration
HOMEBUSH
2-20 Paramatta Road & 11-13 Columbia Lane, Homebush NSW



- ❑ Strong linear pedestrian linkages along the water channel retail frontages
- ❑ Accommodation of bicycle requirements
- ❑ Provision of maintenance access to electricity infrastructure
- ❑ Attention to CPTED lighting and security in design
- ❑ Design and material selection to be as low maintenance as possible

The Site Image report also comprehensively documents how the landscape design and approach has close regard for relevant local controls and SEPP65. That discussion can be viewed in the Site Image EA Report, and is not repeated in the current document.

3.12 Transport Considerations – Annexure 6 Report

These aspects of the design and impact analysis work have been undertaken by CBHK Traffic and Transport, focussing on anticipated levels of car and non-car usage, parking provision, and road access requirements, and having particular regard for design parameters for the new George Street/Parramatta road intersection and the modified Columbia Lane/Parramatta Road intersection. Their work has also taken into account likely traffic generation of the Bakehouse Quarter Project, a Part 3A Application as yet undetermined by the Department. Key findings of this work have included the following:-

- ❑ Rates of parking provision are able to be kept low in accordance with Government policy, reflecting Columbia Precinct's public transport accessibility;
- ❑ The new four-way intersection of George Street and Parramatta Road will operate at SIDRA level of service C, which is a satisfactory level of service.

3.13 Other Specialist Inputs

These have included the following:-

- 3.13.1 Ecologically Sustainable Development** – This work has been undertaken by SLR Consulting in addressing Item #11 of the DGR's (see Attachment B), having regard for the four general ESD principles (precautionary, inter-generational, biological and ecological conservation, and improved valuation

and pricing). See their Annexure 14 report '*Columbia Precinct ESD Assessment*' for detail, however the following key findings are relevant:-

- The fundamental design aspects of Columbia Precinct are sound in terms of their ESD performance for light access, ventilation, public and private open space, and energy efficiency
- A range of more detailed design considerations are recommended to be taken into account during design development pre-CC, and if feasible, incorporated in the development, including the following:-
 - Combined heat, cooling and power through four proposed tri-generation systems. The proposed combined heat, cooling and power solutions will significantly minimise greenhouse gas emissions and will easily comply with the most stringent ESD regulations;
 - Photovoltaic (PV) Solar cells for selected residential Towers. The site has the potential to install 550 kW PV solar systems to be operated at high efficiency all year around;
 - Rainwater tank for irrigation and toilet flushing;
 - Grey water storage and reuse;
 - Water efficient bathroom and kitchen fittings;
 - Incorporation of thermal mass design principles;
 - Appropriate glazing selection to cut excess solar heat gains;
 - Deep soil landscaping to increase the ecological values of the site;
 - A minimum of 4.0 star energy-efficient air conditioning systems, if provided;

- Power sub-metering to allow for effective monitoring and management of electricity consumption;
- Water sub-metering for different uses where appropriate;
- Cyclist parking facilities;
- Carspaces be set aside for low emission or alternative fuel vehicles such as electrical cars;
- Low VOC paint, carpet, sealant and adhesives throughout the building; and
- Recommendations regarding the mechanical ventilation system, shading devices, landscaping, internal finishes, pollutant emission and waste, etc. have also been made within the body of the report and will be addressed in detail at later project stage;

These features will help to achieve significant reductions in the energy and water required by the development both in building and operation, as well as ensuring that the apartments are more pleasant spaces to live in.

3.13.2 Stormwater and Water Quality – These issues are also addressed by SLR Consulting, and details of the resultant schematic stormwater system incorporating OSD and water quality control devices are provided under separate cover in their EA report ‘*Water Sensitive Urban Design*’ of 8 July 2011, which also looks at localised flooding issues. Key components include as follows (see Annexure 12 for detail):-

- All such components have been designed having regard for the anticipated staging of the project as discussed in Section 3.14 of this report

- ❑ Water quality has been addressed by a combination of below-surface in-line and above-ground on-line devices, the latter being a series of natural ponding areas
- ❑ The proposed development enhances the site's characteristics by the inclusion of landscaped areas. The increase in 'green space' results in a significant reduction in impermeable area when compared to the existing pre-developed site, thus resulting in a decrease in stormwater runoff from the site during rainfall events. Based on the results of the stormwater analysis, it is considered that no On-Site Detention (OSD) storage is deemed to be required, other than for controlling flows from new roadways.
- ❑ The model for Urban Stormwater Improvement Conceptualisation (MUSIC) was used to size stormwater quality elements and model the Pre and Post development pollutant loading. Various water quality treatment measures were modelled independently or in combination to assess the most appropriate means of achieving the stormwater quality targets.
- ❑ The development will enhance the local catchment and provide 'green' corridors, which will ultimately improve bio-diversity. The MUSIC modelling results showed that the proposed water quality treatment strategy meets the adopted stormwater quality treatment targets.
- ❑ The primary flood risk to the site is from Powell's Creek which flows around the south western boundary of the site, continuing north through the western fringes of the site before flowing offsite beneath Parramatta Road. The 100 year Average Recurrence Interval (ARI) flood level of 5.36m AHD was deemed to be appropriate for the purposes of this assessment.

The SLR Annexure 12 report should be examined for detail and calculations.

3.13.3 Other Services – Documented in SLR Consulting’s report ‘*Concept Plan Infrastructure*’, other site services covered include gas, electricity, telecommunications, water supply and sewer. Their report (at Annexure I8) found that all services are available and adequate for the intended purpose, subject to:-

- ❑ possible replacement/amplification to be identified in detail at later development application stage;
- ❑ possible headworks charges anticipated from Sydney Water (an ‘in principle’ Section 73 Certificate has been received at the time of writing, and has been subsequently addressed under cover of separate letter to the Department, as documented in Attachment D);
- ❑ some re-routeing of existing services in Parramatta Road potentially affected by future road-widening and intersection works past and serving the development site.

3.13.4 Noise and Vibration – This SLR report examines the acoustic and vibration environment in which Columbia Precinct is located, and is provided as a separate Annexure I6 report. Their report factors in possible future growth in road and rail traffic in the vicinity of the site, analyses the effects, and makes recommendations as to how the project design might respond to those conditions, which would typically be addressed at subsequent DA stage. This Report concludes that “...*subject to the implementation of an appropriate acoustic design, the proposed development site is suitable for residential land uses on the basis of acoustics.*” (P3)

3.13.5 Wind Environment – Although not a specified requirement of the Environmental Assessment DGR’s (see Attachment B), it was decided for completeness to include the issue of wind effects in order to ensure that a hostile wind environment is avoided by the subject design. The Annexure I7 wind report finds that:-

“Some areas have been identified as being potentially prone to winds close to or even exceeding the standard 16m/sec walking comfort criterion. Additional amelioration measures (refer Section 5.3) have been recommended to mitigate windflow in these areas.

“Accordingly, it has been predicted that ground levels wind speeds along all surrounding public footpaths and public access areas within the development itself will either remain at their present levels or decrease slightly with the addition of the proposed development and its wind mitigation treatments. Wind Mitigation treatments will be finalised during the DA Stage of the project.”

- 3.13.6 Environmental and Geotechnical** – This work was done by WSP Environmental, finding as discussed earlier in this EA report in the discussion of existing site conditions in Chapter 2. WSP’s Annexure 11 report is provided under separate cover and should be consulted for detail.
- 3.13.7 Land Survey** – A range of desk research, survey investigations and fieldwork has been undertaken by Hill & Blume, and plans provided on CAD to enable proper design work to proceed. Detail of adjoining land owners is now also provided with the survey material at Annexure 2.
- 3.13.8 Quantity Surveyor** – Page Kirkland undertook an assessment of cost of works, at over \$300 million at today’s values – see Annexure 3 attached.
- 3.13.9 SEPP65 Compliance** – This analysis has been undertaken by Mayoh Architects, in concert with technical analysis of solar access and natural ventilation undertaken by SLR Consulting, and is reported under several reports under separate cover. Key findings include as follows:-
- Key SEPP65 criteria of building separation, solar access, overshadowing, privacy and natural ventilation can all be readily satisfied in detail design as part of subsequent DA’s
 - The buildings’ architectural treatment is good;
 - They will perform creditably in SEPP65 terms.

See Annexure reports 5, 13 & 15

3.13.10 Physical Model and Architectural 3D's – Furnished to the Department as part of the EA documentation, these design aids provide good illustration of how the proposed buildings relate to their context and to each other – see photographs and 3D's following, as well as separate design reports undertaken by Professor Peter Webber and Dr Richard Lamb at Annexures 4 and 10 respectively.

3.14 Staging

The project team and the Columbia Consortium have closely considered the range of parameters involved in determining how the site's development is most likely to proceed, (in response to Item 19 of the DGR's at Attachment B). It is possible (though unlikely) that the site's development could proceed in one go. It is more likely a particular stage might proceed and be occupied in sequence. However, it is thought improbable that the site's development could proceed in a wholly different order to that following below, illustrated on the plan overpage and quantified in the staging table:-

Stage One – Construction of that part of the Columbia Precinct site located to the west of Columbia Lane and north of Railway Lane which runs east-west across the western two-thirds of the site. These works cover the David Lhuede P/L holdings plus the Railway Lane lands just referred to. These stage one works will include buildings A to J, the construction of the fourth leg of the George Street intersection into the site and associated road-widening, the reconstruction of the east-west internal lane, and the embellishment of the Powells Creek 6(d) proposed open space on the western side of the stormwater canal. The value of the embellishment works and the 6(d) reserved land will form part of, and off-set, the total estimated value of S.94 Contribution Works detailed in section #4.6.10 of this report.

Stage Two – This stage will cover the northern section of the Kennards landholdings (and adjacent Columbia Lane reconstruction) also involving the removal of the improvements on the southern part of the Kennards land which straddles two stages, and development of that part of the site owned by Hai Phong Properties and associated construction of the adjacent George Street southernmost extension to achieve the improved access through to Integral Energy and RailCorp lands in the south. These works will involve buildings K, L, P, Q, U and V.

COLOUR LEGEND:

- STAGE 1
 - STAGE 2 A
 - STAGE 2 B
 - STAGE 3 A
 - STAGE 3 B
 - PROPERTY BOUNDARIES
 - SITE PERIMETER

* STAGING SHOWN IS INDICATIVE
ONLY SUBJECT TO FUTURE SITE
DEVELOPMENT RESOLUTION

Issue	Amendment Description	Date
A	CONCEPT PLAN DRAFT SUBMISSION	05-20-11
B	ENVIRONMENTAL ASSESSMENT ISSUE - SITE PERMITS NOW LIMITED	10-09-11

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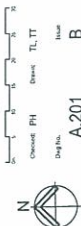
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STAGING

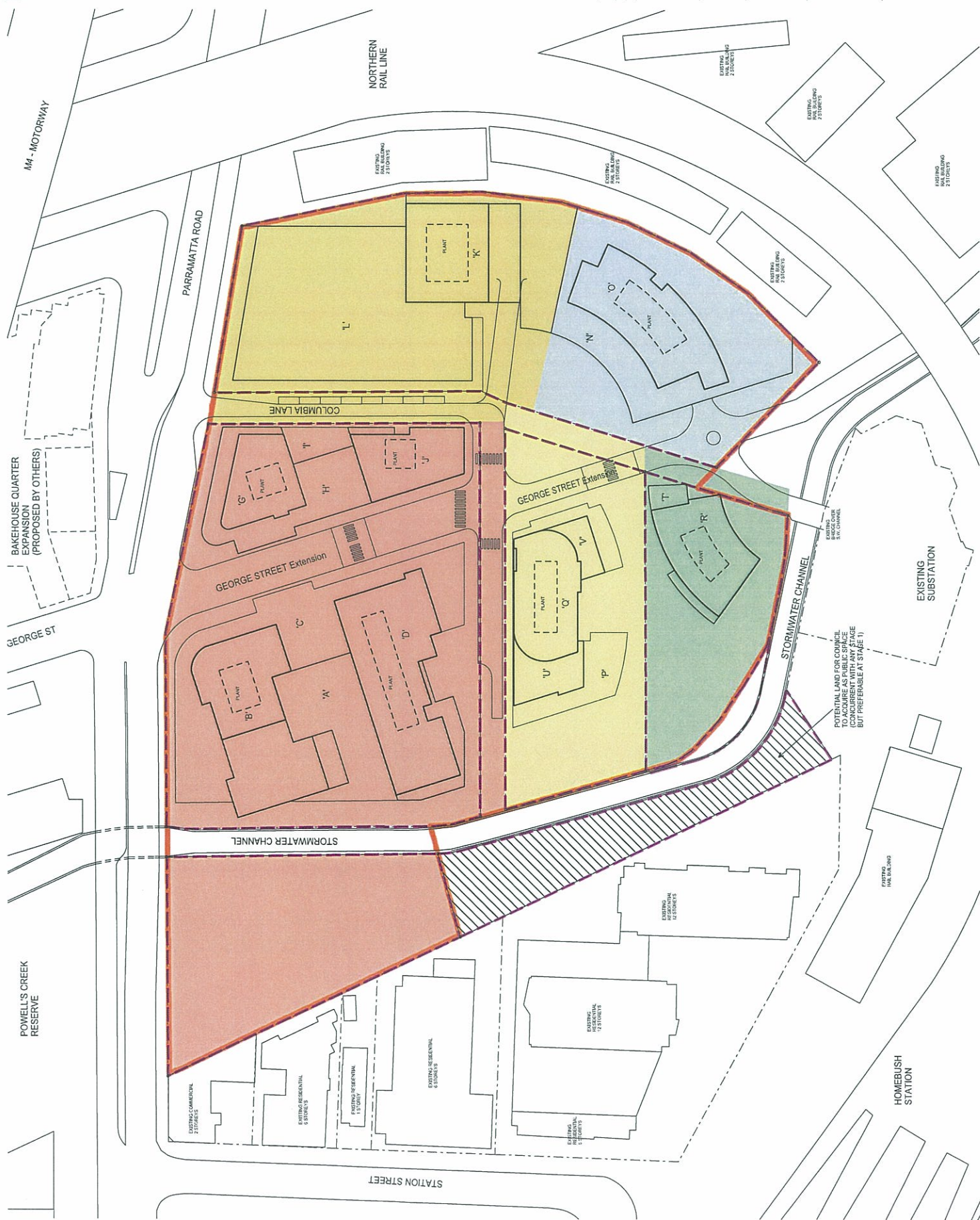
PROJECT CONCEPT PLAN APPLICATION FOR :

columbia precinct
regeneration
HOMESUBH

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A.201 B



Stage Three – The remainder of the project works, in the southern part of the site, covering buildings N and O on the Kennards land and buildings R and T on other David Lhuede P/L land, plus completion of the George Street extension and associated accesses to those four buildings as well as to Integral Energy and RailCorp lands.

This staging would see the following progressive provision of new and refurbished floorspace and demolition of existing floor space:-

	Stage One	Stage Two	Stage Three	(Totals)
Studio + one bedroom – no.	99	50	100	(249)
Two bedrooms – no.	104	64	134	(302)
Three bedrooms – no.	38	16	40	(94)
Commercial – m ² GFA <i>Note #1</i>	2190	2100	250	(4540m ²)
Retail/showroom - m ² GFA <i>Note #2</i>	4400	400	-	(4800m ²)
Self-storage m ² GFA	-	12700		(12700m ²)
Community - m ² GFA	-	240	680	(920m ²)
Less: Existing commercial space, some demolished, balance retained	-15882	-16782m ²	-	(-32664m ²)

Note #1 – 1500m² of the 2100m² scheduled for Stage 2 is Kennards' admin

Note #2 – 1300m² of the stage 1 retail is local neighbourhood shopping, the balance is essentially showroom space.