Statement of Environmental Effect

Concept Development Application Mixed Use Residential Development

164-170 Croatia Avenue, Edmondson Park

Prepared on behalf of: Superstar Pty Ltd

January 21, 2021

Document control

Authors

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Project summary

Applicant	Superstar Pty Ltd
Land to be developed	164 and 170 Croatia Avenue, Edmondson Park
Legal description	Lot 25 DP228850 and 26 DP228850.
Project description	Concept Development Application for mixed use residential development within Edmondson Park Town Centre

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Executive Summary

This Statement of Environmental Effect (SEE) has been prepared in support of a Concept development application (DA) for mixed use residential development of land at 164 and 170 Croatia Avenue, Edmondson Park within the Edmondson Park Town Centre.

The proposed Concept DA comprises residential apartments, ground floor retail / commercial uses, a childcare centre, basement car parking, communal open space and supporting infrastructure and services including new streets.

This Concept DA seeks to satisfy requirements under the *State Environmental Planning Policy (State Significant Precincts) 2005* (SSP SEPP) for the preparation of a site specific DCP consistent with Clause 4.23 of the *Environmental Planning and Assessment Act 1979*.

Site and context

This SEE applies to 164 and 170 Croatia Avenue, Edmondson Park (the site) which comprises a total area of 4.292ha. The land is described as Lot 25 DP228850 and 26 DP228850.

The southern portion of the site is located within the planned Edmonson Park Town Centre and is zoned B4 Mixed Use under the SSP SEPP. The B4 zone forms the developable area comprising 30,289sqm.

The northern portion of the lots are predominantly zoned RE1 Public Recreation and SP2 Infrastructure (Local Road) under the *Liverpool Local Environmental Plan 2008* (Liverpool LEP). The Liverpool LEP identifies this land for acquisition and it is understood that it is intended to be used for creek realignment works, drainage infrastructure and riparian open space.

Edmondson Park forms part of the South West Growth Area and is undergoing redevelopment from rural to urban land focused around the Edmondson Park Station. The wider Edmondson Park Town Centre is subject of a Part 3A Concept Plan approval, however the approval does not apply to the subject site. Development of the northern parts of the Town Centre is yet to commence, however Landcom is currently progressing a modification to the Part 3A Concept Plan to increase building heights for the Town Centre North area with the exception of the subject site. Development of the southern portion of the Town Centre is being progressed by Frasers Property (Ed Square) with the first stage currently under development.

Development summary

The Concept Development Application comprises the following:

- Mixed use residential development across eight buildings comprising a total of 62,293sqm of new floor space (FSR of 2:1) providing for:
  - 59,827sqm of residential floor space providing 676 apartments.
  - 2,183sqm of retail/commercial floor space providing 35 small ground floor tenancies within close proximity to the station and station plaza
  - 283sqm of floor space for a childcare facility (170sqm of unencumbered space) with 219sqm of adjacent outdoor space.
- Four basement car parks to service each of the development sites providing for loading, waste storage and removal and 844 car parking spaces
- New streets to extend the road network from the adjacent Landcom Town Centre North site consistent with the Edmondson Park South Part 3A Concept Plan approval

- Drainage infrastructure to enable drainage of the site to two legal points of discharge to the proposed Council bioretention basins along Maxwells Creek
- A staged approach to the delivery of four development sites with identification of the street access it be provided with each stage
- Dedication to council of 12,631sqm of riparian open space zoned RE1 Public Recreation to support planned creek realignment, drainage infrastructure and open space.

The development is largely proposed to be located within the B4 Mixed Use zone, with the exception of the pedestrian path and tree planting within the Bernera Road reserve which is proposed to extend into the adjacent RE1 Public Recreation zone.

To support the proposal, the applicant intends to enter into negotiations with Council to make arrangements for:

- Dedication of land zoned RE1 to Council
- Dedication of constructed roads to Council
- Delivery of contributions in accordance with the Edmondson Park Contribution Plan.

Consistency with the planning controls

The Concept DA is consistent with the relevant provisions of the SSP SEPP including the maximum FSR of 2:1. However, the proposal seeks to vary the height limit of 24m in a number of locations by up to 6.8m. Clause 28 of the SSP SEPP sets out provisions for the variation of development standards. To satisfy this requirement a separate height variation request has been prepared.

In summary, the variation is considered to be acceptable as it will support greater height and built form variations across the site allowing for a mix of lower rise buildings of 4-6 storeys along with taller 7-8 storey buildings, whilst maintaining the overall floor space potential. This approach will provide for an enhanced urban design outcome by increasing visual interest through a varied built form and by allowing height to be distributed across the site to maintain a human scale at the street level and minimise overshadowing of apartments and open space.

Further, for the adjoining parts of the Town Centre North, Landcom is seeking to amend the SSP SEPP to increase the maximum height to 50m, with a landmark building up to 67m. If this amendment is approved the building heights on the subject site would be significantly lower than within the adjacent parts of the town centre, regardless of the proposed height variation. This height increase would apply to parts of the Town Centre which are further from the train station than the site.

Given the unique nature of the planning controls applying to the site the proposal has been considered for consistency against the *draft Landcom Town Centre North Design Guidelines* which is currently being assessed as part of a proposed modification to the Edmondson Park South Part 3A Concept Plan as well as the *Edmondson Park South Development Control Plan 2012.* The proposal is generally consistent with the relevant controls set out in these documents.

Assessment of environmental impacts

The environmental assessment undertaken as part of this SEE demonstrates that the proposal can appropriate mitigate all impacts including as follows:

- The proposed built form and character will be generally consistent with the future development of the land within the wider town centre but will be significantly lower in height if the 50m height limit on the Landcom land if approved, in this context the minor height variation being sought is considered appropriate.

- The proposed riparian open space to the north and east of the development area will form a buffer to areas beyond which are proposed to be developed for low density residential.
- Overshadowing impacts on adjacent land have been minimised. In particular the built form steps down towards the southern boundary to be predominantly four storeys adjacent to future building envelopes. Should the height limit on the adjacent land be increased future development on this land will be able to take advantage of enhanced solar access at the upper levels.
- The proposal can achieve a high level of residential amenity including through compliance with key Apartment Design Guide (ADG) criteria.
- Tree canopy cover of 34.2% within the entire landholdings and 33.3% within the developable area can be achieved reducing heat and provide shading.
- The proposal has been informed by CPTED principles with future development benefiting from a high level of passive surveillance over the street and public domain as well as a clear delineation of public, communal and private space and clear wayfinding measures. Further consideration of CPTED principles will be applied for future DAs.
- The site has excellent access to public transport and access to services and facilities within the town centre which will support a high level of sustainable travel mode share and reduce impacts on the road network. Further traffic modelling will be undertaken with future DAs.
- Car parking is proposed to be provided in accordance with the RMS rates for Metropolitan sub-regional centres for high density residential flat buildings. This approach is consistent with the Apartment Design Guide for sites within 800m of a train station. For other uses rates consistent with the draft Landcom Town Centre North Design Guideline are proposed.
- Bike parking and motorcycle parking are proposed to be provided in accordance with the draft Landcom Town Centre North Design Guideline.
- A Social Impact Assessment has confirmed that the proposal will result in a number of social benefits and that an appropriate level of services and facilities is provided within the development and planned for delivery within the wider Edmondson Park area.
- A Stormwater Management Report has confirmed that the development will not be impacted by flooding and that the stormwater management has been designed so as not to increase discharge from the site in all design storms ensuing there will be no adverse impacts on existing flooding caused by the drainage of stormwater from the development.
- An Aboriginal Heritage Due Diligence Report has highlighted that the proposed works will impact on a previously registered artefact site and areas of archaeological potential. Accordingly, an Aboriginal Cultural Heritage Assessment (ACHA) will be prepared alongside future DAs and where necessary an Aboriginal Heritage Impact Permit sought prior to construction.
- A Waste Management Plan has been prepared to inform the waste management and storage requirements which have been incorporated in the Concept DA including through allocation of space within the floor plans and basement plans.
- A Geotechnical Assessment has been prepared which identifies that the soil conditions are suitable for the proposed development and outlines measures which would be implemented at construction stage.
- A Detailed Site Investigation has been prepared which concluded that the site can be made suitable for the proposed residential and associated land uses. The investigation recommended a targeted data gap investigation focusing on the north-eastern portion of the site (in the location of a former house) and along the creek be conducted to determine the impact of potential historic demolition and earthmoving activities. These investigations would be progressed with future DAs.
- An ESD Report has been prepared which has informed the following sustainability commitments:
  - Compliance with BASIX targets
  - Exceed the BCA NCC 2019 Section J Energy Benchmarks

- Rainwater capture for onsite irrigation
- Consider the potential for solar noting the limitations presented by rooftop open space
- Inclusion of EV charging points at a rate of 2% of car spaces in the basement carpark
- NABERs rating of 4 stars or above for common area energy and water use
- Achieve a certified Silver rating under the WELL v2 Standard to maximise the wellness characteristics of the development.

- A Bushfire Protection Assessment has been prepared which confirms that the proposal can meet the requirements of Planning for Bushfire Protection 2019, including provision of APZs within proposed perimeter roads and building setbacks and that appropriate access requirements have been accommodated.

Summary of Key Public Benefits

- Delivery of a key component of the Edmondson Park Town Centre.
- Development of 676 residential apartments in close proximity to the Edmondson Park Station contributing to local housing supply and activating the Town Centre.
- Provision of over 2,000sqm of commercial / retail floor space providing for 35 small tenancies fronting the street and activating the area near the train station and station plaza.
- A new childcare centre to service the local area with capacity for up to 31 places.
- Provision of a network of streets and publicly accessible through site links which connect to the train station, surrounding development sites and riparian open space.
- A high level of provision of communal open space with each development site achieving approximately 50%-90% as communal space.
- Significantly enhanced canopy cover contributing the pedestrian comfort and amenity and reducing heat. The Concept DA can achieve a tree canopy cover of 34.2% within the entire landholdings and 33.3% within the developable area significantly exceeding the 25% target for medium and high density areas in the NSW Government Architect draft Greener Places Guideline.
- Dedication to council of 12,631sqm of riparian open space zoned RE1 Public Recreation to support planned creek realignment, drainage infrastructure and open space.

Conclusion

On the basis of the information outlined in this report the development is considered to be suitable for the site and largely compliant with relevant and surrounding planning controls. The proposal will support the strategic vision for the Edmondson Park Town Centre providing for retail / commercial, housing and supporting uses within close proximity of the Edmondson Park train station.

1 Site and context

1.1 Site location and context

The subject site is located at Edmondson Park approximately 40km from the Sydney CBD, 9km from Liverpool and 13km from Campbelltown. The site is within the Liverpool LGA.

Edmondson Park forms part of the South West Growth Area and is undergoing redevelopment from rural to urban land focused around the Edmondson Park Station. Parts of the site are within the planned Edmonson Park Town Centre which is located to the north and south of the train station. The wider Edmondson Park Town Centre is subject of a Part 3A Concept Plan approval, however the approval does not apply to the subject site (See Figure 3). Development of the northern parts of the Town Centre is yet to commence, however Landcom is currently progressing a modification to the Part 3A Concept Plan for the Town Centre North area with the exception of the subject site (see further discussions in Section 1.3.2). Development of the southern portion of the Town Centre is being progressed by Frasers Property (Ed Square) with the first stage currently under development (see further discussions in Section 1.3.2).

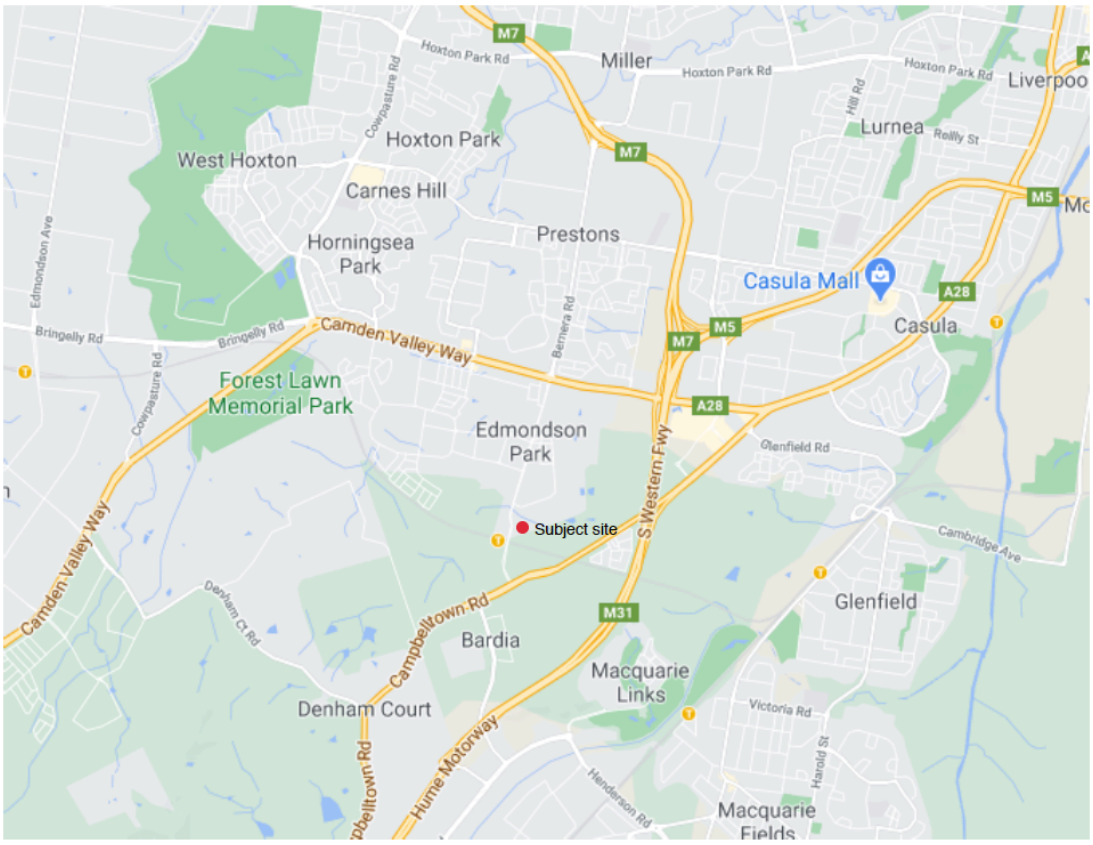

Figure 1: Regional context

Figure 2: Local context

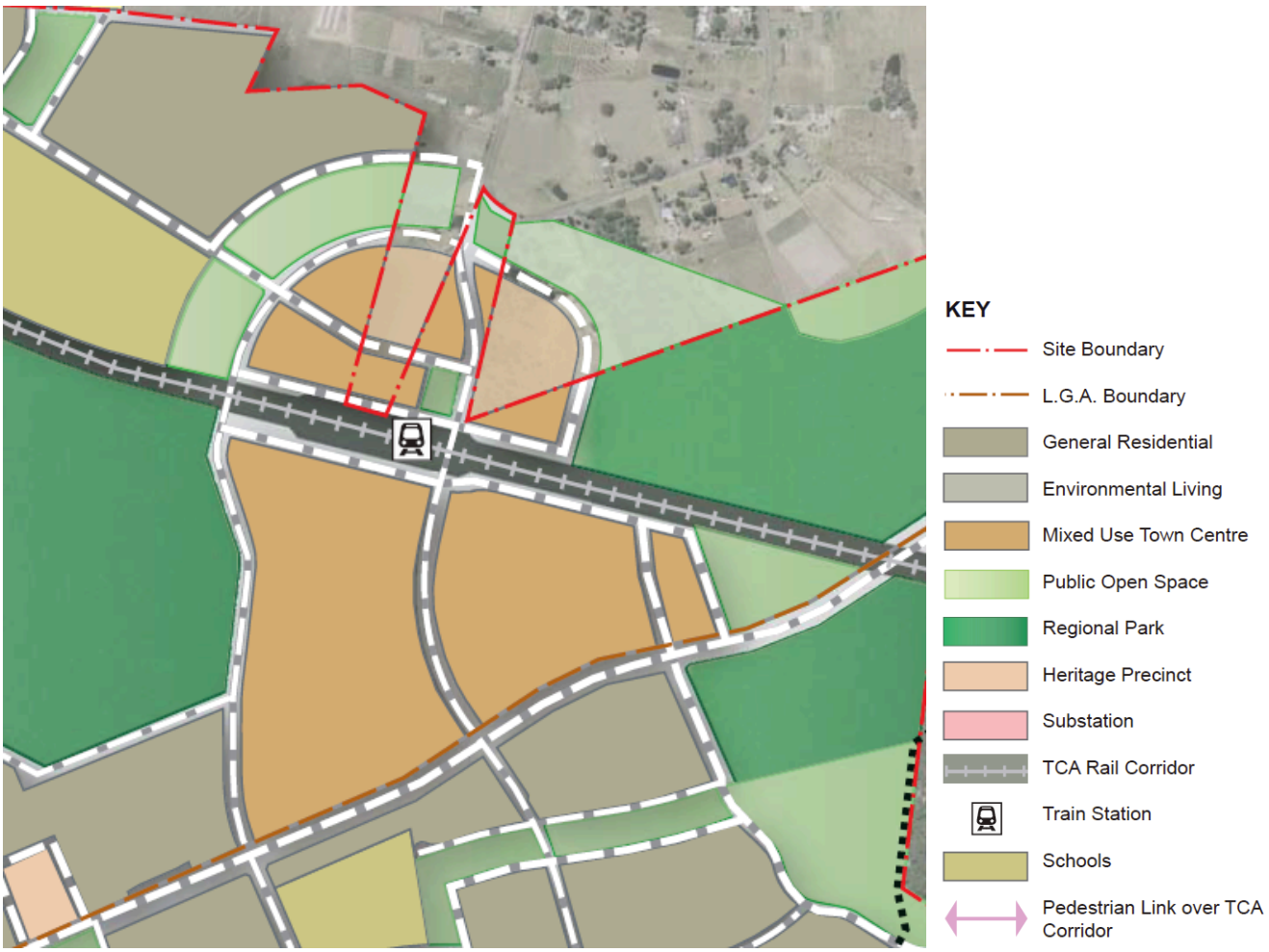

Figure 3: Approved Part 3A – Concept Plan showing Town Centre

1.2 Site description

This Statement of Environmental Effect applies 164 and 170 Croatia Avenue, Edmondson Park (the site) which comprises a total area of 4.292ha. The land is described as Lot 25 DP228850 and 26 DP228850.

The site is located within the Edmondson Park precinct of South West Priority Growth Area. It is located to the north east of the Edmondson Park Train Station within the Liverpool LGA and is currently undeveloped vacant land. The southern portion of the site is largely cleared of vegetation with the exception of some scattered tree. Maxwells Creek traverses the northern part of the site this area comprises degraded riparian vegetation.

The topography of the site primarily falls from the south west corner towards the Maxwells Creek with a high point of 56.25m AHD and a low point of 46.20m AHD with an average slope of 3.67% between these two points.

The southern portion of the site is located within the planned Edmonson Park Town Centre and is zoned B4 Mixed Use under the *State Environmental Planning Policy (State Significant Precincts) 2005* (SSP SEPP). The B4 zone forms the developable area (Figure 5) comprising 30,289sqm.

The northern portion of the lots are predominantly zoned RE1 Public Recreation and SP2 Infrastructure (Local Road) under the *Liverpool Local Environmental Plan 2008*. The Liverpool LEP identifies this land for acquisition and it is understood it is intended to be used for creek realignment works, drainage infrastructure and riparian open space.

Figure 4: Subject site

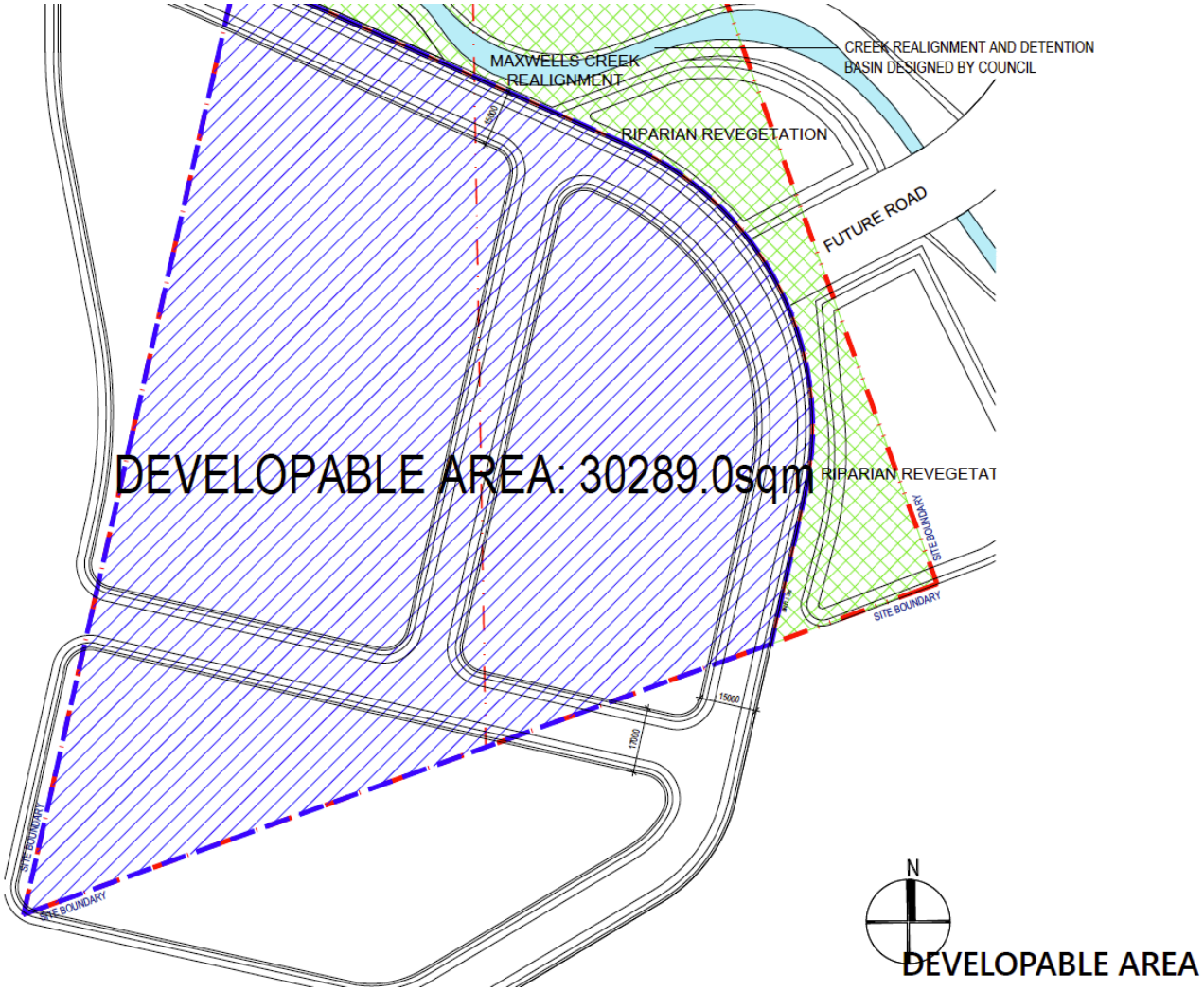

Figure 5: Developable area

1.3 Surrounding approved and proposed development

1.3.1 Frasers Town Centre proposal

The proposal for the southern portion of the Town Centre was approved by way of modifications to the Concept Plan (MP10_0118 Mod 4 and 6), which included:

- A maximum gross floor area limit of 145,025sqm (equivalent 2.5:1) for the Town Centre core
- An increased maximum building height in the Town Centre Core from 30m to 67.4m
- Increased approximate number of dwellings within the Town Centre Core from 912 to 1884
- New design guidelines and a public domain plan.

The approval comprises a Town Centre core adjacent to the station surrounded by residential uses. The Fraser's Town Centre masterplan is illustrated in Figure 6, Figure 7 and Figure 8.

A development application was subsequently approved in September 2018 (DA-767/2017) for Stage 1 of the Frasers Town Centre proposal being construction of the eastern portion of the Town Centre core comprising commercial floor space at ground and podium level with residential flat buildings above ranging from 6-14 storeys and creation of a town square. Construction has commenced and is expected to be completed by late 2020.

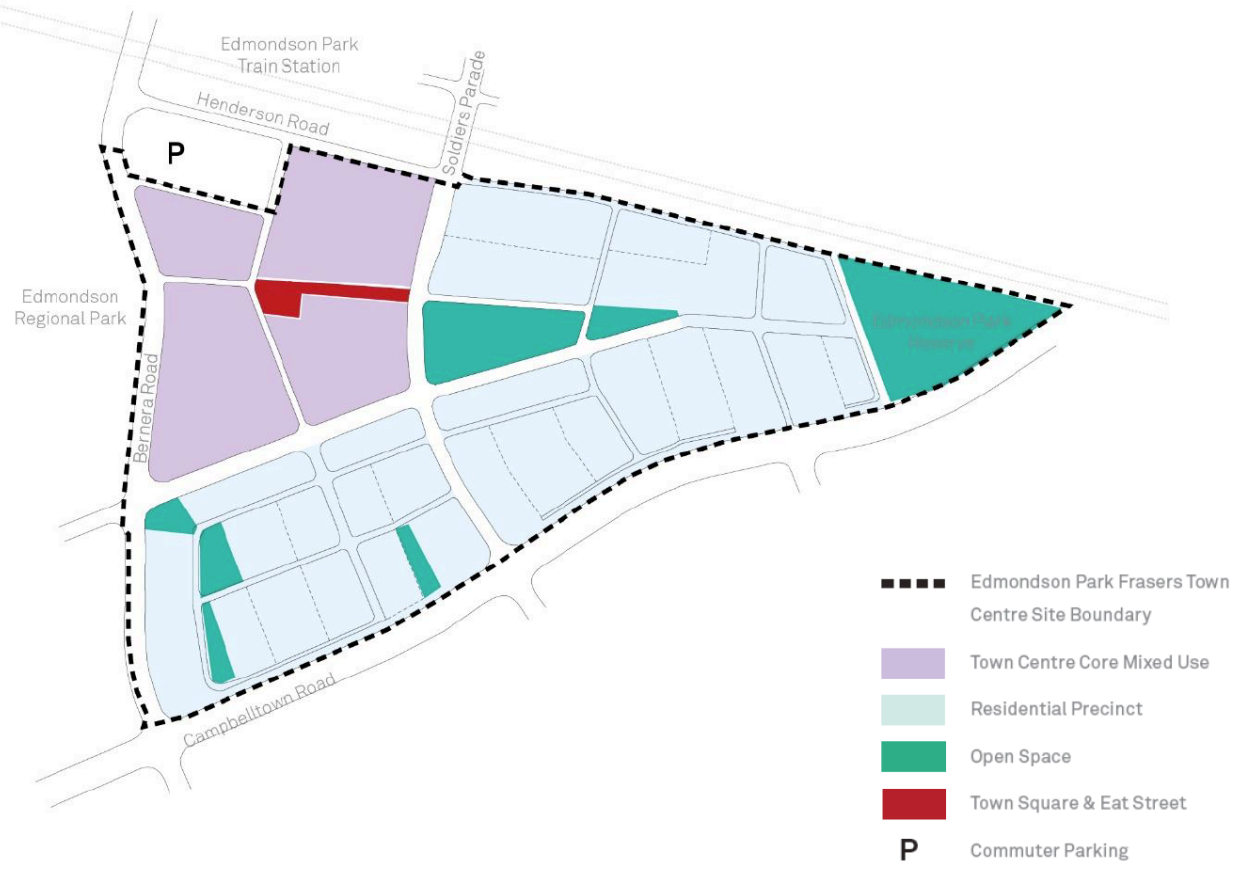

Figure 6: Frasers Town Centre Structure Plan

Figure 7: Frasers Town Centre Illustrative Structure Plan

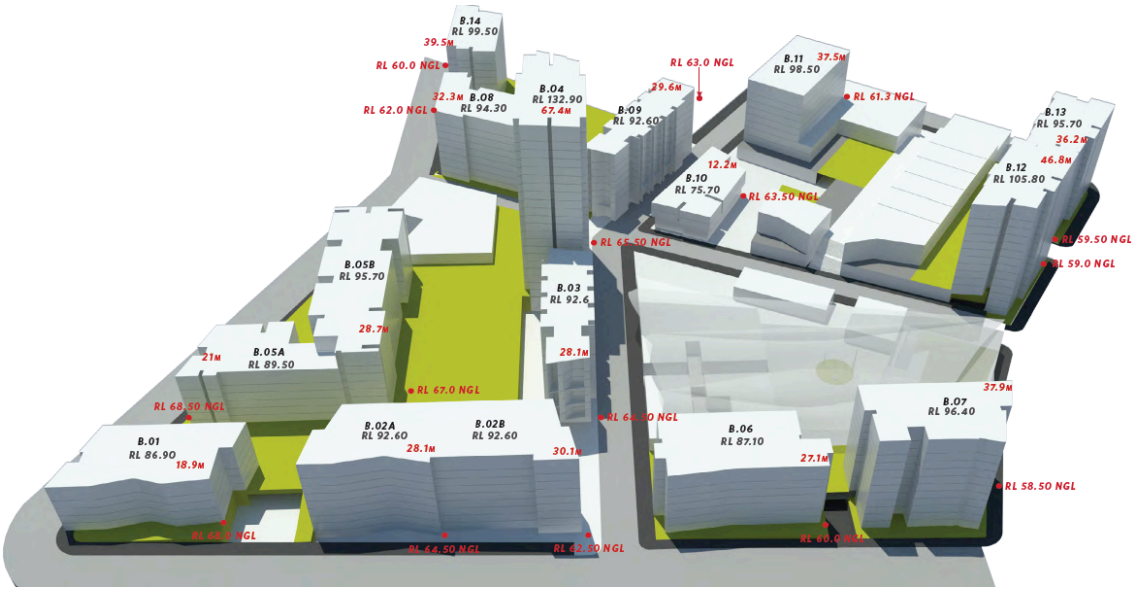

Figure 8: Frasers Town Centre Core – Building Heights

1.3.2 Landcom Town Centre proposal

Landcom is currently progressing a proposal to amend the Edmondson Park Concept Plan approval (MP10_0118 Mod 4) as it relates to areas to the north of the rail line.

This includes the northern portion of the Town Centre, with the exception of the site subject of this report, and is referred to as the Town Centre North. The amendment proposes to:

- Introduce a maximum gross floor area control of 140,389sqm comprising 135,193sqm of residential and 5,196sqm of retail (equivalent 2:1 FSR) for the Town Centre
- Increase building heights within the Town Center North from 24m and 50m with up to 67m for a landmark site, allowing for a range of heights from four to twenty storeys
- Increase minimum residential yields in the Town Centre North from 440 to 3,030 - 3,286 dwellings
- Adjust boundary to include approximately 2.5 ha of land owned by Office of Strategic Lands
- Introduce design guidelines to guide development within the Town Centre North.

The proposed Concept Master Plan is shown at Figure 9and the prosed built form for the Station Precinct is shown at Figure 10.

Landcom is also seeking to amend the SSP SEPP to remove the FSR control from the Station Precinct and increase the permissible height from 24m to 50m, with a landmark building up to 67m.

Figure 9: Town Centre North – Concept Master Plan

Figure 10: Built form overview for the Town Centre North Station Precinct

2 Proposed development

This Statement of Environmental Effect (SEE) has been prepared to support a Concept Development Application for mixed use / residential development of the site across four stages. The proposed concept development comprises residential apartments, ground floor retail / commercial uses, a childcare centre, basement car parking, communal open space and supporting infrastructure and services including new streets.

2.1 Yield and dwelling mix

The proposal would deliver:

- A total of 62,293sqm of new floor space (FSR of 2:1) comprising:
  - 59,827sqm of residential floor space providing 676 apartments.
  - 2,183sqm of retail/commercial floor space providing 35 tenancies
  - 283sqm of child care floor space.

The dwelling yield and mix for each development stage is shown in Table 1.

Table 1: Dwelling yield mix

Stage	1 bedroom	2 bedroom	3 bedroom	Total
Stage 1 (Buildings G & H)	25 (23%)	74 (68%)	10 (9%)	109
Stage 2 (Building C & D)	37 (23%)	97 (61%)	25 (16%)	159
Stage 3 (Buildings A & B)	38 (20%)	141 (72%)	14 (8%)	193
Stage 4 (Buildings E & F)	54 (26%)	131 (62%)	30 (12%)	215
Total	**156 (23%)**	**445 (66%)**	**79 (12%)**	**676**

2.2 Land use

The proposal mixed use and residential flat buildings as shown at Figure 11. The mixed use buildings are located at the south west of the site along parts of Soldiers Parade and Buchan Avenue providing activation in the areas of the site closest to the train station and station plaza. The mixed use buildings comprise small ground floor retail / commercial tenancies with residential apartments above. The ground floor plan is shown at Figure 12.

A childcare centre is also proposed within Building E (see Figure 12) with capacity for up to 31 places. This comprises a total of 283sqm of floor space across the ground and first floor providing for 170sqm of unencumbered space and an outdoor area of 219sqm. The childcare centre has frontage to the north-south shareway and the east-west through site link. The design and layout of the childcare centre will be refined through the relevant subsequent DA in accordance with the requirements of the Liverpool DCP and the Department of Planning, Industry and Environment's *Child Care Planning Guidelines 2017.*

The development is largely proposed to be located within the B4 Mixed Use zone, with the exception of the pedestrian path and tree planting within the Bernera Road reserve which is proposed to extend into the adjacent RE1 Public Recreation zone.

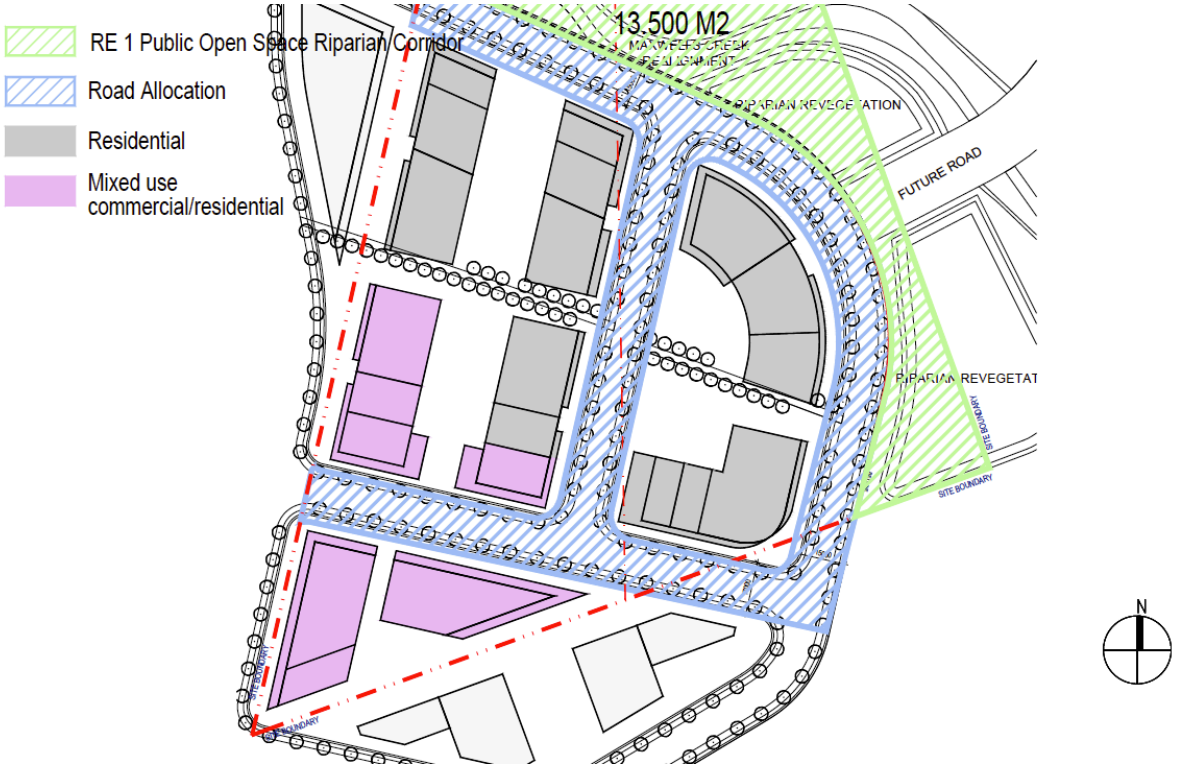

Figure 11: Proposed Land Use

Figure 12: Ground floor plan

2.3 Built form and urban design

The Concept DA comprises eight separate buildings across four development stages ranging in height from four to eight storeys (see Appendix A). The built form has been based on the following principles:

- Location of building envelopes which define and reinforce the street grid and streetscape
- Location of active frontages adjacent to the station plaza and closest to the station
- Building height ranging from four to eight storeys located to minimise overshadowing of neighbouring buildings and open space both within and external to the development site
- Building lengths and depths which respond to the proposed development on the Landcom site providing continuity of character
- A four storey podium throughout with a two-three metre setback above Level 4
- Front setbacks typically ranging from 4.0-5.5m
- Orientation of building envelopes north/south to maximise solar access to apartments and communal open space
- A series of north-south communal green space between buildings maximising sunlight
- A building layout which maximises green space and outlook of units to towards green space
- A street and pedestrian network which maximises permeability and connectivity to adjoining sites, Maxwells Creek and the train station
- Compliance with Apartment Design Guide criteria including for setbacks and separation distances, solar access and cross ventilation.

The proposed site layout is shown at Figure 13 and a massing diagram is provided at Figure 14 which shows the proposed development in the context of the adjoining Landcom site.

Figure 13: Proposed Site Layout and Building heights

Figure 14: Massing Diagram

2.4 Landscaping and communal open space

The proposal seeks to maximise communal open space through a series of high amenity north south oriented open spaces complimented by rooftop open space. The north south open spaces will provide a combination of public through site links and resident only communal open space with transitions between public and private spaces delineated by fencing and planting. Generous front setbacks to the retail / commercial frontages will also create contribute to the creation of civic space with opportunities for outdoor seating and dining.

The proposal significantly exceeds the Apartment Design Guide requirement of 25% of the site area as communal open space across all four development sites ranging from approximately 50%-90% of the site area dedicated to communal open space (see Figure 15). The ground floor communal open space will comprise a mix of publicly accessible space as well as spaces accessible to residents of individual development sites (Figure 16). This will be complimented by rooftop communal spaces for residents.

An area of open space of 220sqm has been identified for the childcare centre which has frontage to the wider open space and public domain including the north-south local road.

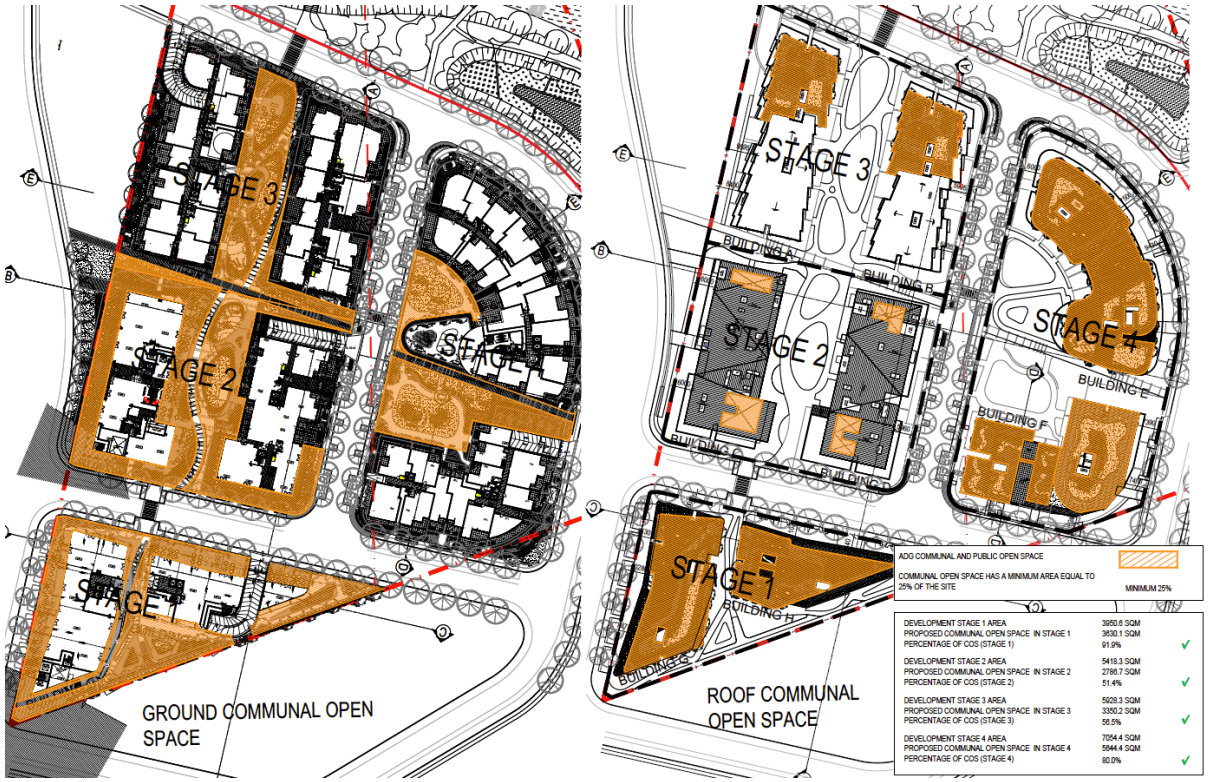

Figure 15: Communal open space

Figure 16: Open space character

Deep soil zones are also provided across each development site exceeding the Apartment Design Guide benchmark of 7% (see Figure 17). Additional deep soil zones are provided within the public domain accounting for an additional 15% of the total developable area of 30,289sqm (Figure 18).

The proposal will facilitate the dedication to Council of a large area of riparian open space along Maxwells Creek which provide for drainage infrastructure, landscaped walkways. It is understood that creek realignment, revegetation, embellishment and drainage works within the riparian open space would be undertaken by Council as part of planned works for the wider Maxwells Creek corridor.

A Landscape Concept Plan has been prepared by Site Image Landscape Architects (Appendix B) which sets out a landscaping approach for the development which provides for the flowing of landscape spaces and green access corridors between buildings to provide a comprehensive green setting for the buildings. These areas would be activated through civic spaces and a mix of publicly accessible and resident access common areas. Common open space amenity for residents is also provided through rooftop terrace and garden areas, that include seating areas, barbeque areas, lawns and community gardens, and playground areas with family seating.

Figure 19 shows the concept landscape plan, with further detail included on specific parts of the communal and public open space in Appendix B.

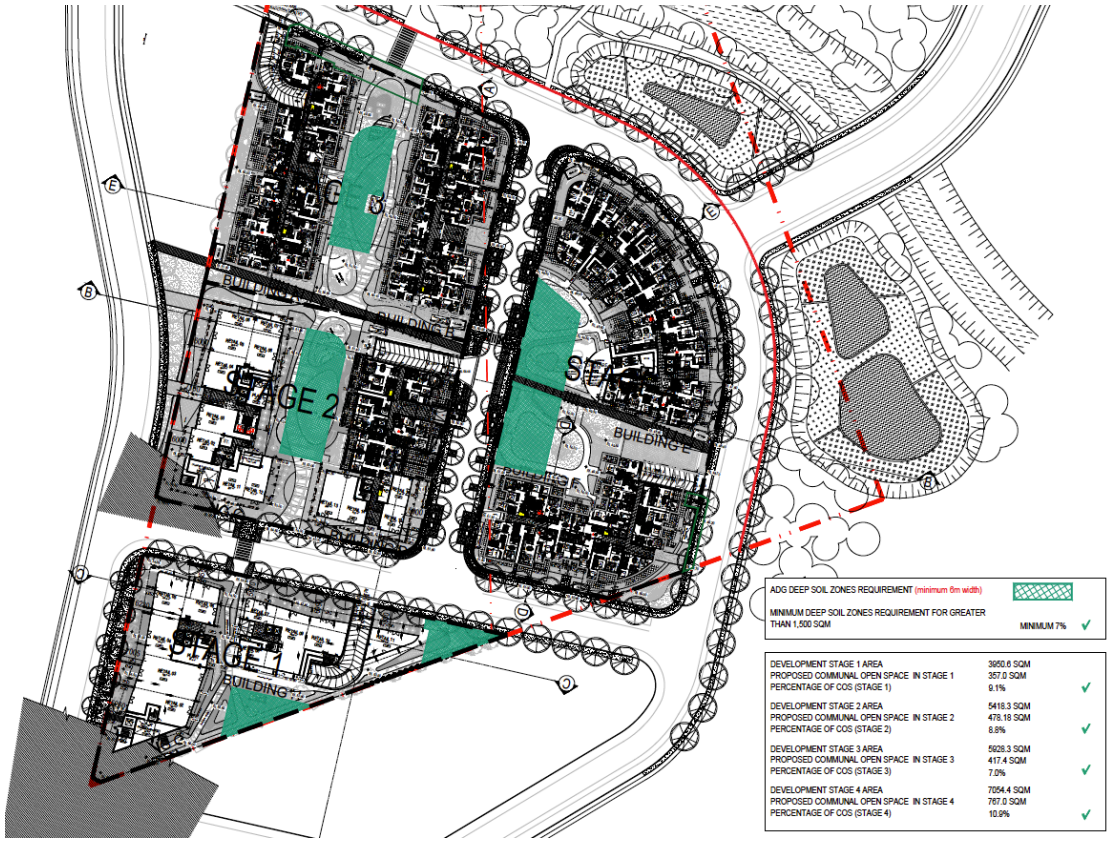

Figure 17: Deep soil zones – individual development sites

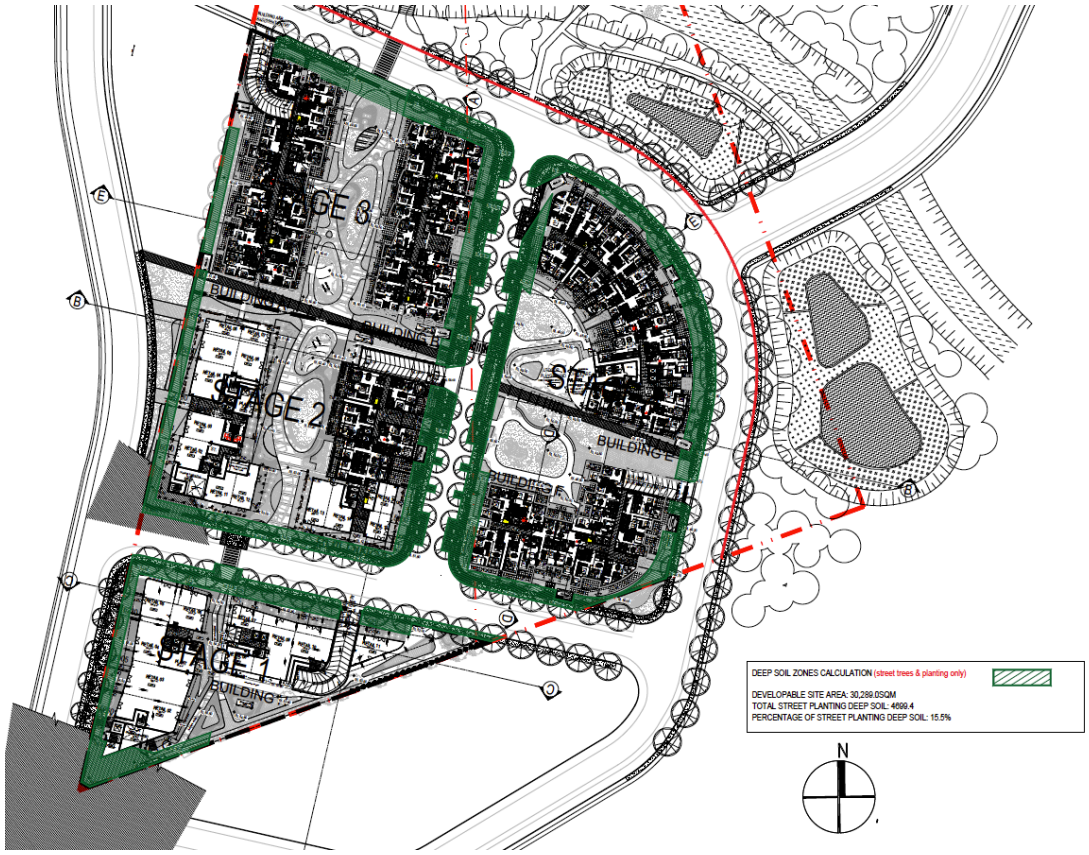

Figure 18: Deep soil zones – public domain

Figure 19: Concept Landscape Plan

Figure 20: Communal space and through site link between Building A & B

2.5 Street network

The proposal seeks to extend the proposed street network from the adjacent Landcom site shown at Figure 21. This includes the extension of Buchan Avenue which will run east-west through the site and Bernera Road which will form the edge of the developable area running alongside the riparian open space to the north. A north-south shareway will also be provided through the centre of the site connecting the Buchan Avenue and Bernera Road. The proposed road hierarchy is shown at Figure 22.

Buchan Avenue and Bernera Road are proposed as local roads with 17.9m and 17.6m road reserves respectively which is consistent with the recommended 17m width under the Edmondson Park South DCP. Bernera Road includes tree planting and a footpath which extends into the RE1 Public Recreation zone which will form the edge of the open space. It also includes parking on one side and dedicated cycle lanes on each side of the vehicle lanes. The Buchan Avenue road reserve includes parking on both sides and a single dedicated cycle lane with tree planting and footpaths on both sides.

The provision of the north-south road as a shareway is consistent with pre-DA advice of the Liverpool Design Excellence Panel. The shareway is proposed to have a road reserve of 16.2m with generous provision for street tree planting and pedestrian movements. The street sections are shown in Figure 23 to Figure 25.

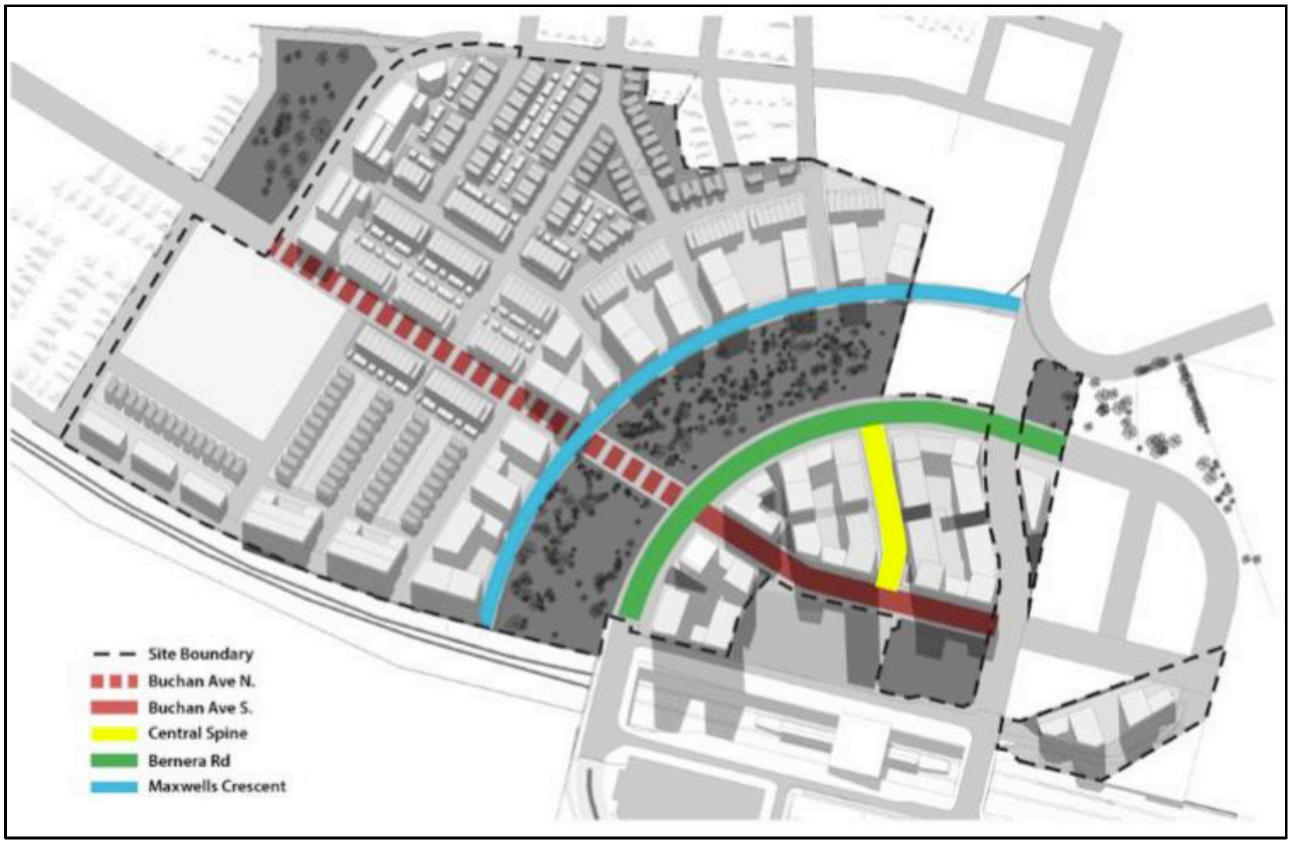

Figure 21: Landcom Town Centre North – Road Hierarchy

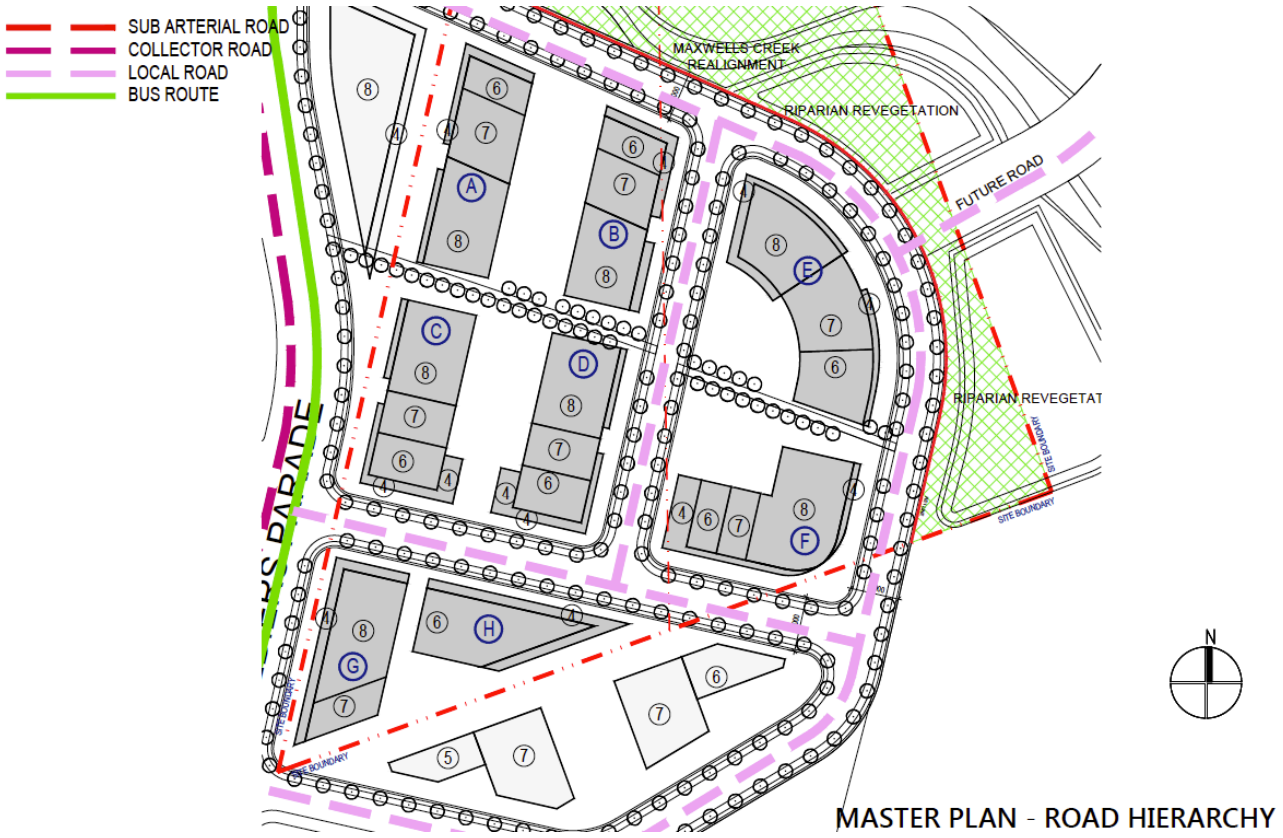

Figure 22: Proposed Road hierarchy

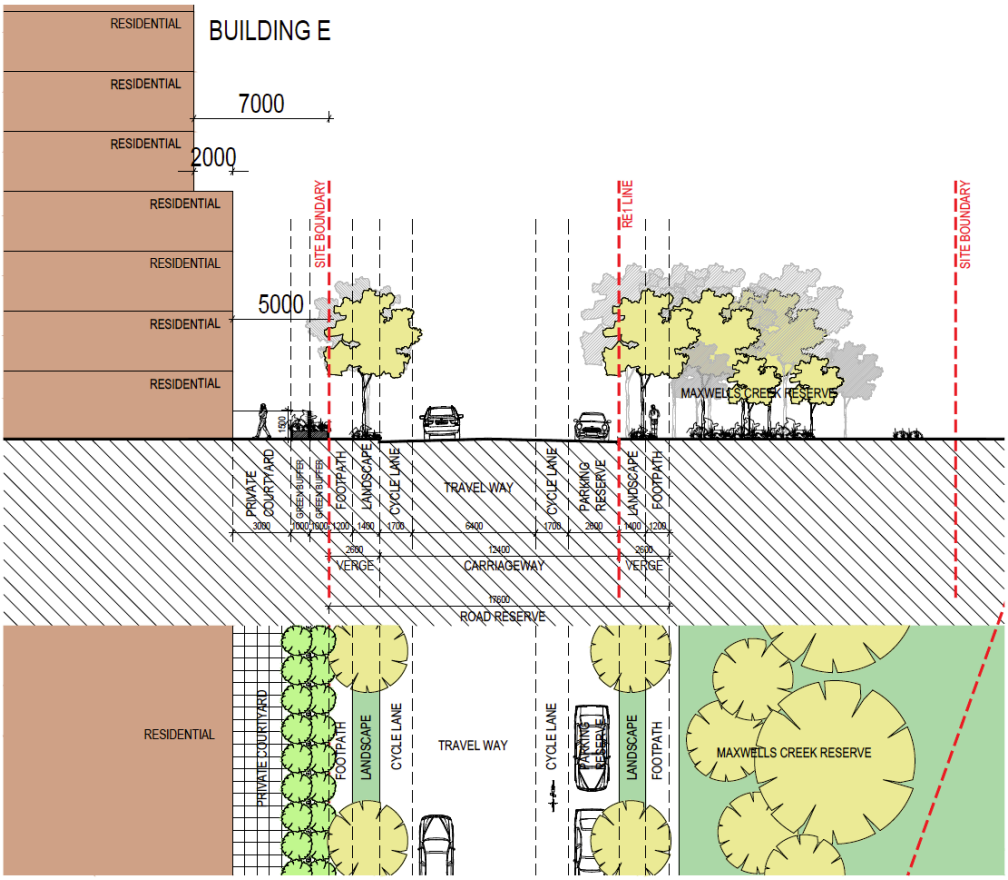

Figure 23: Street section – Bernera Road

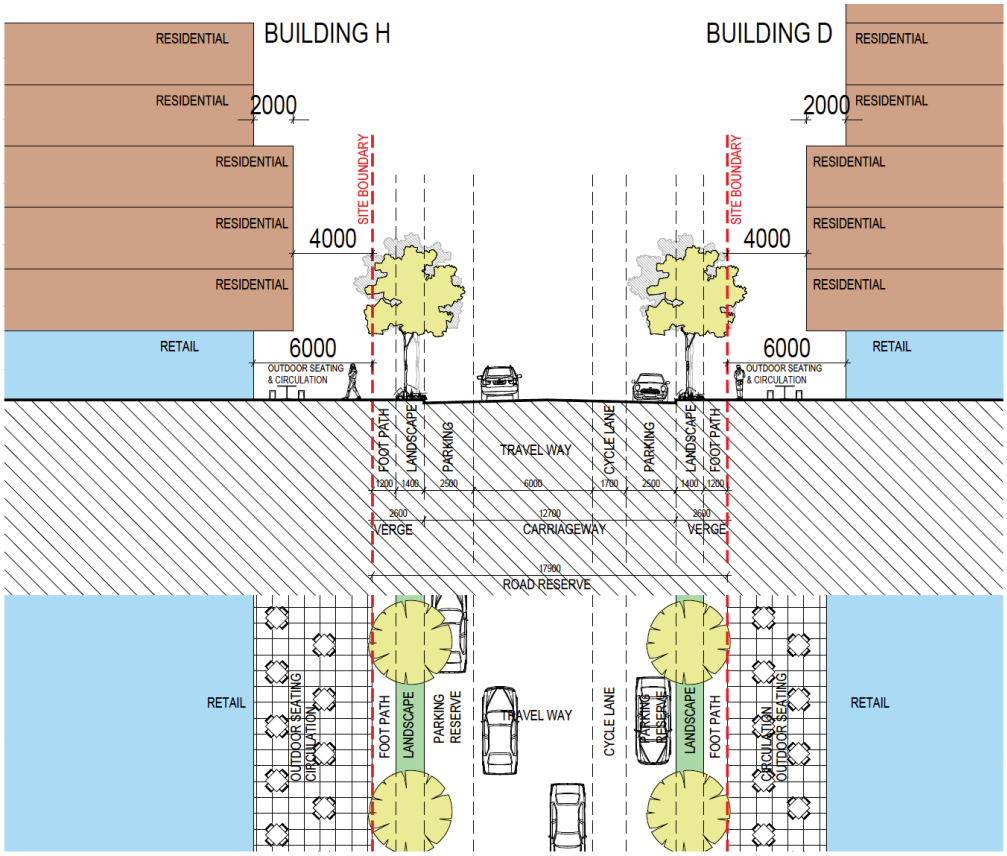

Figure 24: Street section – Buchan Avenue

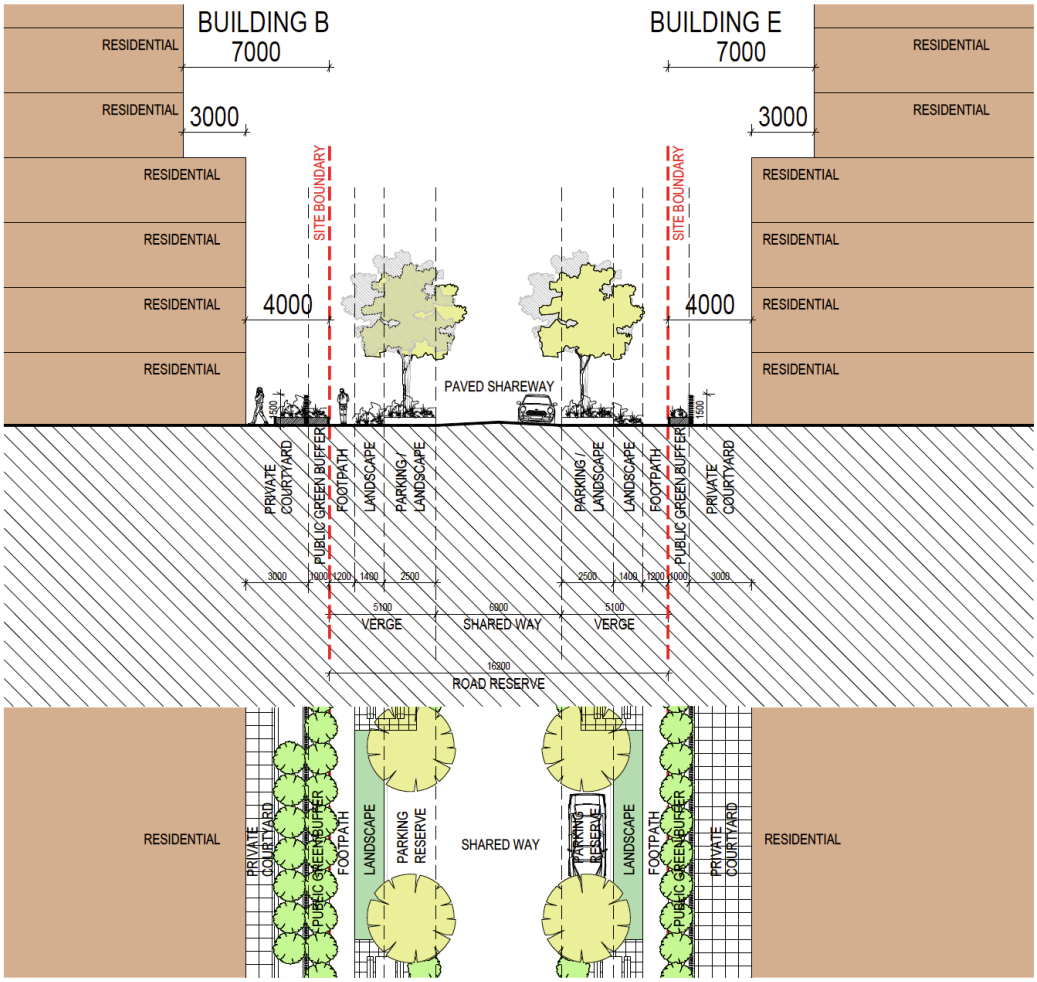

Figure 25: Street section – North-South shareway

Figure 26: Visualisation – north-south shareway

The proposal also seeks to maximise pedestrian permeability, with the proposed streets complimented by north-south and east-west through site links between the buildings connecting to the station and the adjacent Landcom site (see Figure 27).

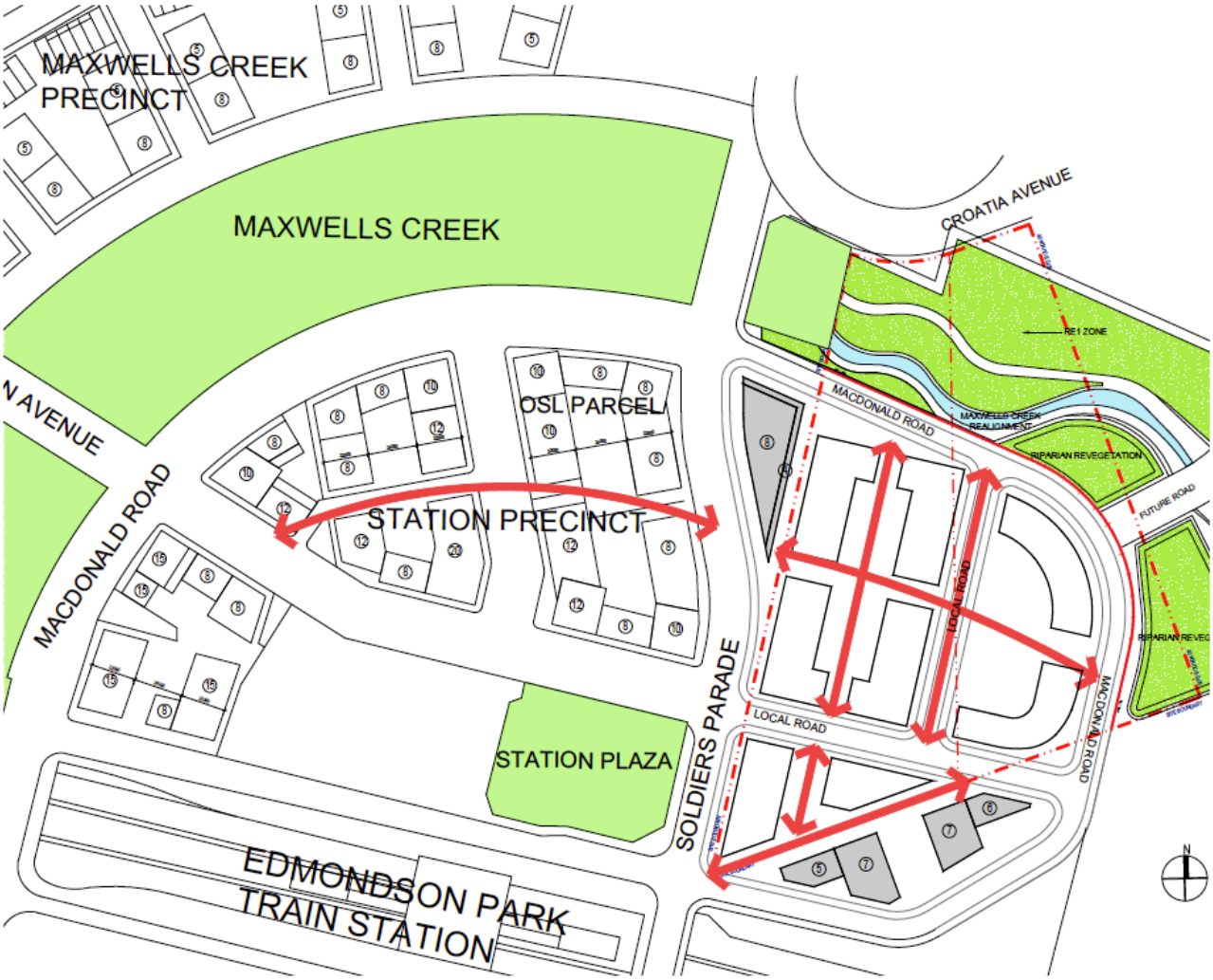

Figure 27: Permeability and pedestrian connectivity

2.6 Access and servicing

The proposal identifies four stages or development sites with shared basements across the buildings within each development site minimising the need for access points and maximising street activation. Lobby entrances to residential buildings are prominent to the streets or surrounding public domain. The proposed vehicular and residential lobby access points are shown at Figure 28.

All loading and waste storage and removal is proposed to be located within the basement levels. The concept basement layout has been designed to allow service vehicles to enter and exit in a forward direction and provides adequate height clearances for these vehicles.

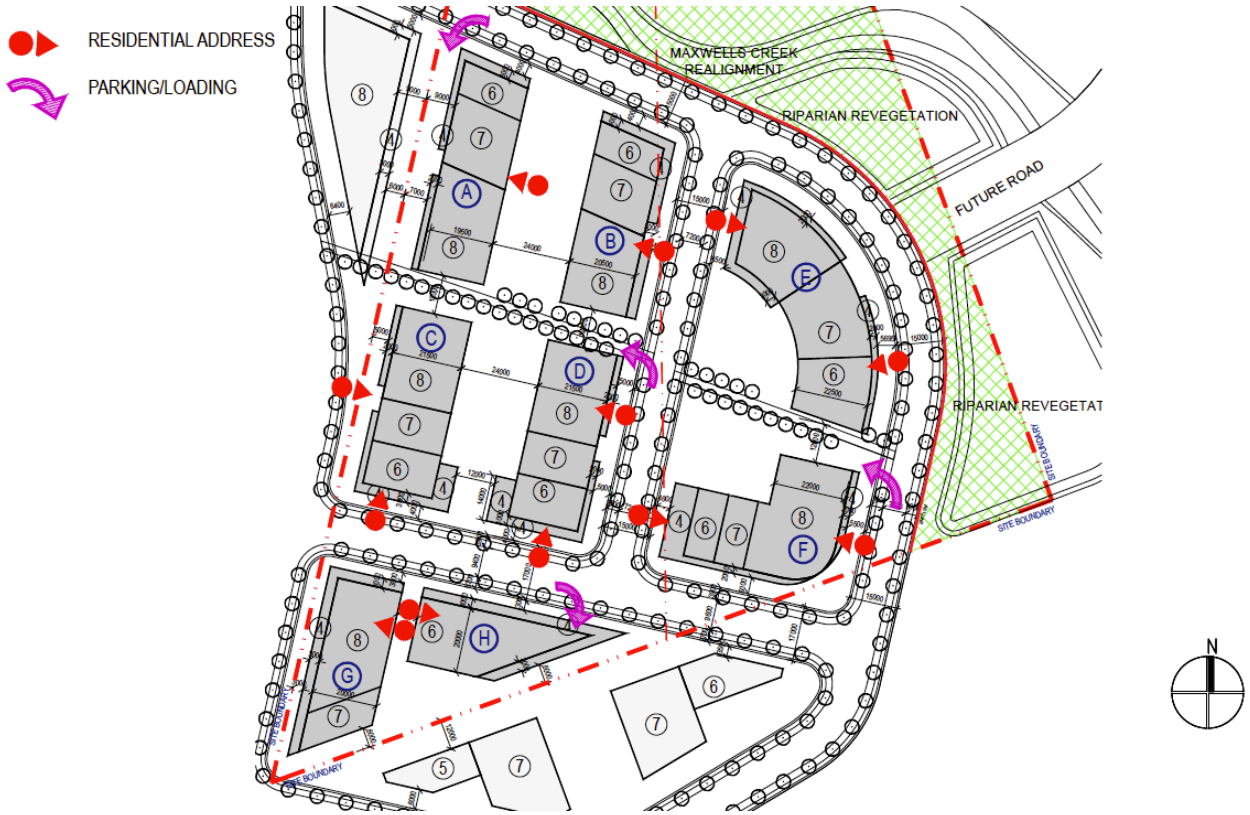

Figure 28: Access diagram

2.7 Car parking

The proposal includes a basement car park for each of the four stages of development with each basement being two levels, with a third level provided for Stage 1 (Building G&H).

The car parking provision for the development is outlined in Table 2 below.

Table 2: Car parking

Stage	Visitor spaces	Retail parking	Childcare	Residential parking	Total
Stage 1 (Buildings G & H)	22	36	0	97	155
Stage 2 (Building C & D)	32	32	0	146	210
Stage 3 (Buildings A & B)	39	0	0	170	209
Stage 4 (Buildings E & F)	43	0	10	217	270
Total	**136**	**68**	**10**	**630**	**844**

The proposal seeks to apply the RMS car parking rates for Metropolitan Subregional centres for high density residential flat buildings, and rates consistent with the draft Landcom Town Centre North Design Guideline and the Edmonson Park Frasers Town Centre Design Guideline for other uses as discussed in Section 5.5.2.

2.8 Staging

The proposal provides for four stages of development with each stage comprising two buildings. The staging plan has been developed with consideration for the delivery of new streets to ensure that appropriate access can be provided for each stage. Where roads will be extended in the future either onto adjacent landholdings or within the development turning circles will be provided. The proposed staging plan and staging of proposed streets is shown in Figure 29 and Figure 30.

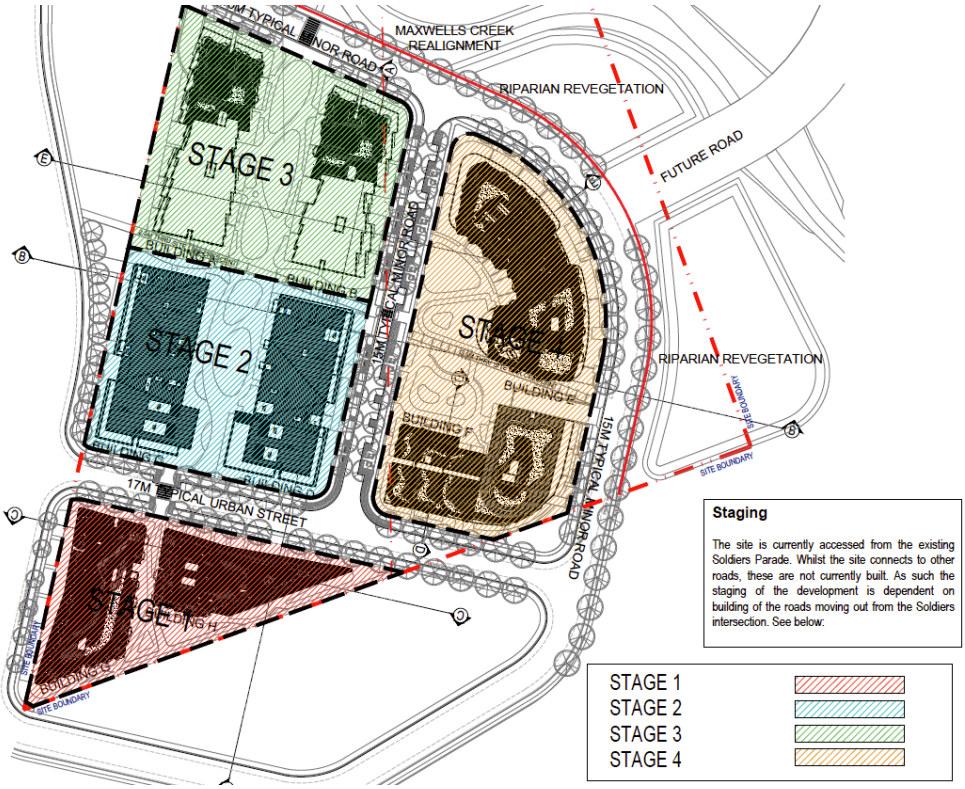

Figure 29: Staging plan

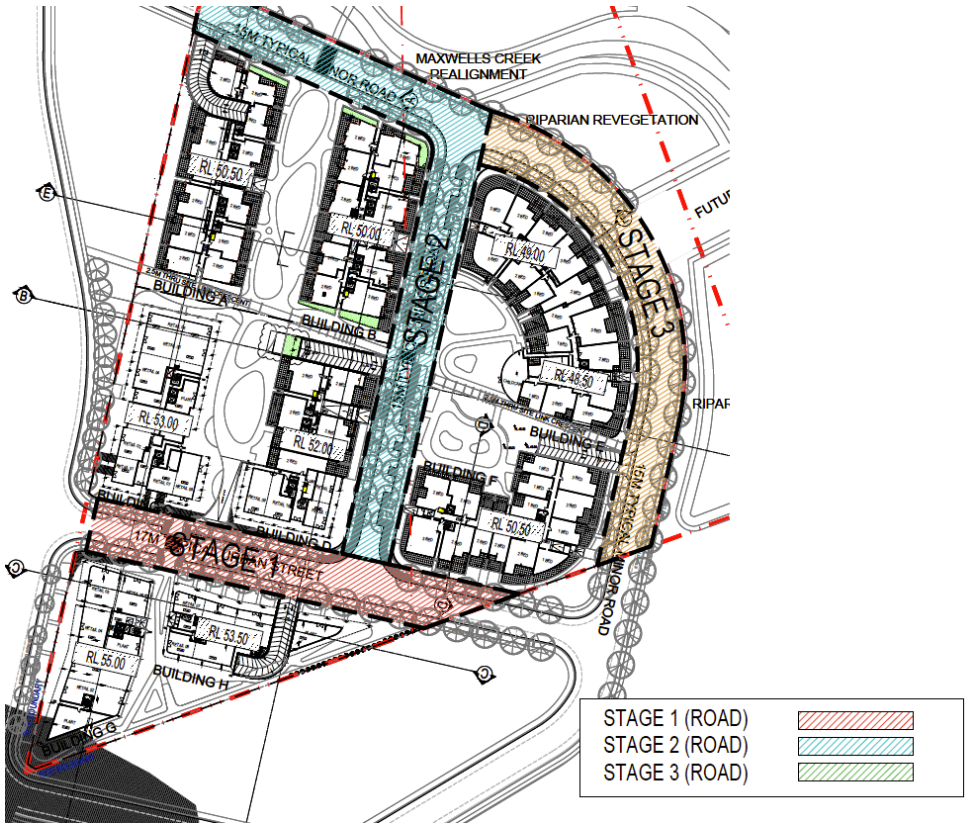

Figure 30: Staging of road works

2.9 Drainage infrastructure

A Stormwater Concept Plan has been prepared to support the Concept DA which identifies that surface runoff from the development site will be directed to stormwater inlet structures using the design topography of these elements, with the inlet structures have been designed to adequately convey the surface runoff into the in-ground drainage network. It highlights that the runoff would then be conveyed through a pit and pipe system to the legal point of discharge using gravity and the geometric falls of the pipe system.

The plan identified two legal points of discharge to the proposed Council bioretention basins along Maxwells Creek (Figure 31).

On site stormwater detention will also be provided for each development site in accordance with Council's requirements.

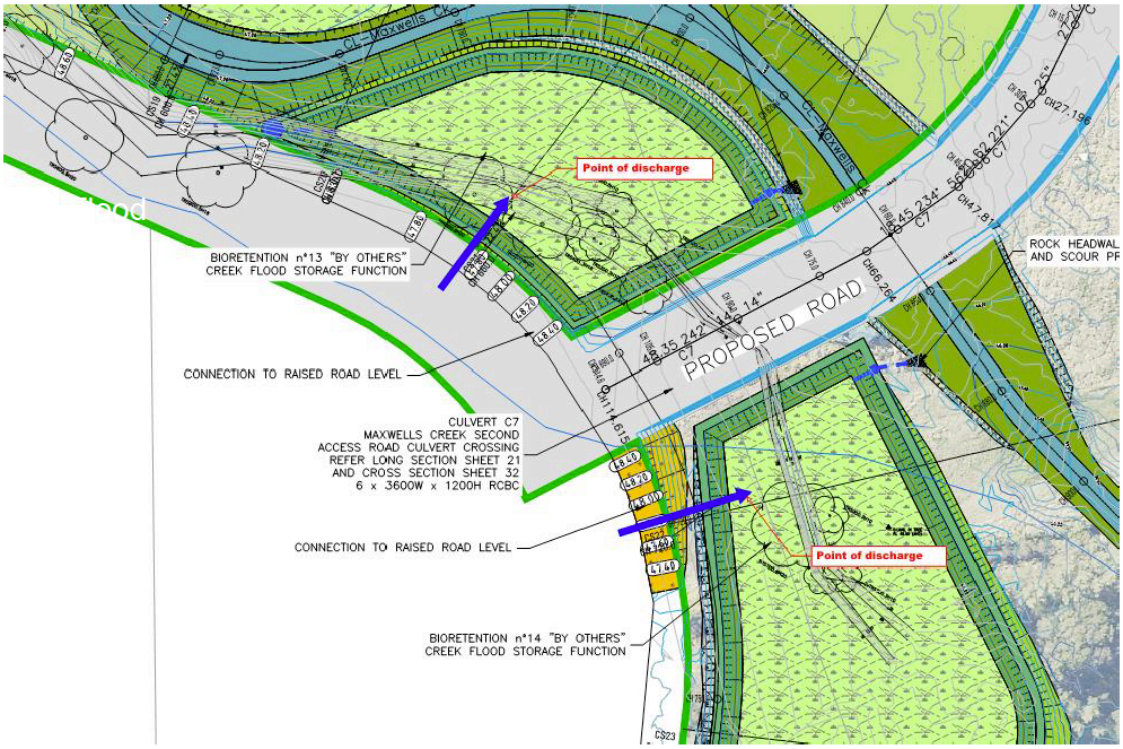

Figure 31: Legal points of stormwater discharge

2.10 Building design

It is envisaged that each of the four development sites would be designed differently to establish variations in character and greater building diversity. The design of individual buildings will be considered through the subsequent DAs. However, indicate façade designs have been prepared and are described below.

Stage 1: Building G&H

The key features of the design of Stage 1 includes:

- Full ground floor retail taking advantage of proximity to the station
- The two buildings form a linkage from the station to the central green space
- The design responds to the triangular site with angular geometry which is softened using curved edges and a light palette
- Primarily white masonry with elements of off form concrete and metal louvres
- Facades are an ensemble of solid walls, open glass areas and more solid concrete balustrades.
- The composition alternates between solid and void creating a rhythm, further articulated by diagonal elements.

Figure 32: Buildings G&H

Stage 2: Buildings C&D

The key features of the design of Stage 2 will include:

- Similar design across the two buildings with variations on the theme
- Four storey street wall for human scale
- The building massing steps down to minimise overshadowing of neighbors
- Use of face brick provides for continuity with other buildings that adjoin the central green spaces (A&B)
- Pitched roof with numerous penetrations so the line between façade and roof is blurred
- The ground and first floors form a colonnade reflecting the retail and open space at ground. The upper podium levels continue this expression with a grid pattern.
- Louvres and screens all further richness to the faced and provide additional shade.

Figure 33: Buildings C&D

Stage 3: Building A&B

The key features of the design of Stage 3 includes:

- Similar façade design for each building representing a distinct precinct
- The buildings are oriented north-south to maximise solar access and the number of units facing the central open space has been maximised
- Four storey street wall for human scale.
- Unit façades angled slightly to maximise solar access creating a zig zag façade expression
- Face brick to provide warmth and soften the geometric façade with darker brick at the podium levels and lighter brick above.
- The geometry is further articulated with timber louvred screens and the ground level is articulated using face brick planters and timber fencing.

Figure 34: Buildings A&B

Stage 4: Buildings E&F

The key features of the design of Stage 4 includes:

- Buildings which respond strongly to their frontage to the riparian open space with curves reflecting the creek and outlook
- The design is less urban responding to the further distance from the station and retail precinct
- Four storey street wall for human scale
- Building E has a stepped massing to minimse overshadowing creating a terraced building with large areas of roof top tiered communal space. The facades are generally horizontal with bands of metal panels. The sold panels alternate with glass balustrades to overlay a further curved patterning
- Building F has a similar stepped and curved geometry with a different expression. Timber louvres are used as shading devices, with these gradually reducing as the façade curves to the south. The curved facades are articulated with pre-cast concrete portal frames.

Figure 35: Building E

Figure 36: Building F

2.11 Estimated cost of works

A QS report has been prepared which has estimated the cost of works of the Concept DA at $216,790,300 (Appendix M). More detailed costings would be prepared for future DAs.

2.12 Development contributions

Development contributions for the site are established in the *Liverpool Contributions Plan 2008 – Edmondson Park.*

The applicant intends to enter into negotiations with Council make arrangements for:

- Dedication of 12,631sqm of land zoned RE1 to Council
- Dedication of constructed roads to Council
- Delivery of contributions in accordance with the Edmondson Park Contribution Plan.

3 Planning context

3.1 State Environmental Planning Policy (State Significant Precinct) 2005

The land use and planning controls which apply to the developable area of the site are identified within the Edmondson Park South site listing in Appendix 16 of the *State Environmental Planning Policy (State Significant Precincts) 2005* (the SSP SEPP). Accordingly, the provisions of the Campbelltown Local Environmental Plan do not apply to these areas.

3.1.1 Land use zone

The southern portion of the site is zoned B4 Mixed Use under the SSP SEPP (see Figure 37), comprising the developable area of the site. The relevant objectives of the B4 zone are:

- To provide a mixture of compatible land uses
- To integrate suitable business, office, residential, retail and other development in accessible locations so as to maximise public transport patronage and encourage walking and cycling.

Under the SSP SEPP residential flat building, commercial premises and shop top housing are all permissible with consent in the B4 Mixed Use zone. The proposal to develop the site as a residential and mixed use is permissible and consistent with the zone objectives.

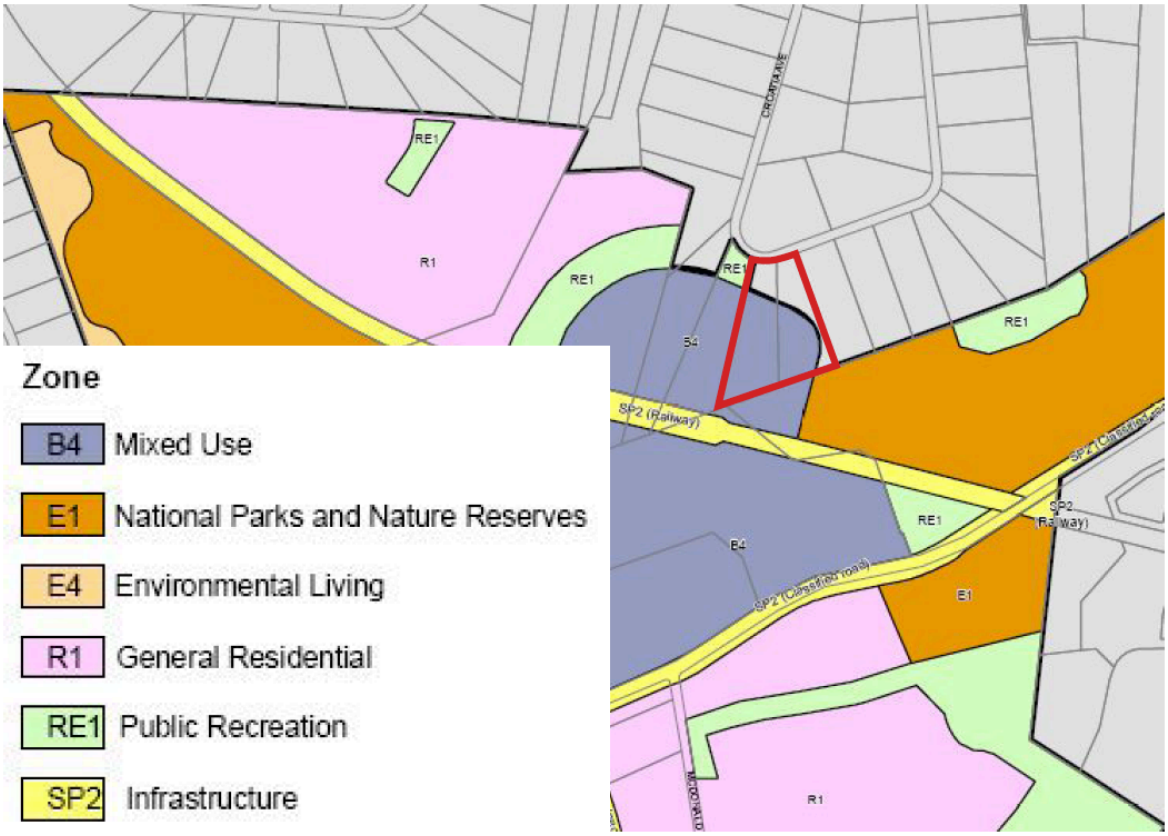

Figure 37: SSP SEPP zoning map

3.1.2 Built form controls

The SSP SEPP sets out a maximum building height of 24m and a floor space ratio (FSR) of 2:1 (see Figure 38 and Figure 39).

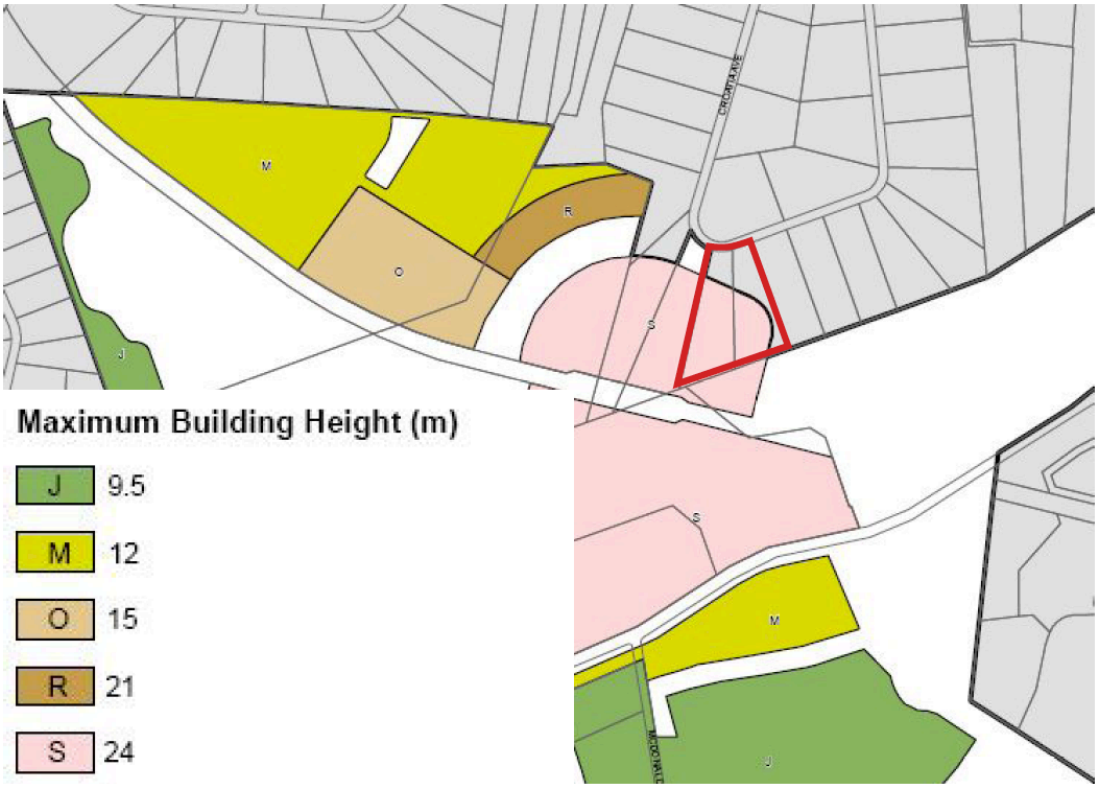

Figure 38: SSP SEPP height of buildings map

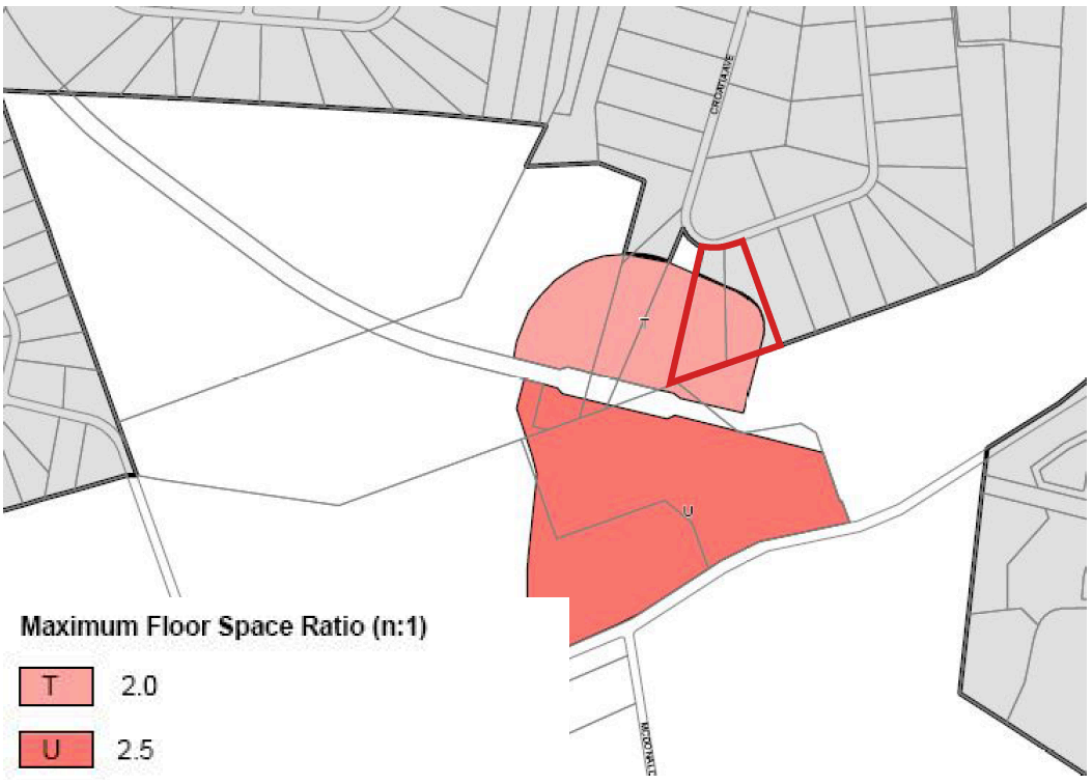

Figure 39: SSP SEPP floor space ratio map

The following table assesses the proposal against the relevant development standards of the SSP SEPP.

Table 3: State Significant Precincts SEPP Compliance

Clause	Requirement	Proposed	Compliance
4.4 Height of Buildings	24m	30.8	No
4.5 Floor Space Ratio	2:1	2:1	Yes

The proposal seeks to vary the height limit of 24m in a number of locations by up to 6.8m (to a maximum height of 30.8m) as shown in Figure 40 and Figure 41. The exceedance for each building to the top of the roof, and including rooftop access and lift overruns, is outlined Table 4.

The maximum exceedance to the top of roof is 4.6m or 19%. The exceedance increases to 6.8m or 28% when incorporating the rooftop lift access and lift overruns. The lift overruns have been located to away from the building frontages and would not be visible from the streets. The accessibility to the rooftop will enhance the amenity for residents through provision of additional communal space and rooftop landscaping.

Table 4: Height exceedance

Building	Height exceedance to top of roof	Height exceedance including rooftop lift access and lift overrun
Building A	1.8m (8%)	3.5m (15%)
Building B	2.0m (8%)	3.4m (14%)
Building C	4.2m (18%)	NA – lift overruns integrated into roof design
Building D	4.6m (19%)	NA – lift overruns integrated into roof design
Building E	1.9m (8%)	6.1m (25%)
Building F	3.1m (13%)	6.8m (28%)
Building G	no exceedance	no exceedance
Building H	2.5m (10%)	6.4m (27%)

The proposed maximum height will be consistent with the emerging character within the Edmondson Park Town Centre. For adjoining parts of the Town Centre North, Landcom is seeking to amend the SSP SEPP to increase the maximum height to 50m, with a landmark building up to 67m. If this amendment is approved the building heights on the subject site would be significantly lower than within the adjacent parts of the town centre, regardless of the proposed height variation. This height increase would apply to parts of the Town Centre which are significantly further from the train station than this site. For the Frasers Town Centre Core to the south of the station maximum building heights ranging up to 67.4m have been approved and are currently under development.

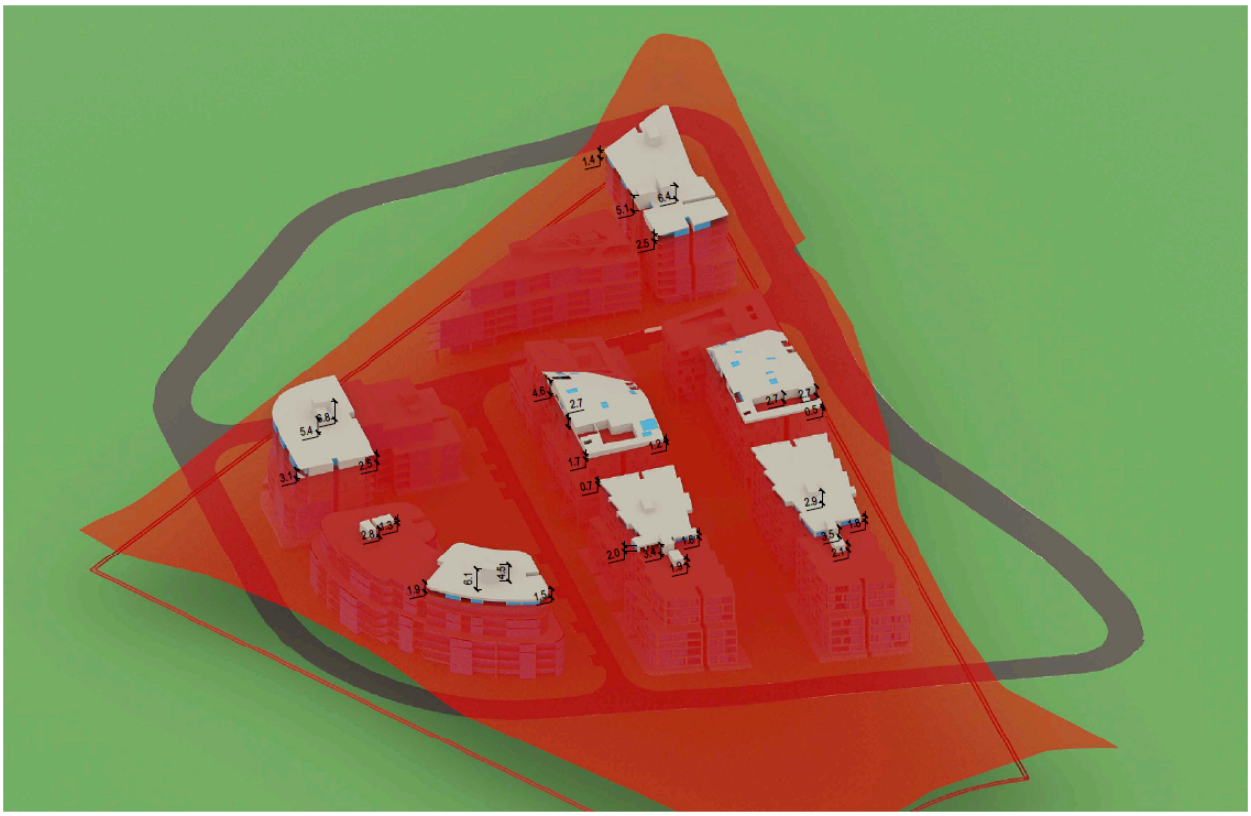

Figure 40: Height diagram – south

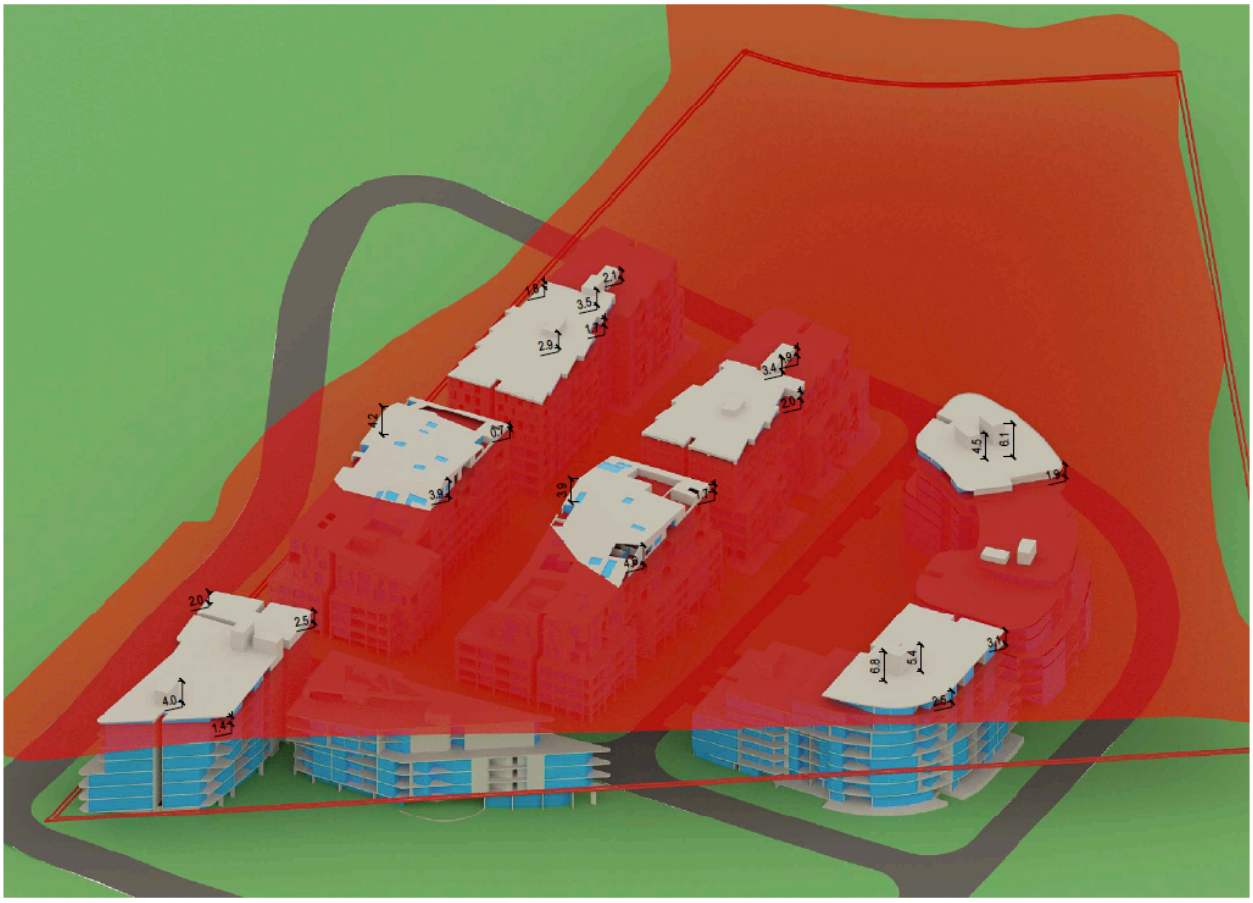

Figure 41: Height diagram - north

Clause 28 of the SSP SEPP sets out provisions for the variation of development standards. To satisfy this requirement a separate height variation request is provided at Appendix C.

In summary, the variation is considered to be acceptable as it will support greater height and built form variations across the site allowing for a mix of lower rise buildings of 4-6 storeys along with taller 7-8 storey buildings, whilst maintaining the overall floor space potential. This approach will provide for an enhanced urban design outcome by increasing visual interest through a varied built form and by allowing height to be distributed across the site to maintain a human scale at the street level and minimise overshadowing of apartments and open space. This approach will also enable the built form to be consolidated allowing for more generous space at the ground level including increased open space, public domain areas and landscaping. As outlined above the heights will also be consistent with the emerging character within the Edmondson Park Town Centre.

The proposal has been considered by the Liverpool Design Excellence Panel who have supported a variation in height noting that it would like to see *diversity in the spatial quality of the built form* and that *variations in height are encouraged and supported, rather than a monotone pattern of building heights across the site.*

The landowner has made submissions to DPIE regarding the urban design merit of adopting greater height across the entire station precinct.

3.1.3 Development control plan requirement

The SSP SEPP also includes a requirement for preparation of a site specific development control plan (DCP) to address the following matters:

- A staging plan for the timely and efficient release of urban land making provision for necessary infrastructure and sequencing
- An overall transport movement hierarchy showing the major circulation routes and connections to achieve a simple and safe movement system for private vehicles, public transport, pedestrians and cyclists
- An overall landscaping strategy for the protection and enhancement of riparian areas and remnant vegetation, including visually prominent locations, and detailed landscaping requirements for both the public and private domain
- A network of passive and active recreational areas
- Stormwater and water quality management controls
- Amelioration of natural and environmental hazards, including bushfire, flooding and site contamination and, in relation to natural hazards, the safe occupation of, and the evacuation from, any land so affected
- Detailed urban design controls for significant development sites
- Measures to encourage higher density living around transport, open space and service nodes
- Measures to accommodate and control appropriate neighbourhood commercial and retail uses
- Suitably located public facilities and services, including provision for appropriate traffic management facilities and parking.

Clause 4.23 of the *Environmental Planning and Assessment Act 1979* sets out that a DCP requirement can be satisfied through the approval of a concept development application. Accordingly, this Concept DA seeks to address the matters to be addressed in the making of a DCP under the SSP SEPP.

3.2 Part 3A Concept Plan

A Part 3A Concept Plan proposal from Landcom was approved by in March 2006 for parts of the Edmondson Park South precinct. The Concept Plan does not apply to the subject site, however it applies to the wider Edmondson Park Town Centre where it adjoins the site. The Concept Plan approval requires detailed development controls to be prepared for the Town Centre areas prior to development.

As discussed in Section 1.3.2 Landcom is currently progressing a modification to the Part 3A Concept Plan approval for the northern portion of the Edmondson Park Town Centre, excluding the subject site. This modification includes a design guideline to guide future development within this area of the town centre.

Given the integral nature of the site to this part of the town centre consideration has been given to the draft design guideline as outlined in Table 5.

Table 5: Consideration of draft Landcom Town Centre North Design Guideline

Design solution	Consideration
4.1 Building siting, scale and mass	
DS2.1 Maximum gross floor area for the Station Precinct complies with the Concept Plan (as modified).	Not relevant, and FSR applies under the SSP SEPP.
DS2.2 Development includes a variety of building heights within the maximum height limits.	Generally compliant. The proposal provides for variation of heights with a minor variation to the maximum height limit, noting that an increase in height is proposed for the Landcom site to 50m.
DS2.3 One landmark building may be developed within the Station Precinct.	Not applicable
DS2.4 The landmark building is sited to demarcate an important or highly visible location such as a key intersection and be visible from the Station concours.	Not applicable
DS2.5 Building length: • Provides for a range of individual building designs facing a street • Incorporates modulation to reduce the perceived length and massing • Provides visual interest • Provides opportunities for physical and visual permeability into blocks. Note: Liverpool DCP requires building articulation.	Compliant. The Concept DA identifies proposed building envelopes which provides for a range of individual building designs facing the surrounding streets. Subsequent DAs for individual buildings will identify building articulation and modulation to reduce perceived massing, provide visual interest and provide additional permeability to blocks.
DS2.6 Building depth creates high amenity internal environments with good solar access and natural ventilation.	Compliant. Typical building depth ranges from 20m to 24.5m and ADG solar access and cross ventilation standards can be achieved.
4.1 Building design	
DS3.1 Awnings or coverings occupy the full extent of the encroachment as a minimum at the ground floor of Mixed Use Apartment Buildings. However, coverings are encouraged to extend over the footpath.	Compliant. Awnings will be provided through the location of balconies above the ground floor non-residential uses.

Design solution	Consideration
DS3.2 Where on the ground floor of Mixed Use Apartment Buildings, shopfront width allows for a large number of different tenancies fronting the street.	Compliant. A number of indicative ground floor tenancies have been identified for mixed use buildings which will provide for a range of different retail / commercial uses.
DS3.3 High quality, durable materials such as brick, concrete and glass are used as primary façade materials.	Compliant. Indicative façade design and materials have been proposed consistent with this control, however detailed finishes schedules would be provided with future building DAs.
DS3.4 The tower façade incorporates a cohesive pattern of elements that reduce the appearance of building bulk and scale and provide visual interest, such as: • Vertical and horizontal articulation • Recesses and projections • Balconies, including variations to balustrade treatment • Sun shading devices • Differences in architectural expression • Differences in material and colour.	Not applicable, however the principles outlined would be applied to the detailed design for individual buildings.
DS3.5 Buildings provide heightened visual interest through innovative or interesting architectural treatment where they are visible at the termination of a main view corridor.	Able to comply. This principle would be applied to the detailed design of individual buildings.
DS3.6 Active facades are provided as per Figure 4 - Facades. • Active facades typically characterized by varied nonresidential ground floor uses in the form of small units with many doors. • These facades follow primary desire lines and contribute a visual richness in façade details to engage the pedestrian. • Active façade design focuses on façade articulation including horizontal and vertical articulation and signage is an integrated, complimentary element. • Vehicle access and servicing zones are generally prohibited where a secondary street or lane is provided.	Compliant. The proposal seeks to extend the active façade approach for the wider town centre by locating mixed use buildings with active facades closest to the station along Buchan Avenue and part of Soldiers Parade. Vehicles access is separated from active facades. Detailed façade design would be addressed with future building DAs.
DS3.7 Friendly facades are provided as per Figure 4 - Facades. • Friendly facades are predominantly residential ground floor units, lobbies and entries. • The frontages remain relatively narrow but focus on activations and surveillance. • Facades follow primary desire lines and contribute a visual richness in façade details to engage the pedestrian. • There are very few passive units only occurring where required to ensure Active Façade priority areas.	Compliant. The proposal seeks to active extend the friendly façade approach for the wider town centre for all other streets. This is achieved through the location of ground floor units which address the surrounding streets and by minimising vehicle entry points. Detailed façade design would be addressed through future building DAs.

Design solution	Consideration
• Façade design focuses on achieving relief and safety and signage is an integrated, complimentary element. • Vehicle access is limited and servicing is achieved via tight, recessed openings.	
DS3.8 Mixed facades are provided as per Figure 4 - Facades. • Mixed facades facilitate the active and friendly façade hierarchy of people streets by providing a location for access and servicing. • Small units are permitted but mixed façade areas allow for larger floorplates and wider frontages required to sustain mixed use centres. • Vehicle access and servicing is permitted and mixed in with large footprint active uses such as workshops, design studios and exhibition space. Due to this nature, blank walls and passive units exist and are generally embellished with façade art or greenery. • Façade relief is modest and signage is integrated.	Not applicable
DS3.9 Distributions of non-residential floor space is to be provided in accordance with Figure 6. In general uses are: • Withing 300m of the train station, • Are in the area surrounded by Soldiers Parade, Bernera Road and Buchan Avenue South. • Are opposite amenities including the Station Park and Maxwells Creek or along the Central Spine 'Living Street'.	Compliant. The proposal seeks to locate non-residential floor space closest to the station around Buchan Avenue South and Soldiers Parade.
DS3.10 Design of non-residential ground floor space is to adopt the following design criteria for the positive contribution of the non-residential ground floor to the street level experience and human scale environment as shown in the Figure 7 Human-Scale Streets – Non-Residential Ground Floor: • Include a variety of functions including small shops with an open character • Provide awnings to create a 'veranda feeling' • Include richness in materials and details • Incorporate vertical orientation of the façade • Have irregular façade design to reduce impact of unwanted street sounds • Include opportunities for people to pause, sit and interact • Have a range of streetscape planting including ground cover, shrubbery, fine grain tree plantings and large canopy trees • Are at ground floor with generally 10-15 doors per 100m to create a fine grain, human-scale and activated streetscape • Wrap corners to reinforce centre, legibility and wayfinding, and to calm traffic at intersections through increased friction	Compliant. These design criteria have been applied to the design of non-residential ground floor uses including by providing for a variety of shops with awnings. Setbacks have been accommodated which provide for seating and outdoor dining. Small retail tenancies are identified which provide for approximately 10-15 doors per 100m of façade. The landscape concept plan identifies a mix of planting comprising large street trees and lower shrubbery including to define public seating areas. Non-residential uses occupy more than 80% of the facades within closest to that station. The detailed design of facades will be developed through future building DAs.

Design solution	Consideration
• Occupy 50% of any single development at the frontage opposite Maxwell Creeks • Occupy 50% to 75% of any single development at the frontage along the Central Spine 'Living Street' • Occupy 80% of any single development at the frontage opposite Station Park	
DS3.11 Residential Ground floor in the Station Precinct is to adopt the following design criteria to create an attractive residential ground floor and a human scale environment as shown in the Figure 8 Human-Scale Streets – Residential Ground Floor: • Well-functioning transition zone from private to public through front landscaping and a level private courtyard along the walkway • An elevated ground floor apartment with an elevated terrace • Use of visually permeable treatments for front fencing with vegetation in the front • Legible entries accessed from the street • Use of awnings, blade walls and/or recessed ground floor facade design • Combination of generous and reserved facade design to create eyes on street as well as privacy • Ground level home office opportunities • Streetscape landscaping including ground cover, shrubbery, fine grain tree plantings and canopy trees	Compliant. The residential ground plane adopts these criteria by proving ground floor open space which faces the street with direct access to the adjoining public domain. The Concept Landscape Plan shows a mix of ground cover, shrubbery, fine grain tree plantings and canopy trees. The detailed design of facades will be developed through future building DAs.
4.3 Open Space	
DS4.1 Private and communal open space is provided in accordance with the ADG where the building typology is subject to ADG requirements.	Compliant. The private open space for each future development site exceeds the requirement of the ADG, being a minimum of 25% of site area as communal open space with minimum dimension of 3m, with all development sites exceeding 50% communal open space.
DS4.2 Communal open space is provided on-site and: • May be provided at the ground floor, podiums or rooftops • Is of sufficient area and dimensions to be useable and cater for forecast demand, considering private open space and nearby public open space provision • Is readily accessible to dwellings, noting that it can be shared between buildings • Has a high level of amenity, with adequate solar access • Where possible is visible from the public domain to contribute to the visual character of landscaped open space in the Landcom Town Centre North • Incorporates embellishments such as seating, paving and landscaping.	Communal open space has been identified comprising a combination of ground level and rooftop open space. It is located to maximise amenity and solar access and allow for visability from the public domain and accessibility from dwellings. A landscape concept plan has also been prepared which identifies embellishment and planting within the communal spaces. Further details on the design and layout of communal open space will be provided with future building DAs.

Design solution	Consideration
DS4.3 Communal open space provision is a combination of residents' communal open space areas and publicly accessible open space including through site links.	Compliant. The communal open space includes a combination of private resident open space and publicly accessible open space including through site links.
4.4 Vehicle parking, access and movement	
DS5.1 Secure, accessible bicycle parking is provided on site.	Compliant. Bike parking is proposed to be located within the basement car park.
DS5.2 On-site vehicle parking, access and manoeuvring areas comply with AS2890.1:2004.	Compliant. The proposal can achieve this requirement with details to be provided with DAs for individual buildings.
DS5.3 On-site vehicle servicing areas comply with AS2890.2-2002.	Compliant. The proposal can achieve this requirement with details to be provided with DAs for individual buildings.
DS5.4 Sufficient provision is provided on-street for removal vehicles.	Compliant. Street sections provide adequate space for removal vehicles, and the basements are designed to allow for loading within the basement.
DS5.5 Vehicle loading and unloading areas and other similar areas that have the potential to cause noise such as garbage collection areas are located, designed and treated to minimise adverse impacts on residential accommodation.	Compliant. All loading and garbage collection is proposed to be located within the basement car parks, and with provision made for appropriate access.
DS5.6 Where possible, car parking is located generally below ground. Where car parking is required to protrude above ground level, it may do so by a maximum of 1.5m for ventilation purposes subject to streetscape considerations and screening by landscaping. On-street car parking within the public domain is also acceptable.	Compliant. All car parking required to support the development is located below ground within basement car parking. No significant protrusions above ground level of greater than 1.5m is required.
DS5.7 Where site constraints prevent car parking from being provided below ground, it is sleeved by other uses or appropriately screened from view from the public domain by high quality building treatments.	NA
DS5.8 Car parking is provided generally in accordance with the maximum rates in Table 2: • Studio / 1 bed: 1 space / dwelling • Two bed: 1.2 spaces / dwellings • Three bed: 2 spaces per dwelling • Visitor: 1 space per 10 dwellings • Retail: 4.1 spaces / 100sqm GFA. Any variations to these rates is to be supported by a parking assessment report.	The proposal seeks to apply the RMS car parking rates for Metropolitan Subregional centres for high density residential flat buildings. This approach is consistent with the Apartment Design Guide for developments in close proximity to public transport and supports provide sustainable travel outcomes.
DS5.9 Bicycle parking, motorcycle parking and parking for service vehicles is to be provided as follows: • Bike parking:	Compliant. The bike and motorcycle parking rates have been applied to the development.

Design solution	Consideration
– Residential: One space per dwelling – Retail staff: 1 space per 10 staff or 1 space per 200sqm GFA whichever is greater – Retail visitors: 2 plus 1 space per 100sqm GFA • Motorcycle parking: – Residential: 1 space per 20 car spaces – Retail: 1 space per 20 car spaces. • Service vehicles: as per the needs of the development Residential bike parking is not required where there is adequate storage space in the dwelling, storage or parking area.	
DS5.10 Residential Flat Buildings and Mixed Use Apartment Buildings, as well as integrated residential flat buildings and terraces, in the Landcom Town Centre North are serviced by basement car parks. These may be shared between buildings to minimise the number of vehicular access points.	Compliant. All car parking is below ground within basement levels. For a number of proposed buildings basements are shared requiring only four access points across the development.
DS5.11 Adequate public bicycle parking is provided to support commercial, retail and community infrastructure land uses.	Compliant. Bike parking for retail visitors will be provided in accordance with the rates outlined previously.
4.5 Street hierarchy, setbacks and fencing	
DS6.1 Streets are provided generally in accordance with Figure 9 – Street Hierarchy and Table 4 – Streetscape and Public Domain Landscaping (see Figure 42). However the final configuration of streets may change during the detailed design process.	Compliant. The proposal applies the street hierarchy across the development site by extending the alignments of Bernera Road and Buchan Avenue South.
DS6.2 Buchan Avenue (within the Landcom Town Centre North) is a multi-modal community connector for the entirety of Edmondson Park. Buchan Avenue (within the Landcom Town Centre North) provides direct vehicular access to destinations and residences, bus routes and stops in close proximity to schools, parks and mixed use, a designated cycle path and wide, shaded shared paths.	Compliant. The proposal extends the alignment of Buchan Avenue within the development. Street cross sections have also been prepared – see Section 2.5.
DS6.3 Buchan Avenue North creates a pedestrian friendly connection from the Parkland Precinct to Maxwells Creek Precinct and into the heart of the site. Bike lanes and pedestrian pathways to each side of Buchan Avenue North strengthen the movement throughout the precincts. The street provides entry points to the school, rear loaded medium density housing and a few apartments. The street tree planting maximises shade and optimises public amenity for pedestrian environment. Refer to Public Domain and Landscape Plan document by Taylor Brammer Landscape Architects for key elements and dimensions.	NA

Design solution	Consideration
DS6.4 Buchan Avenue South (within the Landcom Town Centre North) announces the Station Precinct upon crossing the Maxwells Creek threshold. It accommodates wide paved pedestrian pathways to respond to larger mixed use buildings with ground floor retail, commercial and community uses. The access to ground floor residential units is directly from Buchan Avenue South contributing to pedestrian activation and fine grain. Bike lanes provide a dedicated lane maximising permeability throughout the Precinct. Refer to Public Domain and Landscape Plan document by Taylor Brammer Landscape Architects for key elements and dimensions.	Compliant. The proposal extends the alignment of Buchan Avenue (see Section 2.5). A road width of 17.9m has been proposed which is appropriate and is consistent with the road hierarchy and road widths shown in the Edmondson Park South DCP 2012.
DS6.5 The Central Spine or the Living Street provides opportunities for pedestrian movement through providing a shared zone for vehicular traffic with forced reduced speed for vehicles as well as a separate clear pedestrian zone to each side of the street to increase activation along ground floor non-residential uses. The street is aligned to achieve a 'green to green' visual and physical link between Maxwells Creek and the Station Plaza. To maximise permeability within the Station Precinct, east-west laneways and pedestrian paths break up the length of the Central Spine promoting walkability and safety. Refer to Public Domain and Landscape Plan document by Taylor Brammer Landscape Architects for key elements and dimensions.	NA
DS6.6 Bernera Road supports north and east facing mixed use and Residential Flat Buildings overlooking Maxwells Creek. The street is bus-capable to connect the high populations within the Station Precinct to broader destinations and accommodates bike lanes to provide a link along the riparian corridor. Wide paved pedestrian pathways increase permeability and encourage pedestrian activities. Refer to Public Domain and Landscape Plan document by Taylor Brammer Landscape Architects for key elements and dimensions.	Compliant. The proposal extends the alignment of Bernera Road (see Section 2.5). A road width of 17.6m has been proposed which is appropriate and is consistent with the road hierarchy and road widths shown in the Edmondson Park South DCP 2012.
DS6.7 Maxwells Crescent follows the defined crescent of Maxwells Creek (northern side). It is intended that apartment sites are radially oriented towards Maxwells Creek to extend the amenity deeper into the sites. The street accommodates wide shared path adjoining carparking bays as well as bike lanes to provide a link along the riparian corridor. Refer to Public Domain and Landscape Plan document by Taylor Brammer Landscape Architects for key elements and dimensions.	NA
DS6.8 Parkland Precinct Local Streets comprise the balance of local streets within the Parkland Precinct. The streets provide pedestrian pathways and on-street parking on both sides to maximise permeability and legibility within the Precinct. Refer to Public Domain and	NA

Design solution	Consideration
Landscape Plan document by Taylor Brammer Landscape Architects for key elements and dimensions.	
DS6.10 Setbacks and fencing are provided generally in accordance with Table 5 – Setbacks and Fencing and Figure 10 – Setbacks (see Figure 43)	The Landcom Guideline establishes setbacks of 0-3m for Buchan Avenue South and 3.6m to Bernera Road. The proposal includes setbacks typically ranging from 4 to 5.5m. Upper level setbacks of 2-3m are also proposed above level 3. The setbacks in this development application are more generous than proposed by Landcom, and reflect the low to mid rise character of this part of the site.
4.6 Residential Amenity	
DS7.1 Residential apartment development is designed to meet the requirements of the ADG.	Compliant. Compliance with key criteria can be achieved as outlined in the urban design package.
DS7.2 Residential accommodation is sited and oriented to maximise outlook and views to desirable features such as public and communal open space.	Compliant. The proposal maximises orientation of apartments to the public domain and communal open space.
DS7.3 Residential accommodation is sited and designed to minimise significant adverse amenity impacts such as noise from nonresidential uses, in particular vehicle loading and unloading areas and garbage storage and collection areas.	Compliant. Vehicle loading and garbage and collection areas are located within the basement.
DS7.4 Living rooms and private open spaces of at least 70% of apartments across the Landcom Town Centre North as a whole receive a minimum of 2 hours sunlight between 9am and 3pm mid-winter.	Compliant.
DS7.5 Natural cross ventilation is provided to at least 60% of the proposed apartments in the first nine storeys of the buildings across the Landcom Town Centre North as a whole.	Compliant.
4.7 Signage	
DS8.1 Signage is integrated with the overall design of the building.	Signage will be specified with DAs for individual buildings.
DS8.2 The size and location of signage is proportional and located appropriately to the architecture of the building.	Signage will be specified with DAs for individual buildings.

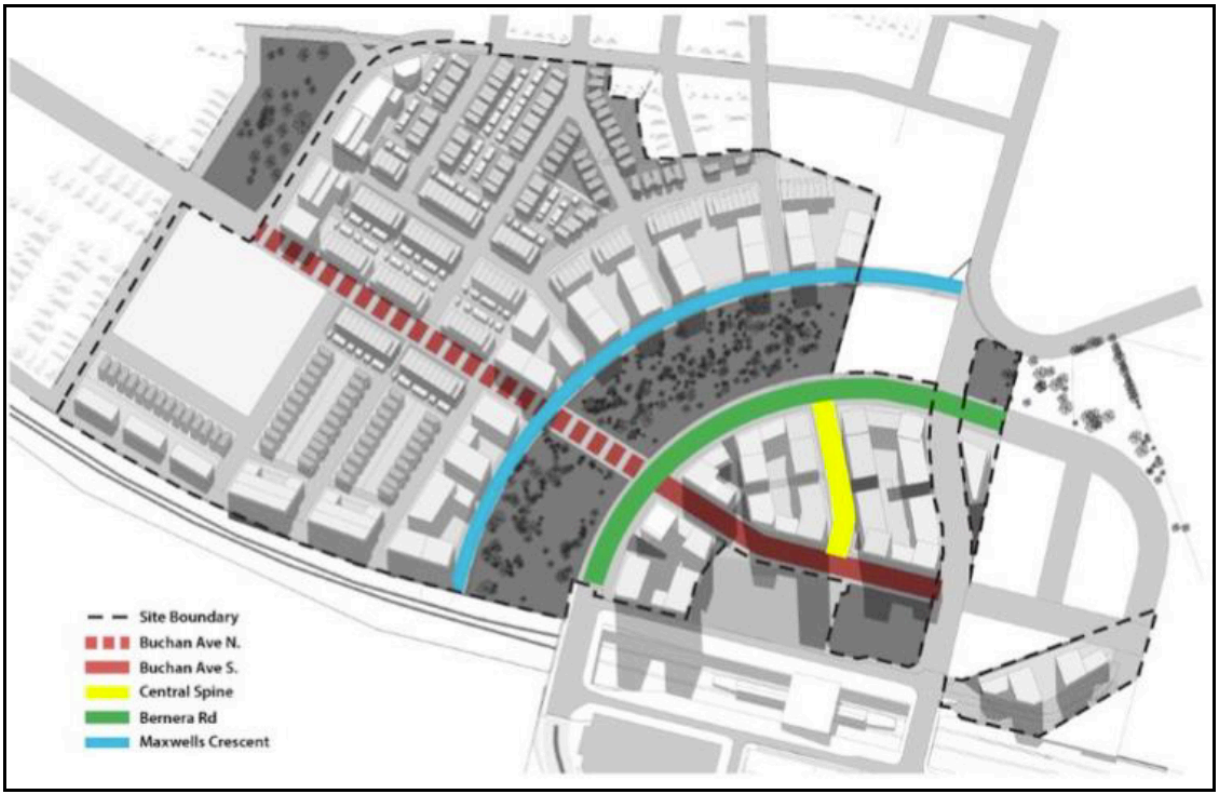

Figure 42: draft Landcom Town Centre North Design Guidelines – Street Hierarchy Plan

Figure Key	Setback	Encroachment/ Articulation zone	Permissible Articulation Elements	Interface
	0-3m 0-3m	3m 3m	Awnings, shopfronts, colonnades. Verandah, front step, upper balcony.	Awnings, colonnades, permitted to extend beyond lot boundary into verge. 1.2m courtyard wall (local stone).
	3m (5.5m for front garages)	1.5m	Verandah, front step, upper balcony.	1.2m fence wall.
	4m (5.5m for front garages)	1.5m	Verandah, front step, upper balcony.	1.2m fence/wall or open yard, service lane, garage.
	3.6m	3m*	Verandah, front step, upper balcony.	1.2m white masonry courtyard wall and hedge.
	1m	-	-	1.8m maximum fence/wall of the same primary material as the front fence. 50% transparent.

* Including 0.6m groundcover zone adjoining boundary.

Figure 43: draft Landcom Town Centre North Design Guidelines – Setbacks

3.3 Liverpool Local Environmental Plan 2008

The northern parts of the site are zoned under the Liverpool LEP. This area is predominantly zoned RE1 Public Recreation, with small areas of SP2 Local Road near the western boundary and R1 General Residential near the northern boundary.

The RE1 and SP2 zones are identified for acquisition by Council and Council has prepared a concept design for realignment of Maxwells Creek and drainage infrastructure works within this area which is discussed further in Section 5.7.

Development proposed under the concept plan is largely restricted to the B4 Mixed Use zone under the SSP SEPP, however part of the Bernera Road road reserve comprising street tree planting and footpath is proposed to be located in the RE1 and SP2 zone. Roads are permissible within both the RE1 and SP2 zone.

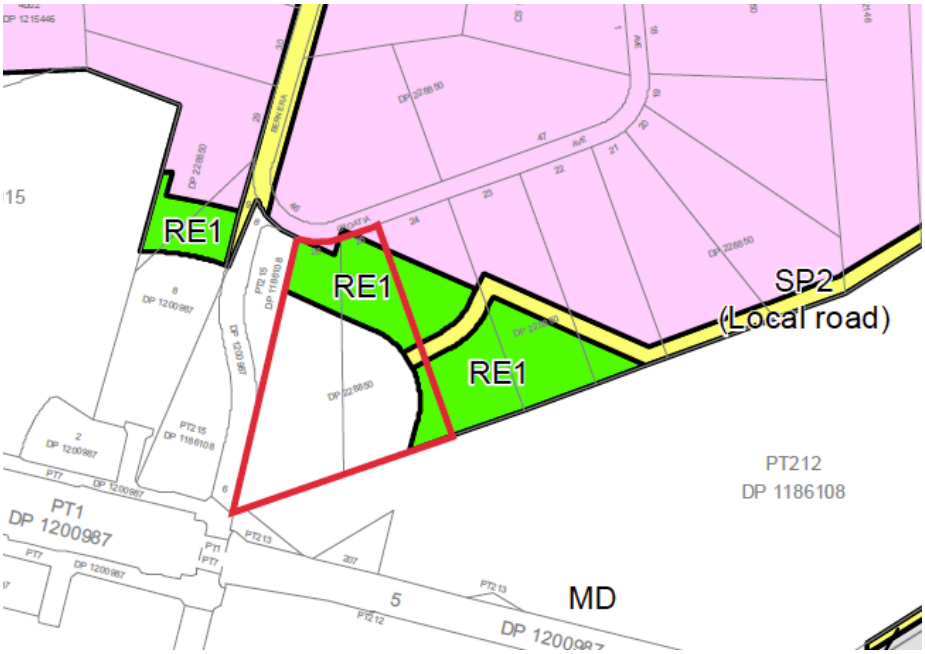

Figure 44: Liverpool LEP – zoning map

3.4 Edmondson Park South Development Control Plan 2012

The *Edmondson Park South Development Control Plan 2012* applies to the site. The DCP includes broad principles and outcomes for the land zoned B4 Mixed Use (being the Edmondson Park Town Centre), however it notes that detailed controls are required to be developed for this area prior to any development application being lodged or determined.

As discussed in Section 3.1.3, this Concept DA, if approved, would satisfy the requirement for preparation of site specific development controls for this site.

The DCP includes the site within the 'Area 1' Character area which is defined as having the following characteristics. The proposal is considered to be consistent with this character.

- Town Centre core with mixed uses, apartment buildings and the key activity area within Edmondson Park South
- Dwelling density generally achieved with attached small lot dwellings and terraces and low rise apartments surrounding the Town Centre core.

The proposal responds to the design principles and key DCP requirements for the town center as outlined in Table 6 below.

Table 6: Edmondson Park South DCP – Town Center Design Principles and Requirements

Design solution	Consideration
Function and Land Use Mix	
Incorporate a range of retail, commercial, entertainment, recreation and community uses.	Compliant. The proposal incorporates a number of mixed use buildings which provide for ground floor retail / commercial tenancies within close proximity of the station. A childcare centre is also proposed with Building E.

Design solution	Consideration
Create a compact retail core located on the southern side of the rail corridor.	NA
Incorporate a minimum of 1,140 dwellings in a variety of housing forms including higher density housing and mixed use development.	Compliant. The proposal will deliver 676 dwellings contributing to the overall dwelling target.
Concentrate small retail uses along and fronting key streets/plazas.	Compliant. The proposal incorporates small retail uses fronting the station plaza and the key east-west street.
Co-locate uses and facilities to maximise the efficient use of space.	Compliant. The proposal identifies four separate development sites which with collocated parking and servicing.
Active uses at ground floor are required, in the core of the Town Centre, in particular, fronting the main street, open space and in close proximity to the train station.	Compliant. ctive ground floor uses have been located in close proximity to the station and station plaza.
Consider the needs of health and aged care providers, facilities for young people, civic and emergency services within the Town Centre.	Compliant. The proposal includes a childcare centre. Other key services and facilities will be accessible within the retail core to the south of the station.
Provide uses that promote an active, 18 hours/7 days a week Town Centre.	Compliant. The proposal incorporates non-residential uses closest to the station to promote activation including across the day and week. This will be complimented by more intensive active uses being developed within the retail core to the south of the station.
Design and Layout	
Encourage accessibility and connectivity between the northern and southern portions of the Town Centre.	The site does not have the capacity to incorporate access between the northern and southern portions of the town centre. However, the proposal will provide a grid of streets and pedestrian connections which maximise access towards Soldiers Parade and the station plaza to facilitate access to the station and the southern portion of the town center.
Optimal length of the main street is 350m.	The DCP does not specify the location of the main street however it is understood that this is accommodated within the retail core to the south of the station.
The street layout is to emphasise sight lines to local landscape features, parks, places of key cultural significance, civic buildings and public open space.	Compliant. The proposal emphasises site lines that align street alignments to the north to the riparian open space and to the Station Plaza to the west of the site via a through site link.
The street layout is to effectively incorporate and integrate with the design of the rail/bus interchange. Main Street must be physically linked with the crossing point of the railway station.	Compliant. The street layout extends the street network proposed for the wider town centre.

Design solution	Consideration
Built Form	
A range of building heights (up to 6 storeys, 24m) with a transition to surrounding residential areas.	The proposal provides for a range of building heights up to 8 storeys. This approach seeks to maximise open space and provide for built form variations.
A range of higher density housing, including apartments, terraces, multi-unit housing and small lot housing.	Compliant. The proposal will contribute to mix of apartment style housing within the town centre.
High density residential development on the northern side of the rail corridor.	Compliant. The proposal will deliver high density residential on the northern side of the rail corridor.
Where appropriate consider and incorporate a 'landmark development' site within the Town Centre that is within 300m from the railway station and that has the potential to be built to 30m height.	NA
All large format retail premises and decked parking areas, visible from prominent public areas, are to be sleaved with active uses. Blank walls visible from the public domain are to be limited.	NA
Pedestrian Amenity and Public Domain	
High amenity pedestrian streetscapes are to be provided through the Town Centre. Reinforce the importance of ease of access and directness of major roadways to the Town Centre from surrounding residential areas.	Compliant. A network of streets and pedestrian connections is proposed providing for ease of access within the site and to the station, adjoining development sites and the riparian open space.
Create a main street characterised by pedestrian-friendly local traffic.	The DCP does not specify the location of the main street however it is understood that this is accommodated within the retail core to the south of the station.
Ensure effective pedestrian and cycle connection between the transit station and the main street is maximising visibility/transparency of the station and minimising walking distances.	NA – see above.
Parking and Access	
Reinforce the importance of ease of access and directness of major roadways to the Town Centre from surrounding residential areas.	Compliant. The street and pedestrian network extends the proposed network for the wider town centre and surrounding residential areas.
Bus traffic is to be routed along secondary streets to ensure high amenity levels on Main Street.	NA. The DCP does not identify any bus routes within the site.
Any future application within the Town Centre must be supported by a detailed traffic and transport study, including a micro-simulation model. The study should identify appropriate bus priority measures along the main street and ensure integration with the transport interchange.	A traffic study has been prepared. Detailed traffic modelling will be provided with future detailed DAs.

Design solution	Consideration
Bicycle parking shall be provided in appropriate numbers in the Town Centre, sporting facilities, parks, community facilities, schools and the bus / rail interchange and are encouraged as part of the development of employment and other commercial uses.	Bike parking to be provided in accordance with rates in the draft Landcom Town Centre North Design Guideline.

3.5 Other relevant planning instruments

3.5.1 Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment

The *Greater Metropolitan Regional Environmental Plan No. 2 – Georges River Catchment* (Georges River REP) is a deemed SEPP which seeks to manage development within Georges River Catchment to ensure its environmental qualities are maintained. It sets out aims, objectives and planning principles which relate to the management of the Georges River Catchment.

The proposal is consistent with the aims, objectives and planning principles of the deemed SEPP, and water quality will be managed through the implementation of the Soil and Water Management Plan during construction and the through the Stormwater Management Plan.

3.5.2 State Environmental Planning Policy (Infrastructure)

Under the provisions of Schedule 3 of the Infrastructure SEPP residential flat buildings with 300 or more dwellings are required to be referred to Roads and Maritime Services (RMS). The proposal will result in 676 dwellings; accordingly, referral to the RMS is required.

Clause 85 sets out referral requirements for development adjacent to a rail corridor. Accordingly, it is understood that the development application would be referred to Sydney Trains prior to approval.

Clause 87 also sets out noise criteria for residential development adjacent to rail corridors. The Development Near Rail Corridors and Busy Roads – Interim Guideline has also been established to support the implementation of the provisions of the SEPP Infrastructure. The requirements of the SEPP and Guideline will be considered through acoustic assessments to be provided with future DAs.

3.5.3 State Environmental Planning Policy No. 55 – Remediation of Land

SEPP 55 introduces planning controls for the remediation of contaminated land. The policy states that the planning authority must consider whether the land is contaminated, and if so that the land is suitable in its contaminated state for the permitted uses in the zone, or that the land requires remediation before the land is developed for that purpose.

A Detailed Site Investigation has been prepared by EI Australia to consider site contamination which concluded that the site can be made suitable for the proposed residential and associated land uses. This is considered further in Section 5.11.

3.5.4 State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Buildings

SEPP 65 seeks to promote good design of apartments through the establishment of the Apartment Design Guide. The proposal can meet the key criteria and objectives of the Apartment Design Guide as outlined in the Urban Design Study at Appendix A and in Section 5.2 of this report.

3.5.5 Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

The aim of *State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004* (BASIX SEPP) is to ensure consistency in the implementation of the BASIX scheme throughout the State. BASIX sets out

requirements that apply to all residential dwelling types to ensure sustainability measures are incorporated in residential development.

BASIX Certificates will be provided with future DAs to confirms that the proposed development will meet the NSW government's requirements for sustainability.

3.6 Assessment against Section 4.15(1) of the EP&A Act

Table 7: Assessment against s4.15(1) of the EP&A Act

Section 4.51 matter	Consideration
The provisions of any environmental planning instrument	See section 3.
The provisions of any proposed instrument that is or has been the subject of public consultation under this Act or that has been notified by the consent authority.	NA
The provisions of any Development Control Plan	See Section 3.4.
The provisions of any planning agreement that has been entered into under section 93F, or any draft planning agreement that a developer has offered to enter into under section 93F	Not applicable
The provisions of the *Environmental Planning and Assessment Regulations 2000* (the Regulations), to the extent that they prescribe matters for the purposes of this paragraph	Clause 92 of the Regulations set out additional matters for consideration by a consent authority for the purposes of 4.15(1) of the EP&A Act. No matters are of relevance to the proposed Concept DA.
The provisions of any coastal zone management plan (within the meaning of the Coastal Protection Act 1979)	Not applicable
The likely impacts of that development, including environmental impacts on both the natural and built environments, and social and economic impacts in the locality	The development will not result in any significant adverse social, environmental or economic impacts as outlined in section 5. The proposal has a number of benefits including supporting the development of a planned town centre providing for housing and supporting uses within close proximity of a train station. It will activate the area around the station and providing for a childcare facility and dedication of land to council for drainage and open space. It will also contribute to the local economy during construction.
The suitability of the site for the development	The site has been demonstrated to be suitable for the development through the previous planning undertaken for the site, and through the environmental assessment which forms part of this report.
Any submissions made in accordance with this Act or the regulations	The proposal will be publicly exhibited, and any submissions considered accordingly.
The public interest	The proposal is considered to be in the public interest as it will facilitate the development of a planned town centre providing for housing and supporting uses within close proximity of a train station.

4 Consultation

In preparing the Concept DA proposal consultation has been undertaken with Liverpool Council in the form of a pre-DA meeting and review on two occasions by the Liverpool Design Excellence Panel. Issues raised in the written advice which was issued by Council following the Pre-DA meeting and Design Excellence Panel Meetings has informed the development of the Concept DA as discussed in Table 8, Table 9 and Table 10.

Table 8: Consideration of Council pre-DA advice 10 June 2020

Control	Consideration
Planning and Urban Design	
Shop top housing and mixed use definition Council encourages buildings to incorporate commercial and/or retail uses to reflect the proximity and context of the locality of the Edmondson Park Town Centre. Alternatively, Council requests the proponent to establish how the future development application will achieve the shop-top housing definition. Any proposal for the site must take into consideration the desired objectives of the zone and how the development reflect the Edmondson Park Town Centre and relate to surrounding future land uses in the locality.	• The proposal comprises a mix of shop top housing and residential flat buildings which are both permissible in the zone. • Non-residential uses have been focused on the areas closest to the station and station plaza. • Council's Pre-DA advice later notes that the proposal includes an appropriate quantity of non-residential floor space.
Concept Plan / DCP • The proposal needs to demonstrate compliance with the objectives, targets and outcomes of the Landcom DCP. • The Edmondson Park DCP requires preparation of detailed planning and design controls in the form of an amendment to the DCP. • Therefore a DCP shall be prepared addressing: – Block layout illustrating built form and land use structure, – Building form, envelope and siting guidelines, – Vehicular access, parking areas and design treatment, – Illustrative design treatment of civic spaces and open space, pedestrian and cycle routes and facilities, – Details relating to mandatory and preferred active frontages, building articulation, corner treatments, roofscapes including roof top communal open space and architectural expression, – Preferred palette of material, finishes and colours, – Signage and advertising controls – Landscaping guidelines (ie. species), – Town Centre streetscape and public domain guidelines (ie. cross sections, planting, street furniture, paving materials, lighting), and – Water cycle management. – Incorporate Bicycle and Motorbike parking in the basement carparks.	• Consideration is given to the Landcom draft Design Guideline in Section 3.2. • This Concept DA, if approved, satisfies the requirement for preparation of a site specific DCP.

Control	Consideration
Building separation • The proposal should comply with SEPP 65. • The proposal appears compliant, however Building A is relatively close to its western boundary and may result in the inability of the adjacent site to comply with building separation distances when development proceed.	The proposal has been developed to comply with key SEPP 65 criteria including building separation distances and setbacks, solar access, cross ventilation, communal open space and deep soil requirements. Further analysis against SEPP 65 will be provided with subsequent DAs.
Setbacks • Council recommends 4.5m front setbacks consistent with other RFBs in Edmondson Park.	• The proposal provides for front setbacks typically ranging from 4.0-5.5m. • This is considered appropriate in the context of the Landcom draft Design Guideline which proposes setbacks of 3.6m for Bernera Road (to the north of the site) and 0-3m for other streets.
Ground floor apartments Ground floor apartments should provide direct pedestrian access to the street.	• All ground floor apartments are proposed to have direct access to the street.
Solar access Solar access to the communal open space for Buildings G and H will be in shade all the time. Compliance with SEPP 65 should be ensured.	• The layout of these buildings priorises the location of, as well as solar access to, the ground floor retail / commercial uses fronting the street. • Compliance with SEPP 65 for solar access to communal open space can be achieve through a combination of the ground floor areas fronting the street and the rooftop open space.
Landscaping • Open space within the RE1 zone should be excluded from the landscaped open space calculation. • SEPP 65 landscaping and deep soil requirements to be met for each building, rather than the overall site. • Appropriate depth of soil to be provided for landscaping above the basement. • The 4 storey wing to Building E should be deleted to increase landscaping and open space functionality.	• Communal open space has been calculated for each development site excluding the RE1 zone and can achieve SEPP 65. • Depth of soil to ensure landscaping can be supported above the basement will be addressed through the detailed design. • The four storey wing to building E has been removed.
Intersection of local road with Macdonald Road. • Inconsistency between approved Concept Plan and Landcom Mod 5 to be addressed.	• Landcom's response to submissions confirms that realignment of the local road is not proposed. The proposal is consistent with Landcom's proposed road layout.
Strategic Planning	
Consistency with ILP • Further clarification required on how the land zoned R1 will be treated fronting Croatia Avenue. • Applicant to liaise with Landcom on orderly delivery of intersection outside south east extent.	• The applicant is open to discussions with council regarding the future use of the small areas of R1 General Residential zoned land at the north of the site fronting Croatia Avenue. There is potential for this land to form part of the riparian open space. • The site can be developed without reliance on external roads yet to be constructed. However, further discussions with Landcom on the orderly delivery of the road network will be progressed

Control	Consideration
	closer to construction when there is a better understanding of likely sequencing of development.
Land uses • The extent of retail offerings seems appropriate, as retail premises on all frontage could result in empty shop-fronts.	Noted.
Building massing • The maximum height appears to be exceeded, and may need to be reduced. • Part of the road and RE1 zone has been used in calculating site area for FSR, and makes reference to Clause 20 in the Edmondson Park SSP listing.	• The proposal seeks a variation to the height limit to allow development up to eight storeys and provide a greater variation of building heights across the site. This is consistent with the advice of the Liverpool Design Excellence Panel. • The SSP SEPP outlines that *the following land must be excluded from the site area—* – *(a) land on which the proposed development is prohibited, whether under this Plan or any other law,* – *(b) community land or a public place (except as provided by subclause (7)).* • The RE1 and R1 zoned land has been excluded from site calculation. • Inclusion of proposed roads within the B4 Mixed Use zone in the FSR calculation is appropriate and consistent with the Liverpool LEP given the are not public land until dedicated.
Community planning	
Residential amenity • Further information required on what types of mixed use developments are proposed and how the residential and non-residential uses will be adjusted in the design and management plan. • CPTED principles should be included in design and operation.	• The Concept DA sets out the proposed land uses across each floor level. Further detail on the management arrangements for the respective uses will be provided with the detailed DAs. • CPTED Principles have been considered in the Concept Design as discussed in Section 5.3.
Dwelling mix • A diversity of housing should be provided. • A portion of affordable housing would be preferable.	• The concept DA proposes a mix of apartment sizes as discussed in Section 2.1. • Council does not currently impose a requirement for affordable housing in its LEP. There is no mechanism for delivery of affordable housing on this site.
Childcare • Potential demand for a childcare centre is noted.	• A childcare centre has been included in the proposal.
Open space • Further information should be provided on the treatment of the RE1 zone. • Further analysis of open space provision with regard to Council's recreation and open space strategy.	• The RE1 zone is proposed to be dedicated to Council for embellishment as part of its Maxwells Creek drainage and open space works. • A social impact assessment has been prepared which concludes that there is adequate open

Control	Consideration
• Further information to be provided on communal open space to satisfy SEPP 65. • Detailed market analysis to be provided to justify the extent of retail / commercial. • Social Impact Assessment to be provided.	space proposed within the site and the wider Edmondson Park precinct to support the proposed development (see Section 5.6) • Communal open space is identified which exceeds the requirements of SEPP 65 • Council subsequently advised that a market analysis is not necessary and that the extend of retail / commercial floor space is appropriate.
Technical studies	
Stormwater • Stormwater drainage for the site must be in accordance with Council's Development Control Plan. • A stormwater concept plan shall be submitted with the application. • The stormwater concept plan shall be accompanied by a supporting report and calculations. • On-site detention is required to be provided for the site. • The RE1 zone is proposed to be dedicated to Council for embellishment as part of its Maxwells Creek drainage and open space works. • The on-site detention system must be within common property and accessible from the street without going through dwellings or private courtyards. • The proposed basement car park shall ensure that the stormwater drainage system has been designed in accordance with the requirements for pumped systems in AS3500.3:2003 and Council's Stormwater Drainage Design Specifications for pump out systems for basement carparks. • A water quality treatment device shall be provided in accordance with Council's Development Control Plan. A MUSIC model shall be submitted with the development application. • This development may require an easement to drain water over downstream properties. The easement to drain water must be registered prior to the issue of an operational consent.	• This has been addressed through the Stormwater Management Report (see Section 5.7), with further detail to be provided with subsequent DAs as appropriate.
Roadworks and road reserve works • The development will require the following external road works: connections to Soldiers Road. • Temporary turning heads to no through roads.	• This forms part of the proposal, with the detailed design of roads and intersections to be provided with subsequent DAs. • Temporary turning heads will be identified were appropriate with future DAs where roads will be extended at a later stage.
Earthworks • No retaining walls and filling which will impede stormwater. • Earthworks and retaining walls to comply with DCP.	• Earthworks, retaining walls and fill can comply with the DCP. • A Geotechnical report has been prepared (see Section 5.10)

Control	Consideration
• Geotech report required including salinity / acid sulphate soils. • Fill to comply with DCP.	
Subdivision • Subdivision plan is to be submitted with the DA to meet specified council requirements.	• A subdivision plan has not been prepared to accompany the Concept DA however indicative stages / development sites have been identified. • Subdivision plans will be provided with subsequent DAs. This will include a subdivision plan for the creation of the riparian open space as a separate parcel for dedication to Council.
Traffic • Provide a Traffic Impact Statement addressing the impacts of traffic generation and parking on the existing and future traffic conditions of the surrounding road network. • Parking provision is to be in accordance with the DCP and A.S.2890. • Provision for public transport including bus services, cycle ways and pedestrian facilities. • On-street parking restrictions to be provided. • All new roads must be in accordance with the DCP. • Double barrier line markings to be provided at all T-junctions and cross intersections. • Submission of detailed engineering plans for all road design including line markings and signposting. • Underground cabling and LED street lighting to be provided in accordance with A.S.1158 and Council's specifications. • An acoustic report is to be submitted. • A waste collection/management plan is to be provided.	• A traffic impact assessment has been prepared to address these matters (see Section 5.5).
Floodplain management • The proposed development site is located within the Maxwells Creek catchment and the property is affected by flooding under the 1% Annual Exceedance Probability (AEP) event. • The site can be developed as per Council's design report and concept plans (Design for the Modification of Creeks in Edmondson Park, Floodmit and Storm Consulting, June 2014). The riparian corridor of Maxwells Creek shall be maintained, and the proposed development shall be consistent with the Council's design report and concept plans. The development shall not have adverse impact on flood levels and velocities than those established by the Flood Report by FloodMit (June 2014). • The development of the road on the north and northeast of the proposed buildings involves filling below the 1% AEP flood. Interim flood compensatory excavation shall be incorporated in the design to confirm that there is no net loss of flood storage by the proposed development.	• Flood impact has been addressed in the stormwater management plan (see Section 5.7) and relevant flood levels have informed the proposed floor levels. • The RE1 zone is proposed to be dedicated to Council for embellishment as part of its Maxwells Creek drainage and open space works, including proposed bioretention basins D 13 and D14. • Temporary water control measures will be identified with subsequent DAs where required.

Control	Consideration
• Creek modification works shall be included in the proposal following Council's design report and concept plans (Design for the Modification of Creeks in Edmondson Park, FloodMit and Storm Consulting, June 2014).Habitable floor levels shall be no lower than the 1% AEP flood level plus half a metre freeboard (established by the Flood Report, FloodMit, June 2014). • Habitable floor levels shall be no lower than the 1% AEP flood level plus half a metre freeboard (established by the Flood Report, FloodMit, June 2014). • Habitable floor levels shall be no lower than the 1% AEP flood level plus half a metre freeboard (established by the Flood Report, FloodMit, June 2014). • The riparian corridor of Maxwells Creek shall be maintained, and the proposed development shall be consistent with the Council's design report and concept plans. • Creek modification works shall be included in the proposal following Council's design report and concept plans (Design for the Modification of Creeks in Edmondson Park, FloodMit and Storm Consulting, June 2014). • The development should consider the development of the proposed bioretention basins (D13 and D14) as part of the creek modification works. • Temporary water control measures shall be undertaken and maintained until bioretention basins (D13 and D14 are constructed.	
Biodiversity If impacts are proposed on land that is not biocertified, information should be submitted to demonstrate whether the Biodiversity Offsets Scheme has been triggered.	• Under the Biocertification Order the entire site is certified. Accordingly, no further ecological assessment is required. • The Liverpool LEP identifies a small area of land as existing native vegetation within the RE1 zone on the boundary of the lot, however this is outside the land proposed to be developed under this Concept DA.
Contamination • Stage 1 - preliminary investigation required. • Where contamination is known or suspected a Stage 2 – detailed site investigation is required. • RAP required where recommended by Stage 2 investigation.	• A Stage 2 detailed contamination assessment has been prepared (see Section 5.11).
Acoustic • Acoustic report, including construction noise and vibration, to be prepared. • Detailed Council requirements to be addressed.	• An acoustic report will be prepared with subsequent DAs.
Waste storage / waste management • Waste management plan to be prepared in accordance with detailed council requirements • Waste collection areas to be preferably at grade.	• A waste management plan has been prepared in accordance with Council requirements (see Section 5.9).

Control	Consideration
• Waste storage areas to be clearly identified on plans.	
Cooling water systems • Details to be provided where relevant.	• This would be provided with subsequent DAs, where relevant.
Connection to Sewer • Details relating to sewer connection to be provided.	• This would be provided with subsequent DAs.

Table 9: Consideration of Liverpool Design Excellence Panel comments 9 July 2020

Comment	Consideration
Context	
Strengthen the Urban Design relationship between this development, the station site, the station plaza and surrounding development.	• The proposal has responded to its surrounding including the station plaza and station and the development proposed on the adjoining Landcom site. • The built form seeks to maintain appropriate amenity and separation to surrounding development sites. • Connectivity has been maximised through a grid network of streets and pedestrian through site links which connects the site to the station and station plaza and to the adjacent Landcom site.
Explore the potential for an increased setback at ground level, to create useful and usable spaces around the retail zone. This includes wide enough footpath areas for seating and outdoor dining, and facilities/amenities along the south-eastern sector of the development, to take advantage of the vista to the Railway Station plaza.	• Front setbacks have been increased to typically range from 4.0-5.5m including within the retail area to provide for a generous public domain.
Ensure that the Landscape Design (and the ground plane in general) is sympathetic to and responds to the adjacent RE1 zone.	• The proposed landscaping for along Bernera provides for indigenous canopy street tree planting integrating with and providing a strong edge to the adjacent open space. • The pedestrian linkages through the site also provide good connections from the development to the open space.
Built form and scale	
The panel acknowledges that a low built form (4-8 storeys) is proposed for the site. As such, the panel would like to see diversity in the spatial quality of the built forms. Consider how solar access and diversity of experiences is achieved in the open spaces between the continuous massing arrangements. The spaces between buildings A&C and B&D are crucial and need to be an inviting scale and comfortable for people using the spaces, as a journey through the site.	• The proposal seeks to exceed the 24m height limit to enable a range of building heights to be provided from four to eight storeys providing for a variation built form and maximising the provision of open space at the ground plane. • Building layout and height has been distributed to maximise solar access to dwellings and open space. • The north-south orientation of open space also maximises solar access.

Comment	Consideration
The approach to further open-up the spaces between building E&F is supported.	• Noted.
Variations in height are encouraged and supported, rather than a monotone pattern of building heights across the site.	• Noted, the proposal seeks to provide a variation of height and built form.
Look at design elements to moderate the perceived length of the buildings.	• Further façade design and articulation would be provided with future DAs and will seek to minimise perceived building bulk.
Density	
The 2:1 FSR applies to the developable portion of the site and is considered reasonable. The development of the proposal needs to be focused around the distribution of the density across the site, to achieve maximum amenity. This includes considering the distribution of massing across the site and the spatial quality of the spaces between the buildings (See recommendations made in 4.2 Built Form, above).	• The proposal maintains the maximum FSR of 2:1 and through a minor height increase seeks to minimise the building footprint and maximise open space providing for generous linkages and communal spaces between buildings.
In discussion with Council, consider minor deviations from the DCP height limits for the site, in order to achieve variation in the distribution of height across the site, to achieve quality amenity outcomes. Graded height changes throughout the complex are important (e.g. a taller tower on the corner of the site or a partial upper level within a block).	• The proposal seeks to vary the height limit with the view to achieving this outcome. A variety of building heights are provided with taller buildings typically located on corners of street or through site links.
Sustainability	
The panel would like to see more evidence of sustainability principles included within the proposal.	A number of sustainability commitments are proposed including: • Compliance with BASIX targets • Exceed the BCA NCC 2019 Section J Energy Benchmarks • Rainwater capture for onsite irrigation • Consider the potential for solar noting the limitations presented by rooftop open space • Inclusion of EV charging points in basement carpark • NABERs rating of 4 stars or above for common area energy and water use • Achieve a certified Silver rating under the WELL v2 Standard to maximise the wellness characteristics of the development.
Include mature trees and planting around the buildings to support environmental performance and help mitigate the extreme temperatures experienced within Western Sydney.	• A Landscape Plan has been prepared which seeks to maximise landscaping, tree planting and canopy cover within streets and open space, as well as within rooftop communal spaces. A number of through site links are covered by

Comment	Consideration
	planted pergolas to provide shade for pedestrians. • Tree canopy cover of 34.2% within the entire landholdings and 33.3% within the developable area can be achieved. This significantly exceeds the 25% target for medium and high density areas in the NSW Government Architect draft Greener Places Guideline.
The Landscape Design for the site needs to relate to the RE1 zone and in doing so, help achieve a continuous habitat zone. Consider appropriate vegetation species to support/encourage habitats.	• The proposed landscaping for along Bernera provides for indigenous canopy street tree planting integrating with the adjacent open space and supporting habitat within the open space. Further details of the landscape planting will be provided with future DAs.
Landscape	
The panel is concerned with what appears to be limited public domain connections and linkages to the Railway Station plaza and precinct (as shown in the concept documentation). The panel encourages the applicant to look further at the work that has already been completed in the Edmondson Park Master Plan. Given the excessive temperatures experienced in Western Sydney, the effects of global warming, and denser living, people are increasingly wanting to use outside spaces. These spaces need to be sustainable and comfortable for people to use, with appropriately considered form throughout the spaces, shade and appropriate facilities and amenities.	• The proposal incorporates a grid network of street and open space which provides a variety of options for travelling from the station through the site and connecting to the adjacent development sites and open space to the north. • Opportunities for open space and landscaping have been maximised to reduce heat and provide shading including through tree canopy cover of 34.2% within the entire landholdings and 33.3% within the developable area. • The concept landscape plan identifies facilities and amenities within the open space including small playgrounds and seating.
The role of the landscape is critical as a binding element between the diversity of the built expression of the building. (See recommendations made in 4.2 Built Form, above).	• The landscape plan has been developed in tandem with the building layout to provide for open spaces which integrate with the built form.
The limited proposed Deep Soil Zones (DSZ) are clustered in gaps between the basement car parks. The DSZs need to be increased and more evenly distributed across the site. They should be included along key pedestrian routes within the site, to provide mature trees for shade.	• Deep soil zones have been distributed across the site, with all four development sites able to achieve the Apartment Design Guide requirements for deep soil. • They are focused along the key pedestrian through sites links and communal spaces to support large canopy planting.
Amenity	
The proposal is heading in the right direction (i.e. from an amenity perspective), and the panel commends the consideration to solar access, cross ventilation, privacy and the relationship of open spaces between buildings. The panel looks forward to seeing how the proposal develops.	• Noted.

Comment	Consideration
Prepare schematic section drawings to show the relationship between the built form and open space areas.	• The proposal includes a series of sections to show the relationships between the buildings, streets and open spaces.
Amenity at key access points to the complex is questionable. The clustering of vehicular ramps and pedestrian path systems at key openings (i.e. within exterior areas between buildings) results in an aggregation of hard surface areas. Design attention is required to achieve outcomes with both a high architectural and landscape quality.	• The vehicle access points to the basement are minimised to four distributed across the site and have been located away from active frontages.
Explore Landscape Design elements to improve amenity on the site, in particular shade, including through tree canopy cover.	• The Landscape Plan provides for extensive tree canopy cover across the site to improve visual amenity and shading of open spaces areas.
Treat the "internal" local road in a more sensitive manner, including through exploring a shared-zone design (i.e. rather than a road), with landscape treatments that provide priority for pedestrians over motorists.	• The internal road has been designed as a shareway with reduced pavement width, maximising pedestrian access and street planting.
Safety	
Ensure that there is a clear delineation between publicly accessible and private open space areas. Explore opportunities to allow the public to move through the site, whilst balancing the priorities between through-site links for public use and communal open space for residents.	• The Landscape Plan identifies a mix of publicly accessible through site links, adjacent to resident only communal spaces.
Consider Crime Prevention Through Environmental Design principles (CPTED) as the design progresses.	• This has been considered in Section 5.3.
Housing diversity and social interaction	
Explore different building typologies that allow for entrances directly from common space/street areas. This will enable residents to enter their properties directly from the street and help to activate the ground plane.	• The proposal provides direct access to the adjacent public domain for all ground floor apartments.
Aesthetics	
The panel notes that a range of design images were presented for the various buildings within the development. The panel encourages an integrated theme/approach to the treatments of the built form, whilst achieving diversity and a relationship between the buildings. Look to local, place specific inspirations when developing an aesthetic character.	• Noted. Indicative building designs have been included with the Concept DA and will be refined through subsequent DAs.
Consider including a marker building, which will transfer some of the proposed GFA and free-up some additional space on the ground plane.	• The site has a 24m height limit. Minor exceedances to this height limit is proposed to maximise space at the ground plane.

Comment	Consideration
Greater diversity is encouraged and could be facilitated by re-working the north-south road so that it is closer in form and shape to a laneway-style street. (See recommendations made in 4.6 Amenity, above).	• The internal road has been designed as a shareway with reduced pavement width maximising pedestrian access and street planting.

Table 10: Consideration of Liverpool Design Excellence Panel comments 10 December 2020

Comment	Consideration
Context	
The Panel advises the applicant to provide a clear representation of the design fundamentals being considered for the development and recommends the applicant to elaborate these design principles through diagrams, to ensure that the ideas/principles of urban design are conveyed and explained clearly. The diagrams should also establish how the project satisfies the nine design quality principles required of the Apartment Design Guide / SEPP 65; the urban framework for the site and 'Connection to Country' (see next point). The diagrams should also clearly define the Private Open Space, Public Domain, Communal areas and all entries to apartment buildings and commercial premises.	• The Urban Design Study includes a series of design principle diagrams outlining the principles which have informed the concept design. • A design statement is included at Appendix N which responds to the nine design quality principles of the Apartment Design Guide. • A diagram has been prepared showing the public domain, private open space, and communal areas, as well as a diagram showing building entries. These diagrams are also included in Section 2 of this report.
The Panel notes that the 'Connection to Country' needs to be established for the design proposal and requires the applicant to ensure the design acknowledges and incorporates a seamless flow of ideas/connections with the context through all the various aspects of design. The Panel recommends 'Connections to Country' be incorporated at the master planning stage and be engrained within the structure of the design proposal.	• The NSW Government Architect released the draft Connecting with Country Framework in November 2020. • The draft Framework states that it is intended to be tested to over a 12 month period on selected NSW government projects. It is then envisaged that the framework would be embedded into the NSW Gateway Policy framework and Gateway reviews and Secretary's Environmental Assessment Requirements for infrastructure projects. • The Framework does not apply to the assessment of DAs and there is no indication it will be applied to DAs in the future. • Further, Connection to Country is not a requirement of an statutory documents which apply to the site. • On this basis it is not considered reasonable to require Connection to County to be addressed in the DA.
The Panel notes that the proposed setback for the development is less than the recommended setbacks set out in the DCP. Cantilevered setbacks are not recommended and not be in breach of the minimum street setbacks. The Panel recommends the applicant to have a wider setback for the commercial areas and ensure compliance with the requirements of the DCP.	• All setbacks have been increased to apply a typical 4m front setback including for cantilevered sections of the proposed buildings.

Comment	Consideration
The Panel notes that the building entrances are not well defined within the development. The Panel recommends that the applicant considers a more defined and easily visible entry for each building with adequate architectural definition and landscaping. The Panel also requires the applicant to ensure that all buildings have an access from the street (ie: Public Domain) to establish its relationship with the street and ensure street activation.	• All building entrances are accessible from the public domain. • The detailed design of building entries to ensure their visibility and accessibility will be addressed at the DA stage.
The Panel notes that the proposed car parking exceeds the required number of car parking for the development. The Panel recommends the applicant to optimise the number of proposed car parking for the development so it can increase the amount of proposed Deep Soil Zone (DSZ) for tree planting within the site.	• Car parking has been provided in accordance with the RMS rates for Metropolitan sub-regional centres for high density residential flat buildings. This approach is consistent with the Apartment Design Guide for sites within 800m of a train station. These rates are significantly lower than the rates in the Liverpool DCP. • Other uses are consistent with the draft Landcom Town Centre North Design Guideline and the Edmonson Park Frasers Town Centre Design Guideline which apply to the wider Edmondson Park Town Centre.
The Panel recommends Council ensure that the following stages of development be reviewed by the same set of panel members for the future DEP meetings to ensure design integrity for the project.	• Noted.
Built form and scale	
The Panel notes that the overall design has the opportunity for improvement to make it more cohesive and establish a strong urban framework for the development. The Panel advises the applicant to have a closer look at the overall built form and the proposed architectural expression for the buildings within the development to ensure that they include a variety of expressions, while the overall proposal reads as a cohesive whole.	• The design consists of seven distinct buildings which form 4 separate zones each with a unique and distinct architectural character. • The buildings have been deliberately designed with different facades and different architectural plan forms to maximise diversity. • The overall effect is a series of distinct buildings which have certain characteristics in common. • This is addressed in further detail in the Design Statement at Appendix N.
The Panel notes that the built form does not acknowledge the crescent profile of the adjoining road or the riparian corridor that it adjoins. The Panel recommends the applicant establish the urban form for the development that strongly responds to the context of the subject site.	• The concept DA has been designed to respond to the site context including the adjoining road and riparian corridor. • The façade of building E and F follow the curve of the proposed roads. • Units have been oriented to directly address the road and riparian open space. • The central green corridor between building A+B and shared green avenue between B+F provide direct linkage to riparian zone from the heart of the development. • North/South orientation of building A+B promotes outlook to riparian zone for greater number of units through central open space.

Comment	Consideration
	• This is further illustrated in the Urban Design Study.
The Panel notes that a portion of the built form/architectural projections cantilevers onto the setback area. The Panel requires the applicant to ensure that all projections and cantilevers are restricted and to be within the proposed setback.	• All setbacks have been increased to apply a typical 4m front setback including for cantilevered sections of the proposed buildings.
The Panel notes the potential of the design proposal to incorporate Water Sensitive Urban Design initiatives as part of the master plan. The Panel recommends the applicant explore the capture of rainwater within the built form and provide water storage facilities or chambers within the car parking area, which can then be connected to a site wide WSUD systems to irrigate the landscaped areas. This will need to be managed by the body corporate/strata management for the development.	• The Stormwater Management Report calculates required stormwater detention for each of the four stages / development sites. These detention requirements and the management arrangements will be incorporated with future DAs.
The Panel notes the minor inconsistencies with the proposed building height for the development. The Panel confirms that some additional building height can be supported provided the applicant ensures complete compliance with the requirements of Communal Open Space (COS) for the development and high levels of amenity for all apartments. Any non-compliant buildings due to height needs to explain the reason why the non-compliance exists.	• Noted. The proposal exceeds the requirements under the Apartment Design Guide for communal open space and deep soil. • The height non-compliance has been addressed through a separate variation request.
Density	
The proposed density is supported by the Panel.	• Noted.
Sustainability	
The Panel recommends the applicant incorporate the principles of Ecologically Sustainable Development (ESD) as an inherent part of the design proposal. Ideas could include: passive solar design within the built form; high performance building envelopes; photovoltaic (PV) panels to provide lighting and other power for common areas; bulk water capture and storage for irrigation, etc. The Panel advises the applicant to provide a summary of all sustainability measures being adopted as part of the design proposal.	• This has been addressed in Section 5.12 through a number of sustainability commitments.
Landscape	
The Panel notes that the amount of Deep Soil Zone (DSZ) being proposed as part of the development appears non-compliant with the minimum requirements as per SEPP 65 Apartment Design Guide (ADG). The Panel requires the applicant to achieve a full compliance with the minimum requirements of DSZ and encourages the applicant to go beyond the minimum requirements to achieve larger canopy trees for the precinct.	• The proposal complies with the ADG for deep soil with each development site achieving between 7% and 11%. • Additional deep soil zones are provided within the public domain accounting for an additional 15% of the total developable area of 30,289sqm. • A high level of canopy cover is also achieved at 33.3% within the developable area, significantly

Comment	Consideration
	exceeding the 25% target for medium and high density areas in the NSW Government Architect draft Greener Places Guideline.
The Panel questions the dimensions and volume of soil being proposed for tree planting above the basement car park. The Panel requires the applicant ensures adequate soil depth and widths for tree planting and adequate area for the tree roots to spread so as to provide a sustainable outcome for the development. Soil depths and widths need to be proved as suitable and sustainable by the relevant expert report (see Edmondson Park Commercial Centre and associated residential development by Frasers for guidance in this regard).	• The dimensions and volume of soil for tree planting above the basement car park will be addressed with future DAs to ensure a sustainable outcome.
The Panel questions the proposed tree species for the development and recommends the applicant to consider tree species that are appropriate for the region, ideally indigenous to the area, acknowledging the cultural landscape being created as part of the Edmondson Park masterplan and will be able to be sustained and thrive within the climate of western Sydney.	• Suitable tree species can be further explored with future detailed DAs to address Council requirements.
The panel requires a detailed hydraulic design of automatic watering system that will help sustain and allow the landscape to thrive. The design of the system needs to acknowledge the differing seasonal water requirements and adjustments as the landscape matures. The primary source of water shall by via rainwater tanks, with mains backup for drier periods.	• The detailed hydraulic design of automatic watering systems can be addressed in future detailed DAs.
The Panel questions the relationship of the development with adjoining open space RE1 zoned land. The Panel recommends the applicant establish and illustrate appropriate connections with the riparian corridor and the surrounding context so that it is integrated into the overall design approach for the development.	• This is addressed under previous comments under the heading Built Form and Scale.
The Panel questions the extent of pedestrian priority within the development, which should be overarching. The Panel recommends the applicant provide raised thresholds and pedestrian priority crossings at key locations to promote walking/cycling within the development.	• The road layout has been developed to respond to the planned road layout on the adjoining development site. • A grid network of streets and pedestrian connections is proposed to maximise permeability through the site and to surrounding destinations including the train station and riparian open space. • The north-south shareway will be a low traffic speed pedestrian priority street. • Pedestrian crossings are also proposed to be located on each of the local roads to support key desire lines through the development linking the train station and riparian open space.
The Panel notes the potential of the design proposal to incorporate Water Sensitive Urban Design initiatives as	• Stormwater treatment has been addressed in the stormwater management plan.

Comment	Consideration
part of the master plan. The Panel requires the applicant to provide detailed landscape plans including treatments for WSUD and locations of swales, and recommends the applicant incorporate water harvesting methods to collect rainwater from the building rooftops.	• Rainwater harvesting is a key component of the sustainability commitments and will the further addressed in detailed DAs.
Amenity	
The Panel requires the applicant to ensure high solar amenity for the residential units and open space proposed as part of the development, and requires the applicant to achieve compliance with all minimum requirements of ADG. Solar diagrams are to be proved by sun-eye diagrams, highlighting in yellow the minimum 1m2 of solar access on living room windows & doors.	• Solar analysis has demonstrated that 80% of apartments can achieve a minimum of 2 hours of solar access in midwinter, significantly exceeding the requirement of 70% under the ADG. • More detailed solar analysis will be provided with detailed DAs.
Safety	
The Panel recommends the applicant to consider Crime Prevention through Environmental Design (CPTED) principles as part of the design to ensure a safer environment for pedestrians/future residents of the area. Provide a detailed design of CPTED principles explained through diagrams for the entire development.	• CPTED principles have been incorporated into the concept design. This is discussed in Section 5.4 and the Design Statement at Appendix N.
Housing diversity and social interaction	
The Panel notes that the proposed design has good potential to incorporate an element of affordable housing within the development, and recommends the applicant to consider where this could be incorporated as part of this proposal.	• There is currently no mechanism for delivery of affordable housing under the Liverpool LEP or the State Significant Precincts SEPP. This approach is consistent with the approach taken for the wider Edmondson Park Town Centre. • It is considered that the housing delivered within the site will be affordable in the context of the Sydney region.
Aesthetics	
The Panel recommends the applicant provide an outline of the materiality being considered for the project, and advises the applicant to consider appropriate materials and finishes that will survive the harsh weather conditions prevalent in the western Sydney region.	• The Concept DA includes indicative building and façade design and outlines high quality materials which includes brick, metal panels, concrete and glass. • Detailed materials and finishes will be specified with detailed DAs.
The Panel recommends the applicant to consider solid balustrades (to a minimum of 760mm above the FFL) for lower levels as part of the design to ensure privacy and appropriate street presentation.	• This can be addressed with detailed DAs.
The Panel requires a range of architectural expressions be included across the entire project to bring a variety in architectural expression but achieved in such a way, so the development reads as a cohesive whole.	• These comments are addressed previously in this table under the heading Built Form and Scale.

5 Statement of Environmental Effects

5.1 Impacts on adjoining properties

To the south and west the site adjoins the wider Town Centre North. The proposal has been designed to minimise impacts and retain development potential of these areas. For Landcom's development sites which directly adjoin the site setbacks have been applied to enable future development to achieve ADG separation distances. For the land to the west there would be no overshadowing impacts after 9am. However, as would be expected the land to the south would experience greater overshadowing impact as a result of the proposal. To minimise these impacts the built form steps down towards this boundary to be predominantly four storeys adjacent to future building envelopes. Further, should the height limit on this land be increased it will be able to take advantage of enhanced solar access at the upper levels.

To the north and east there will be minimal impacts as these areas will adjoin the proposed riparian open space to be dedicated to Council, providing a significant separation distance to adjoining sites.

Visual impacts on the surrounding area are also expected to be minimal. The proposed built form and character will be generally consistent with the future development of the land within the wider town centre, but will be significantly lower in height if the 50m height limit on the Landcom land is approved. Further the proposed riparian open space to the north and east of the development area will form a buffer to areas beyond which are proposed to be developed for low density residential.

5.2 Residential amenity

The proposal can achieve a high level of residential amenity and can comply with key Apartment Design Guide (ADG) criteria including:

- 80% of apartments achieve a minimum of 2 hours of solar access in midwinter, exceeding the requirement of 70%
- 78% of apartments can achieve cross ventilation, meeting the ADG requirement
- The layout demonstrates compliance with ADG separation distances
- All developments sites include a minimum of 50% of the site area communal open space exceeding the requirement of 25%
- Each development sites can achieve a minimum of 2 hours solar access to between 45%-73% of the communal open space in midwinter
- All development sites provide a minimum 7% deep soil consistent with the ADG requirement, and additional deep soil is provided within the public domain
- ADG floor to ceiling heights can be achieved
- Apartments meet minimum apartment sizes
- Minimum balcony and private open space requirements can be met.

Further analysis against the Apartment Design Guide, including of individual apartments layouts will be provided with future DAs.

5.3 Tree canopy cover

A Landscape Plan has been prepared (Appendix B) which seeks to maximise opportunities within streets and open space, as well as within rooftop communal spaces to reduce heat and provide shading. This includes significant tree canopy cover planning which can achieve a tree canopy cover of 34.2% within the entire landholdings and 33.3% within the developable area (see Figure 45). This significantly exceeds the

25% target for medium and high density areas in the NSW Government Architect draft Greener Places Guideline.

Figure 45: Tree canopy cover

5.4 Safety and security

The Concept DA has been developed with regard to creating a safe and secure environment for future residents and visitors. The *Crime Prevention and the Assessment of Development Applications Guideline* (2001) sets out four CPTED principles to be used in assessing development applications to ensure that developments do not create or exacerbate crime risk. These principles are set out below along with a consideration of the proposed development against these principles.

CPTED Principles	Consideration
Surveillance The attractiveness of crime targets can be reduced by providing opportunities for effective surveillance, both natural and technical. Good surveillance means that people can see what others are doing. People feel safe in public areas when they can easily see and interact with others. Would be offenders are often deterred from committing crime in areas with high levels of surveillance. From a design perspective, 'deterrence' can be achieved by: • Clear sightlines between public and private places,	The proposal seeks to enhance passive surveillance across the site through location of active retail / commercial facades in the areas closest to the station and through ground floor apartments with private open space facing the street in other areas of the site. Balconies at the upper levels overlooking the street will also enhance passive surveillance. The movement network has been developed to maximise wayfinding and visual connectivity with a grid network of streets and pedestrian connections. The central north-south open space provides for 24m separation between the buildings providing a

CPTED Principles	Consideration
• Effective lighting of public places • Landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.	generous space as well as clear site lines between Bernera Road and Buchan Avenue. This area is also overlooked by ground floor private open space and upper level balconies. The east-west pedestrian connection provides for minimum widths between buildings of 12m with much more generous spaces for the majority of the link. There are also clear visual linkages through this connection to and from adjacent roads providing for perceived safety. The landscaping will create attractive spaces, and a mix of larger trees and lower vegetation will be used to ensure visual linkages are maintained.
Access control Physical and symbolic barriers can be used to attract, channel or restrict the movement of people. They minimise opportunities for crime and increase the effort required to commit crime. By making it clear where people are permitted to go or not go, it becomes difficult for potential offenders to reach and victimise people and their property. Illegible boundary markers and confusing spatial definition make it easy for criminals to make excuses for being in restricted areas. However, care needs to be taken to ensure that the barriers are not tall or hostile, creating the effect of a compound. Effective access control can be achieved by creating: • Landscapes and physical locations that channel and group pedestrians into target areas • Public spaces which attract, rather than discourage people from gathering • Restricted access to internal areas or high-risk areas (like carparks or other rarely visited areas). This is often achieved through the use of physical barriers.	Access controls will be used within the site to clearly define the interface between private and public spaces. The boundary between publicly accessible areas and resident communal spaces will be clearly defined by fencing and landscaping. The public space and through site links will be also clearly defined by paving treatments and complimented by wayfinding measures and signage. The public and communal spaces within the site are proposed to have high quality landscaping and embellishments including facilities to attract people to use the spaces such as play equipment and seating. Access to residential lobbies, communal open space and basements will be restricted through use of electronic key / pass access. Further detail on the access arrangements on site will be defined with future DAs.
Territorial reinforcement Community ownership of public space sends positive signals. People often feel comfortable in, and are more likely to visit, places which feel owned and cared for. Well used places also reduce opportunities for crime and increase risk to criminals. If people feel that they have some ownership of public space, they are more likely to gather and to enjoy that space. Community ownership also increases the likelihood that people who witness crime will respond by quickly reporting it or by attempting to prevent it. Territorial reinforcement can be achieved through: • Design that encourages people to gather in public space and to feel some responsibility for its use and condition • Design with clear transitions and boundaries between public and private space	Community ownership of public spaces within the development will be created through the delivery of high quality, usable spaces with facilities which encourage regular use of the spaces. As outlined under territorial reinforcement clear delineation of public and private spaces will also be important in achieving this principle. The provision of adequate lighting within the public domain, communal space and basement car parks will also be important to ensure a sense of safety within the spaces.

CPTED Principles	Consideration
• Clear design cues on who is to use space and what it is to be used for. Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.	
Space management Popular public space is often attractive, well maintained and well used space. Linked to the principle of territorial reinforcement, space management ensures that space is appropriately utilised and well cared for. Space management strategies include activity coordination, site cleanliness, rapid repair of vandalism and graffiti, the replacement of burned out pedestrian and car park lighting and the removal or refurbishment of decayed physical elements.	To ensure that this principle is achieved it will be important that the building is well managed and maintained over the long term and that there is appropriate response to building repairs and graffiti removal.

5.5 Traffic and parking

A Traffic Impact Assessment has been prepared by Traffix (Appendix D) which is summarised under the relevant headings below.

5.5.1 Traffic impact

The site has excellent access to public transport being located within 100m of the Edmondson Park Station which provides services on the T2 Inner West and Leppington Line and the T5 Cumberland Line connecting the site to the Sydney CBD, Parramatta and the wider rail network. It is also accessible to bus services which provide connections to Liverpool town centre and surrounding suburbs with more bus services becoming available as the area is further developed.

The excellent access to public transport, and access to services and facilities within the town centre will support a high level of sustainable travel mode share and reduce impacts on the road network. Further traffic modelling will be undertaken with future DAs.

5.5.2 Car parking

Car parking is proposed to be provided in accordance with the RMS rates for Metropolitan sub-regional centres for high density residential flat buildings. This approach is consistent with the Apartment Design Guide for sites within 800m of a train station.

For retail uses the proposed rates are consistent with the draft Landcom Town Centre North Design Guideline and the Edmonson Park Frasers Town Centre Design Guideline. Childcare carparking rates are consistent with the Edmonson Park Frasers Town Centre Design Guideline.

It is noted that the Edmondson Park South DCP does not set car parking rates except for low density residential development.

The proposed rates are summarised below:

- 0.6 spaces per 1 bedroom unit
- 0.9 spaces per 2 bedroom unit
- 1.4 spaces per 3 bedroom unit
- 1 space per 5 units (visitor parking)
- 4.1 spaces per 100sqm of lettable floor area for retail uses

- 1 space per 10 children and 1 space per 2 staff members.

The proposed car parking rates are lower than identified in the Liverpool DCP which are as follows, however this is considered appropriate given the sites's accessibility to public transport.

- 1 space per 1 bedroom unit
- 1.5 spaces per 2 bedroom unit
- 2 spaces per 3 bedroom unit
- 1 space per 4 units (visitor parking)
- 4.1 spaces per 20sqm of lettable floor area for retail uses
- 1 space per 10 children and 1 space per staff member.

This proposal includes 844 car parking spaces within basement levels ensuring an adequate supply of parking noting the site's accessibility to public transport.

5.5.3 Bike and motorcycle parking

Bike parking and motorcycle parking are proposed to be provided in generally in accordance with the draft Landcom Town Centre North Design Guideline and the Frasers Town Centre Design Guideline. The proposed rates are summarised as follows:

- Bike parking:
  - Residential: One space per dwelling (can be provided within a storage cage allocated to that dwelling or within a shared facility)
  - Retail staff: 1 space per 10 staff or 1 space per 200sqm GFA whichever is greater
  - Retail visitors: 2 plus 1 space per 100sqm GFA
- Motorcycle parking:
  - Residential: 1 space per 20 car spaces.

The provision of bike and motorcycle will be further detailed at the DA stage.

5.5.4 Access

The Traffic Assessment notes that all vehicular accesses will need to be provided in accordance with AS2890.1 (2004) and AS2890.2 (2018). It provides swept path analysis to show that a 9.9m long waste collection vehicle can access the basement. It also notes that sufficient ramps will need to be provided noting that a 9.9m waste vehicle will be accommodated from ground floor to Basement 1 and all other basement levels for light vehicles only. These requirements have been incorporated into the Concept DA drawings and detailed review of basement car parks will be undertaken with subsequent DAs.

5.6 Social impacts

A Social Impact Assessment has been prepared by Hill PDA (Appendix E) which aligns with the Liverpool Council Social Impact Assessment Policy 2020. The policy follows the NSW DPIE Social Impact Assessment Guidelines which outlines nine key areas of potential social impact being:

- Way of life
- Community
- Access to infrastructure services and facilities
- Culture
- Health and wellbeing
- Surroundings

- Personal and property rights
- Decision-making systems
- Fears and aspirations.

The Social Impact Assessment aims to identify positive and negative social impacts associated with the development, and recommend mitigation measures to maximise social benefits and minimise negative impacts.

Negative impacts identified where largely considered to be of low significance and the following measures were identified to mitigate these impacts:

- Develop and implement construction management plan to limit any potential disruption impacts
- Noise attenuation measures and construction materials in line with recommendations of an acoustics report (to be prepared at DA stage)
- Provide opportunities for residents to meet and interact either within the development itself or the wider town centre
- Incorporation of CPTED principles in development
- Events to foster community interaction within the development and new residents' kits
- Ensuring that residents have access to appropriate cultural services, supported by access to relevant council's materials.

A number of these matters can be addressed through subsequent DAs including construction management and noise attenuation measures. CPTED principles have informed the Concept DA proposal as discussed in Section 5.3 of this report and would be further investigated in subsequent DAs. However, other mitigation measures are considered to be outside the development assessment process.

The only potential impact which was considered to have a higher level of significance was the increased demand for local services, including open space, health care, education, childcare and community facilities, noting that there are few services presently located in the area. This was considered to have high significance. The assessment recommends that this can be mitigated through provisioning for future services to allow for capacity to be expanded with population growth. It notes that the introduction of facilities with the planned Town Centre, particularly nearby additional schools, will assist in addressing the increased demand for community facilities.

In regard to infrastructure delivery the assessment estimates the proposal will generate demand for 3.7ha of open space, seven new childcare places and six new out of school hours care places, but does not trigger the demand for new schools or community facilities.

In terms of open space, the proposal would result in the dedication of over 1ha of riparian open space as well as areas of publicly accessible open space within the development. The Social Impact Assessment notes that the wider Edmondson Park Master Plan provides for 201ha of various types of open space, which along with open space planned within the site will provide for the needs of future residents. This includes the planned delivery of nine parks and open spaces within the Edmondson Park South Precinct as part of the Edmondson Park South Precinct Infrastructure Services Delivery Plan 2015.

The proposal seeks to meet demand for additional childcare places through the identification of a childcare facility within the Concept DA.

The Social Impact Assessment also highlights that:

- Future planning is underway for new primary and secondary public schools in Edmondson Park

- The need for a multipurpose community facility has been identified through the planning for the Landcom Edmondson Park Town Centre North site.

Accordingly, it is expected that access to schools and community facilities will significantly improve in the future.

The proposal will also generate additional local infrastructure contributions which will support the wider delivery of open space, community facilities and other infrastructure items.

The Social Impact Assessment concludes that a number of potential benefits will arise from the development include:

- Substantial provision of housing in a growing urban area
- Additional economic activity on site, which will assist with the economic viability of the wider Town Centre
- Improved work-life balance for residents in the region where commutes are typically longer through the creation of local employment opportunities
- Improvements to the public domain through the creation of additional aesthetically appealing pedestrian thoroughfares through the site and passive outdoor spaces throughout, adding to the amenity for residents and workers within the development and to the overall amenity of the wider Edmondson Park Town Centre.

5.7 Flooding and stormwater

A Stormwater Management Report has been prepared by Stantec outlining the conceptual stormwater management design for the proposed development (Appendix F).

The Report notes that council is proposing to undertake modifications and realignment of Maxwells Creek which runs through the northern part of the site to allow for construction of Bernera Road / Macdonald Road through the site. The works also include construction of flood storage basins which will have added bio-retention function for low flows. The design of the road and drainage infrastructure has been based on the creek realignment works proposed by Council's concept design (see Figure 46).

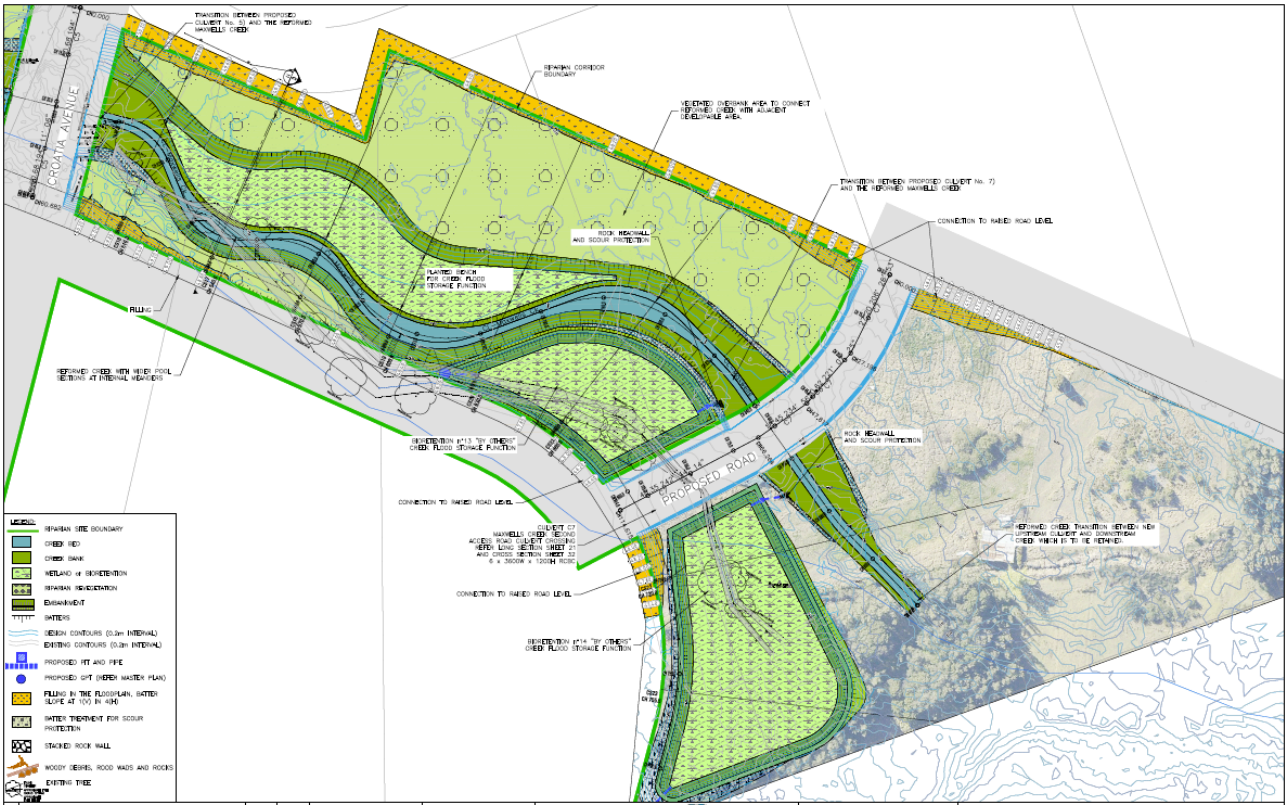

Figure 46: Concept Design – Maxwells Creek drainage works

The Report includes a flood assessment which concludes that the development will not be impacted by flooding or impact on existing flood levels as summarised below:

- The lowest proposed road level on the section of MacDonald Road adjacent to the creek will be RL47.91m. At this point the 100 year flood level will be approximately RL47.73m which means that the roads will be above the 100 year flood level and the developable portion of the site will not be impacted by flooding through Maxwells Creek.
- The stormwater management for the development has been designed so as not to increase discharge from the site in all design storms, therefore it can be concluded that there will be no adverse impacts on existing flooding caused by the drainage of stormwater from the development.

The key aspects of the proposed stormwater management are outlined below:

- The in-ground drainage has been designed to meet the following criteria:
  - In the minor design storm event (5-year ARI storm) there will be no surcharging of the in-ground drainage system
  - In the major design storm event (100 year) there will be no uncontrolled discharge from the site.
- Surface runoff from the development site will be directed to stormwater inlet structures using the design topography of these elements. The inlet structures have been designed to adequately convey the surface runoff into the in-ground drainage network. The runoff will then be conveyed through a pit and pipe system to the legal point of discharge using gravity and the geometric falls of the pipe system.
- The site will discharge to the proposed Council bioretention basins.
- Stormwater runoff will be maintained at pre-development flows for all design storms by means of on-site detention.

The Stormwater Management Report calculates required stormwater detention for each of the four stages / development sites. These detention requirements will be incorporated with future DAs.

5.8 Aboriginal heritage

An Aboriginal Heritage Due Diligence Assessment has been carried out by Ecological Australia (Appendix G). The assessment included relevant database searches, a review of previous studies and a site inspection.

Desktop assessment identified a previously registered artefact site as occurring within the southeast corner of the study area. Additionally, the site inspection identified an additional artefact associated with this previously registered site, as well as areas of archaeological potential within the eastern portion of the study area.

The assessment highlights that the proposed works will impact on portions of AHIMS 45-5-3909 and areas of archaeological potential, noting that all areas of the site located south of Maxwells Creek are considered to possess moderate archaeological potential.

The assessment recommends preparation of an Aboriginal Cultural Heritage Assessment (ACHA) which would include an impact assessment of the proposed development, including Aboriginal community consultation following the 'Aboriginal cultural heritage consultation requirements for proponents 2010' (DECCW 2010). It also notes that where Aboriginal sites cannot be avoided an Aboriginal Heritage Impact Permit would be required. Heritage NSW require that AHIP applications are supported by an approval under Part 4 or Part 5 of the *Environmental Planning and Assessment Act 1979* (such as a DA) as a supporting document.

Accordingly, an ACHA will be prepared alongside future development applications and where necessary an AHIP sought prior to construction.

5.9 Waste management

A Waste Management Plan has been prepared by Elephants Foot to support the Concept DA (Appendix H).

The Plan estimates the waste and recycling waste that would be generated by each building based on the waste generation rates in the Liverpool DCP and calculates the necessary waste storage space and any necessary bin lifting equipment. Requirements have also been calculated for bulky waste rooms based on Council guidance that 6sqm is to be provided for the first 26 units then 4sqm for every ten units (or part thereof) after that. The Plan assumes a single chute will service each building with a cupboard next to each chute access door for 1 x 240L bins.

The specified waste management and storage requirements have been incorporated in the Concept DA plans including through allocation of space within the floor plans and basement plans.

5.10 Geotechnical

A Geotechnical Assessment has been carried out by EI Australia (Appendix I) which highlights that the subsurface conditions at the site comprises topsoil and residual soils which are underlain by shale and sandstone.

It highlighted the following main geotechnical issues for the proposed development:

- Basement excavation and retention to limit lateral deflections and ground loss as a result of excavations resulting in damage to nearby structures,
- Rock excavation

- Groundwater within the depth of the excavation
- Foundation design for building loads.

The assessment outlined detailed construction requirements including an excavation methodology and monitoring, groundwater considerations, pavement design and outlines additional work to be carried out prior to construction.

The recommendations of the geotechnical report would be implemented prior to and during construction works as necessary.

5.11 Contamination

A Detailed Site Investigation has been prepared by EI Australia to consider site contamination (Appendix J). The investigation included a review of historic records, searches of EPA records and soil sampling. The investigation found that the site was free of EPA statutory notices and was not on the list of NSW contaminated sites. The soil testing identified sub-surface layers comprising a layer of top soil overlying natural clays. It did not identify any contamination exceeding adopted criteria for human health or ecological function and asbestos was not identified.

The investigation did not involve a full study of the creek sediments, infrastructure filling and surface water and this area represents a potential zone for land run-off with contamination loading potentially collecting in sediments.

The investigation concluded that the site can be made suitable for the proposed residential and associated land uses.

The investigation recommended a targeted data gap investigation focusing on the north-eastern portion of the site (in the location of a former house) and along the creek be conducted to determine the impact of potential historic demolition and earthmoving activities. Noting that creek realignment works are anticipated, the investigation recommended that prior to any burial, dredging or use of sediments within the creek, an assessment of these sediments be undertaken.

For the remaining areas of the site the investigation recommended the following:

- Waste materials being removed from site as part of the site development are to be classified for off-site disposal in accordance with EPA Waste Classification Guideline
- Any material being imported to the site should be assessed for potential contamination in accordance with EPA Guidelines.

Where further investigations are recommended they would be progressed with future DAs and the recommendations of the Contamination Assessment would be implemented for future excavation works.

5.12 Sustainability

An ESD Report has been prepared by Stantec (Appendix K) outlining sustainability measures which could be applied to the development to enhance the environmental sustainability of future development.

Based on the recommendation of the ESD report the following sustainability commitments are proposed:

- Compliance with BASIX targets
- Exceed the BCA NCC 2019 Section J Energy Benchmarks
- Rainwater capture for onsite irrigation
- Consider the potential for solar noting the limitations presented by rooftop open space

- Inclusion of EV charging points at a rate of 2% of car spaces in the basement carpark
- NABERs rating of 4 stars or above for common area energy and water use
- Achieve a certified Silver rating under the WELL v2 Standard to maximise the wellness characteristics of the development.

Compliance with these targets will be demonstrated for future DAs.

5.13 Bushfire management

A Bushfire Protection Assessment has been prepared by ABPP (Appendix L) as the site includes land which is identified as Category 1 Bushfire Prone Vegetation and associated buffer zone.

The assessment notes that the site would need to be assessed as integrated development for the purposes of the EP&A Act, to which the provisions of the Rural Fires Act 1997 apply.

The assessment considers the provisions of Planning for Bushfire Protection 2019, including the identification of asset protection zones (APZs) to vegetation on surrounding land including the following:

- Existing vegetation and planned revegetation works along the Maxwells Creek Riparian Corridor within the RE1 zoned land within the site requiring an 11m APZ
- Vegetation including Cumberland Plain Woodland on the E1 Environmental Protection zone to the south east of the site requiring an APZ of 24m

The assessment notes that the proposed Concept DA can accommodates these APZs within the road reserves and building setbacks.

The assessment recommends for the proposed road network:

- A minimum pavement width for the perimeter road of 8.0m
- A minimum 5.5m width for internal roads.

Compliance with these requirements is demonstrated in the street cross sections including a 10.3m pavement width clear of car parking for the perimeter road and minimum 6m pavement width for all other roads.

The assessment also highlights construction standards that would need to be applied to buildings within proximity of the bushfire hazard, which would be addressed at construction stage.

The concept DA demonstrates it can comply with the recommendations of the assessment, with further assessment to be carried out with subsequent DAs.

6 Conclusion

The Concept DA is consistent with the relevant provisions of the SSP SEPP including the maximum FSR of 2:1. However, the proposal seeks to vary the height limit of 24m in a number of locations by up to 6.8m. Clause 28 of the SSP SEPP sets out provisions for the variation of development standards. To satisfy this requirement a separate height variation request has been prepared.

In summary, the variation is considered to be acceptable as it will support greater height and built form variations across the site allowing for a mix of lower rise buildings of 4-6 storeys along with taller 7-8 storey buildings, whilst maintaining the overall floor space potential. This approach will provide for an enhanced urban design outcome by increasing visual interest through a varied built form and by allowing height to be distributed across the site to maintain a human scale at the street level and minimise overshadowing of apartments and open space.

The proposal has been considered against the *draft Landcom Town Centre North Design Guidelines* which is currently being assessed as part of a proposed modification to the Edmondson Park South Part 3A Concept Plan as well as the *Edmondson Park South Development Control Plan 2012.* The proposal is generally consistent with the relevant controls set out in these documents.

The proposed development has also been assessed in accordance with the matters outlined in Section 4.15(1) of the Environmental Planning and Assessment Act 1979.

The environmental assessment undertaken as part of this SEE demonstrates that the proposal can appropriately mitigate all impacts as follows:

- The proposed built form and character will be generally consistent with the future development of the land within the wider town centre, but will be significantly lower in height if the 50m height limit on the Landcom land is approved.
- The proposed riparian open space to the north and east of the development area will form a buffer to areas beyond which are proposed to be developed for low density residential.
- Overshadowing impacts on adjacent land have been minimised. In particular the built form steps down towards the southern boundary to be predominantly four storeys adjacent to future building envelopes. Should the height limit on the adjacent land be increased future development on this land will be able to take advantage of enhanced solar access at the upper levels.
- The proposal can achieve a high level of residential amenity including through compliance with key Apartment Design Guide (ADG) criteria.
- Tree canopy cover of 34.2% within the entire landholdings and 33.3% within the developable area can be achieved reducing heat and provide shading.
- The proposal has been informed by CPTED principles with future development benefiting from a high level of passive surveillance over the street and public domain as well as a clear delineation of public, communal and private space and clear wayfinding measures. Further consideration of CPTED principles will be applied for future DAs.
- The site has excellent access to public transport and access to services and facilities within the town centre which will support a high level of sustainable travel mode share and reduce impacts on the road network. Further traffic modelling will be undertaken with future DAs.
- Car parking is proposed to be provided in accordance with the RMS rates for Metropolitan sub-regional centres for high density residential flat buildings. This approach is consistent with the Apartment Design Guide for sites within 800m of a train station. For other uses rates consistent with the draft Landcom Town Centre North Design Guideline are proposed.

- Bike parking and motorcycle parking are proposed to be provided in accordance with the draft Landcom Town Centre North Design Guideline.
- A Social Impact Assessment has confirmed that the proposal will result in a number of social benefits and that an appropriate level of services and facilities is provided within the development and planned for delivery within the wider Edmondson Park area. This includes the dedication to Council of 12,631sqm of riparian open space zone.
- A Stormwater Management Report has confirmed that the development will not be impacted by flooding and that the stormwater management has been designed so as not to increase discharge from the site in all design storms ensuing there will be no adverse impacts on existing flooding caused by the drainage of stormwater from the development.
- An Aboriginal Heritage Due Diligence Report has highlighted that the proposed works will impact on a previously registered artefact site and areas of archaeological potential. Accordingly, an Aboriginal Cultural Heritage Assessment (ACHA) will be prepared alongside future DAs and where necessary an Aboriginal Heritage Impact Permit sought prior to construction.
- A Waste Management Plan has been prepared to inform the waste management and storage requirements which have been incorporated in the Concept DA including through allocation of space within the floor plans and basement plans.
- A Geotechnical Assessment has been prepared which identifies that the soil conditions are suitable for the proposed development and outlines measures which would be implemented at construction stage.
- A Detailed Site Investigation has been prepared which concluded that the site can be made suitable for the proposed residential and associated land uses. The investigation recommended a targeted data gap investigation focusing on the north-eastern portion of the site (in the location of a former house) and along the creek be conducted to determine the impact of potential historic demolition and earthmoving activities. These investigations would be progressed with future DAs.
- An ESD Report has been prepared which has informed the following sustainability commitments:
  - Compliance with BASIX targets
  - Exceed the BCA NCC 2019 Section J Energy Benchmarks
  - Rainwater capture for onsite irrigation
  - Consider the potential for solar noting the limitations presented by rooftop open space
  - Inclusion of EV charging points at a rate of 2% of car spaces in the basement carpark
  - NABERs rating of 4 stars or above for common area energy and water use
  - Achieve a certified Silver rating under the WELL v2 Standard to maximise the wellness characteristics of the development.
- A Bushfire Protection Assessment has been prepared which confirms that the proposal can meet the requirements of Planning for Bushfire Protection 2019, including provision of APZs within proposed perimeter roads and building setbacks and that appropriate access requirements have been accommodated.

On the basis of the information outlined in this report the development is considered to be suitable for the site and largely compliant with relevant planning controls. The proposal will support the development of the Edmondson Park Town Centre providing for retail / commercial, housing and supporting uses within close proximity of a train station.

Appendix A Urban Design Study

Appendix B Landscape Concept Plan

Appendix C Height variation request

Appendix D Traffic and Transport Assessment

Appendix E Social Impact Assessment

Appendix F Stormwater Management Plan

Appendix G Aboriginal Heritage Due Diligence Assessment

Appendix H Waste Management Plan

Appendix I Geotechnical Assessment

Appendix J Detailed Site Investigation

Appendix K ESD Report

Appendix L Bushfire Assessment

Appendix M QS Report

Appendix N Design Statement