

Legend

- Site Boundary
 - Existing Major Contour (10m Interval)
 - Existing Minor Contour (2m Interval)
 - Existing Heritage Railway Tracks
 - Proposed F3 motorway RTA Extension
 - Existing Transgrid Easement
 - Existing Energy Australia Easement
 - Existing Dual Power Pole Position (Monteath, 2008)
 - Proposed Electricity Transmission Lines (Monteath, 2008)
 - Existing Creek Line
- Slope Constrained Land**
- Slope 16.6 - 25% (1:6 - 1:4)
 - Slope 25 - 33.3 (1:4 - 1:3)
 - Slope 33.3 - 100% (1:3 - 1:1)
- slope limit for APZs

Figure A.1.2.5. Slope Constrained Land

A.1.3 Concept Plan Overview

The Concept Plan has been developed in response to the opportunities and constraints posed by the site. The proposed urban structure has been influenced strongly by the proximity of the site to the existing Minmi township and the need to integrate the future neighbourhoods with the existing township, including its heritage. Key principles used to guide preparation of the Concept Plan were developed in the early phases of the project. They include:

- Protecting creeks and drainage lines within riparian corridors;
- Protecting the scale and character of housing near to Minmi village;
- Incorporating heritage items and places of significance within the overall concept design;
- Ensuring a permeable network of streets and pathways;
- Ensuring that the majority of dwellings are within a 400m radius of a local park or recreation area and are close to local public transport;
- Minimising potential stress on existing education infrastructure through the introduction of a new school precinct outside of Minmi;

- Providing mixed-use and higher residential densities around the existing township of Minmi and the proposed school south of the Newcastle Link Road;
- Retaining Woodford Street and Minmi Road as the primary streets servicing the area;
- Minimising cut and fill through inclusion of street and block patterns that follow contour lines;
- Ensuring a range of housing types are provided within each precinct.

These principles have been translated into a Concept Plan that seeks to achieve a balance between environmental, social and economic issues. Key features of the Concept Plan include the following:

Urban Precincts and Characters

Five unique precincts have been identified within the development footprint. These precincts have been defined based on their relationship with existing urban areas and the surrounding environment. The urban structure and form of these precincts have been designed to ensure key attributes and features of the existing landscape will be incorporated into any future development. The five precincts are:

1. **Minmi East:** located between existing Minmi township and The Outlook, will act as a “gateway” to the Minmi area from the east.

2. **Minmi Extension:** located west of existing Minmi township incorporating existing heritage Garden House and Workshop Parks.
3. **Village Centre:** located in the centre of the site, proposed as a new activity hub for the area.
4. **Link Road North:** located along the northern boundary of the Newcastle Link Road, acting as a “gateway” to Minmi and future development to the north.
5. **Link Road South:** the only precinct located south of the Newcastle Link Road, including a connector road linking the proposed development with Cameron Park and other future developments.

Connectivity, Access and Movement

The main access to the development will be via the proposed Minmi Boulevard, which links with Newcastle Link Road at the southern end and Woodford Street at the northern end. Minmi Boulevard will cater for the majority of north-south through traffic. The proposed intersection of Newcastle Link Road and Minmi Boulevard will provide access for the Link Road North Precinct and then continuing south to the Link Road South Precinct via Minmi Road.

Open Space Network

A large proportion of the 520Ha site will become new public parkland comprised of:

- Three neighbourhood parks located within the proposed precincts;
- Two historically significant parks located in the Minmi Extension Precinct adjacent to the existing village, identified on the Concept Plan as “Workshop Park” and “Garden House Park”;
- A linear park incorporating the heritage walk that aligns with the former railway line located west of the existing Minmi township.
- Garden House Park is located along Woodford Street in an existing clearing and will include public art that interprets the mining history of the area;
- An open space network of riparian corridors;
- Bushland reserves dedicated in periphery areas around the development footprint, combining buffer zones, conservation lands and bushfire asset protection zones.

A.1.3 Indicative Concept Plan

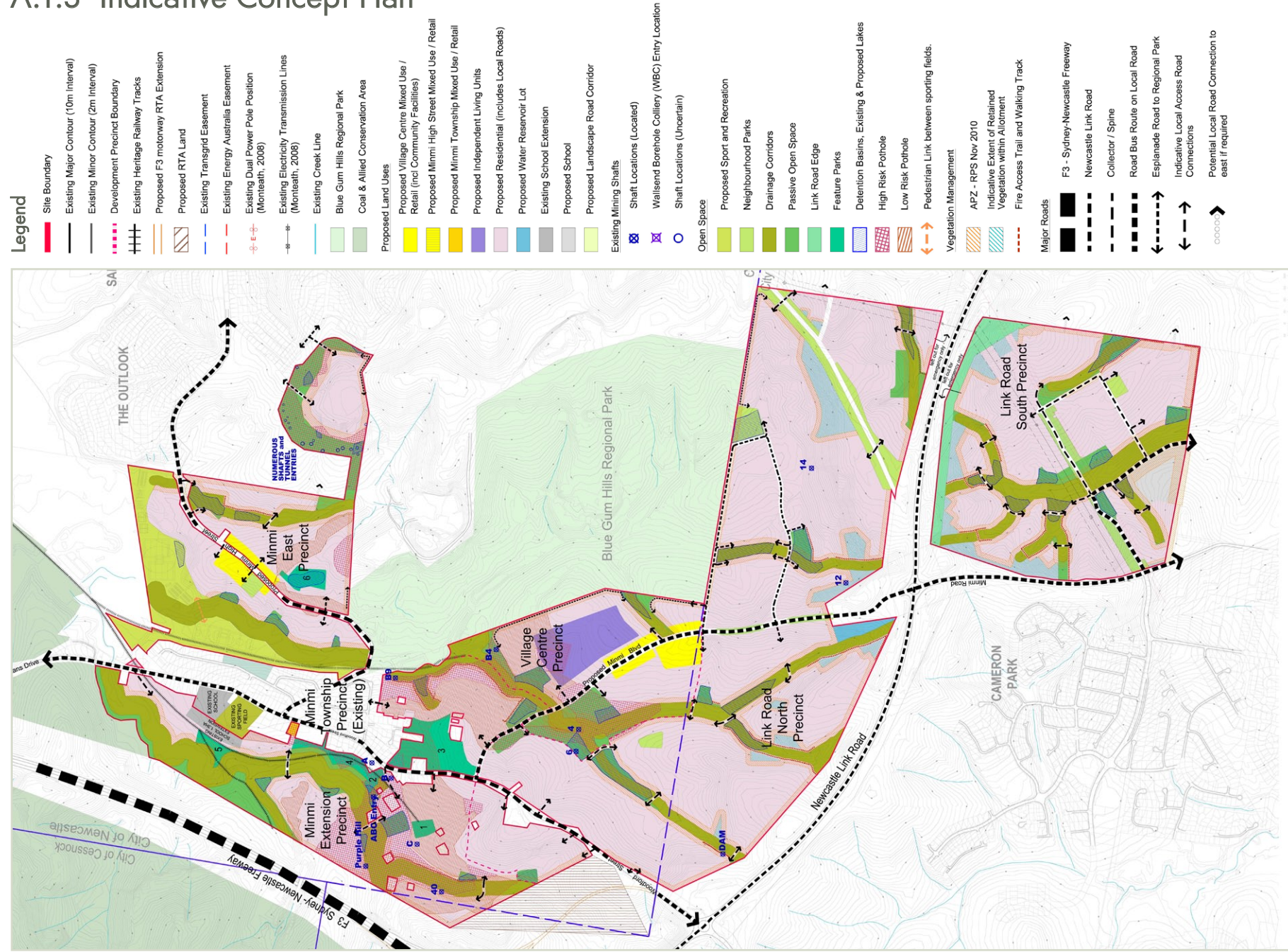


Figure A.1.3. Illustrative Concept Plan

Visual Amenity - Development Principles

The visual amenity of the proposed development, particularly when viewed from existing major roads that surround and bisect the site has been addressed in a number of ways. These major roads are: the F3 Sydney to Newcastle Freeway, the Newcastle Link Road, Minmi Road south of the Link Road and Woodford Street in Minmi township. A discussion of the Visual Impact of the proposal when viewed from the Blue Gum Hills Regional Park, the proposed conservation lands and the existing Minmi Village also follows.

F3 Sydney to Newcastle Freeway

Views from the Freeway to the Minmi Village Extension precinct will be interrupted by noise barriers, roadside cuttings and existing trees located within the current road reserve. These features limit views into the site to oblique glimpses. The concept plan has adopted the following principles to lessen impact upon these brief and indirect view lines:

- Larger lots are proposed in the Minmi Extension Precinct to ensure that tree cover is retained within lots, and that gardens will grow in time to soften the appearance of housing. Housing particularly that close to the Freeway will therefore sit in a landscaped setting;
- Wide bands of vegetation will be retained within riparian corridors framing the development areas and dividing them into smaller pockets of housing. Existing vegetation along drainage corridors will

be supplemented by regeneration of parts of those corridors cleared by previous land use activities. Large areas of open space run adjacent to the freeway corridor preserving existing vegetation and screening out any views of housing closer to Woodford Street.

- Housing in steeper areas through this precinct will respond to the slope reducing disturbance of the existing landform.

Therefore views into the development from the Freeway will be glimpses through retained trees towards a residential area largely screened by existing topography (the precinct occupies the sides of a gully network and therefore slopes down away from the road), and by a mix of retained trees and cultivated planting.

Newcastle Link Road

Views into both the Link Road North and South Precincts from the Link Road are interrupted by existing heavily vegetated embankments by the roadside with brief views down into gully/creek systems within the site. In both precincts vegetation has been preserved within these gullies/creek corridors in public open space. Asset protection zones along the creek corridors push housing further back from the creek lines and the view lines down the gullies.

Areas of retained vegetation on steeper slopes within the site will further interrupt views.

- The Concept Plan has provided a 40m wide

vegetation corridor along the southern edge of the Link Road reserve which adds to the already significant width of the road corridor, thus providing a continuous buffer of existing trees along the road corridor. An acoustic barrier will also be located at the edge of the residential development further screening proposed housing from view.

- The future upgrade of the Link Road (shown in the Link Road cross-sections in the PPR response) will have minimal impact on the cleared width of the road corridor and therefore is unlikely to greatly reduce the depth of existing vegetation in the corridor.

- Finally the major entries into the site from the Link Road (Woodford Street and Minmi Boulevard) are made through areas of significant tree retention thus filtering views into the site and providing green gateways at the beginning of these roads.

As a result views into the site from the Link Road are either blocked by existing cut embankments, retained vegetation and acoustic barriers, or are down tree lined gully systems. Therefore the visibility of proposed housing will be low.

Minmi Road (South of Link Road)

- Views east into the Link Road South Precinct are either along cleared, maintained electricity easements or into the backs of large lots accessed from internal roads at a lower level than Minmi Road. The steep topography along the site boundaries ensures housing

will be located lower down into the site, away from the road.

- The main entrance into the precinct is through retained vegetation between the two electricity easements. This boulevard will also be planted with large trees to reduce the visual impact of the transmission line infrastructure.
- Further views into the Link Rd South Precinct are limited by a foreground of existing trees within the Minmi Road reserve. The development area is also dissected by wide riparian corridors, reducing the apparent mass of housing within the site.
- Some oblique views into the site along the power easements are inevitable and are a result of the existing use of the site.

Woodford Street

This road runs along a ridge heading north from the Link Road into the existing Minmi township. This is a transitional area from the tree lined Link Road into a progressively more urban environment. This implies a significant change from the current undeveloped situation.

However the experience is mitigated by:

- Preserving areas of existing vegetation at the entry into Woodford Street;
- Providing screen fencing and landscape buffering along the road corridor thus containing views into the

site to the foreground;

- The addition of Garden House Park, another significant green relief in the experience of driving into the Minmi township;
- That the topography recedes/ descends either side of the road allowing oblique views over housing down to the open space and riparian corridors to the west of the Minmi township;
- Much of the housing near the top of the slopes either side of the road is lower density and slope responsive;
- Part of Woodford Street is lined by the existing low density housing of Minmi township.
- Over time cultivated planting within lots will help to soften the appearance of the housing on the slopes either side of the road; and
- The major collector roads in the Concept Plan run along ridgelines wherever possible helping to preserve vegetation through buffering along more visible ridgelines and pushing housing further down the slopes and away from the road.

As a result the views into the site will be limited to foreground views of retained trees, new parkland or landscape buffering. Distant views are across lower density housing areas broken by vegetated riparian corridors. This provides a softer transition into the current township and toward the proposed Minmi Village and Minmi East High Street.

In summary the limited visual impact of the proposed development will be minimised from these road corridors by:

- The placement of large lots on steep slopes and the retention of vegetation on these slopes;
- The retention of vegetation on major ridgelines in Link Rd North;
- The retention of drainage corridors and vegetation that in the long term will continue to mature;
- Existing fringe vegetation along major thoroughfares such as Link Rd, and the F3.
- Existing trees retained within Asset Protection Zones;
- Landscape buffering and screen fencing along lower density areas of Woodford Street and Proposed Minmi Boulevard;
- The application of slope responsive housing types on steeper and more elevated parts of the site which are closest to the existing major road corridors;
- Over time as street trees are planted and mature, as well as trees in private lots, views into the development will become softened.

Blue Gum Hills Regional Park

Currently the Regional Park is developed only in the north, in an area near the cemetery. This development is comprised of car-parking, some picnic shelters and a cleared kick'n'throw area. This combined use area (or 'Picnic Area') occupies a west facing slope above Back Creek, the Category 3 stream that runs along the regional park boundary to Hexham Swamp in the north.

The picnic area occupies the more gently sloping, lower part of the hill side, and adjoins the creek. In elevation, the picnic area occupies the lowest third of the slope, running from RL 10 to RL 26 (14m) with the top of the hill side at RL 50. The location has no outlook to the east or north-east, however it does have views north to the Minmi East precinct, West towards the existing Minmi township and the Extension Precinct; and south-west to the Village Centre and Link Road Precincts.

The outlook from the picnic area can be divided into four distinct views:

- 1: North across Minmi Road to the Minmi East Precinct;
2. West to north-west to Minmi township and the Minmi Extension Precinct;
3. South to the Village Centre Precinct located on a broad ridgeline; and
- 4: South-west along existing creek lines to the Link Road North Precinct.

The likely amenity impacts on each of these view-sheds are discussed below:

1: View north to Minmi East Precinct

This view is confined to due north, by the extension of the ridgeline on which the picnic area sits, the ridgeline curving slightly to the west to limit this view.

As such, only a small area of the Minmi East development footprint will be visible. This area of the development sits at the same level as the picnic area and is at least 200m away. Between the picnic area and Minmi Road, an area of existing mature trees surrounds the cemetery, blocking views to the development from both the picnic area and its access road. Riparian vegetation is regrowing and will be supplemented by further revegetation and will close any further views of this precinct. Therefore the visual impact of this part of the development when viewed from the picnic ground and its entry road will be negligible.

2: View west to North-west to Minmi and Minmi

Extension Precinct

The existing Minmi township is not part of the proposal and is currently visible from the picnic area. However revegetation of the banks of the creek running along the Park boundary will help to filter or screen any views from lower elevations. The elevated knoll, due west of the picnic area, has on its crest, three existing residences accessed via Reservoir Road, and the site of Garden House Park. These uses pose no worsening of the existing view from the park.

The east facing slopes of this knoll are visible from the picnic area. Lots are proposed on this slope,

close to the existing track (a proposed road) running around the slope. On the high side of this road houses are likely to extend up to RL 50, though these will be few in number, with most at a much lower level. Those lots on the downhill side of the new road will contain extensive areas of revegetation managed as APZs in the lots (extending from approx. RL 22 to RL 24/28) and a 40m wide revegetated riparian corridor (extending from approx. RL 10 to RL 22). This area contains trees at present and with revegetation will provide a vegetated cover on the slope 14 to 18m in height plus the height of the vegetation. The top of the picnic area is around RL 26. Given the mature height of the vegetation, views to the houses will be filtered or heavily screened by vegetation depending on the viewing level in the picnic area. Locating Garden House Park on the crest of the hill has also mitigated further impact there.

3: View south to the Village Centre Precinct

Views into this precinct will be limited by existing vegetation along the Back Creek Corridor together with revegetation of a widened riparian zone, and by existing vegetation within the Regional Park itself.

Immediately south of the picnic ground is a small vegetated rise that is higher than most of the picnic ground limiting views to the foreground and further screening the development.

Given the Village is elevated there may be some limited views of the upper most parts of the retirement site. However this is a very small area of the development

and being located on a hill helps to screen out views of the development beyond. The Village is also in excess of 500m from the picnic ground and therefore not likely to be prominent in the view. The village will be single storey buildings only and will contain perimeter landscape and amenity landscape within the site that will soften its appearance.

4: View south-west to the Link Road North Precinct

This view is made along the creek line/gully system extending back into the development site (the western branch of Back Creek). The view corridor is constrained by the Reservoir Road knoll, described in 2 above, and by the ridge on which the Village Centre precinct lies. These landforms, located 600m from the picnic area, limit views in this area to the western-most tributary of Back Creek. This area will have housing on slopes either side of the creek. The views of this area are oblique and limited to the middle to upper parts of the slopes by existing vegetation retained along the creekline and further revegetation of the riparian corridors. The small rise described in 3 above, and its vegetation will further limit views west from lower levels of the picnic area. Therefore views south-west into the development will be apparent only in the more elevated areas of the picnic ground and are distant views, 1.3 to 1.4km away. Visual impact on the view corridor is likely to be minor and lessening as vegetation planted through the development grows to maturity.

Potential Impact on further recreation areas recognised in the Regional Park Plan of Management

The Plan of Management identifies a number of primary use areas for development within the park. These areas are the picnic ground discussed above, the event space in the existing quarry, the adjoining lookout, picnic areas (parkland settings) and a lookout in the centre of the park. The main focus of activity is the event space and playground, both located in the north of the park. The majority of the park is comprised of various revegetated habitats intersected by walking trails. The topography of the park is a basin with an array of minor tributaries to Back Creek. Elevation increases towards the eastern, southern and south-western edges of the park.

Views from walking trails through the park will therefore be contained within the park and the experience will be unaffected by the proposed development. Adjoining development will become apparent as paths leave the park. Initially while vegetation regrows, parts of the development area south of the park may be visible from the more disturbed/degraded areas of the park. Given this area is not planned for development for 14 to 21 years, the vegetation will have time to establish and to screen these views.

The event area is located in a quarry and therefore its views are contained, and not toward the site. Limited, filtered views may be had of the eastern most area of the Minmi East Precinct adjoining Kinston Fletcher.

The adjoining lookout will have expansive views in

all directions, including the western urban areas of Newcastle and out to the western ranges. These views will include existing urban areas, rural paddocks, and natural forested conservation areas. The proposed development will form an immediate foreground to views west to Stockrington and the forested hills. The site's topography means that views of the site will be broken by the Woodford Road ridgeline, obscuring housing to the west of this road. Housing areas east of Woodford Road will be visible and will comprise the foreground of the view west. The impact on the view to the ranges has been reduced by wide riparian corridors, retaining vegetation on steep slopes, and softening of the appearance of housing over time by estate landscaping. The character of the view will be similar to that of existing suburban areas to the north-east.

Two other lookouts are located on the Eastern Perimeter of the park, these are higher than the lookout adjoining the event space (RLs 92 and 100, instead of RL 62), but are further away from the development site.

The park itself forms the foreground for these views and the development site, part of the middle ground, 1.5km away. As the topography rises up from the park to the southern and western site boundaries the Link Road North Precinct will be clearly visible from these lookouts. The site is intersected by Riparian Corridors and retained vegetation on steeper slopes. This will serve to break up the visual mass of the development, and its effect on the view. The eastern most area of Minmi East will be visible from the northernmost lookout but its impact will be small, having a small footprint,

with a small number of houses surrounded by a band of existing trees.

Picnic areas/parkland settings are scattered throughout the central and western parts of the park. These sit at lower elevations and are likely to have views contained within the park. Those settings along the western edge of the park adjoin the proposed Village Centre Precinct, and sit in a transitional area from an urban to a natural character. These spaces are an extension of the urban areas rather than being purely natural. Given they are highly accessible from surrounding neighbourhoods and likely to be well used, it is important that these spaces are visible from adjoining urban areas (for passive surveillance/safety reasons). Therefore housing will be visible from these settings.

Proposed Conservation Lands

Views of the proposed residential development will be available from ridgetops in the proposed Stockrington conservation lands. Elsewhere views will be blocked or filtered by landform and existing tree cover. On the ridgetops, views are likely to be obstructed by trees. Again, the breaking down of the development's visual mass by wide riparian corridors and retained vegetation on steeper slopes, and the growth of cultivated plantings in parks, streets and private gardens will soften the appearance of the housing from the ridgetops.

Views from the proposed conservation land north of the existing Minmi village will be confined to the existing

Minmi village as the proposed residential development is located beyond that part of the existing village east of Woodford Street. A small number of large lots in the Minmi Extension Precinct, immediately south of that conservation land will be screened by riparian and estate vegetation.

The Existing Minmi Village

Minmi village occupies the northern slope at the end of the ridgeline along which Woodford Road runs. This ridgeline and the knoll discussed above obstruct views of the development. Garden House Park ensures the top of this ridge is occupied by green space with development restricted to the slope behind.

The Minmi Extension Precinct is visible from the village, however lot sizes in this precinct are larger and housing is to be sympathetic in character to the existing village. The precinct is intersected by riparian corridors that will in time obscure the view of proposed housing. The Extension Precinct has been specifically designed to address the view shed from the existing village and to ensure development is sympathetic to the existing character.

The Minmi East Precinct will also be visible from the village but will be largely screened by revegetation of the riparian corridor of Back Creek, over time.

In summary we consider the development has sought to mitigate impact of the development on the visual amenity of the adjoining public spaces, and given its

A.1.4 Indicative Lot Layout

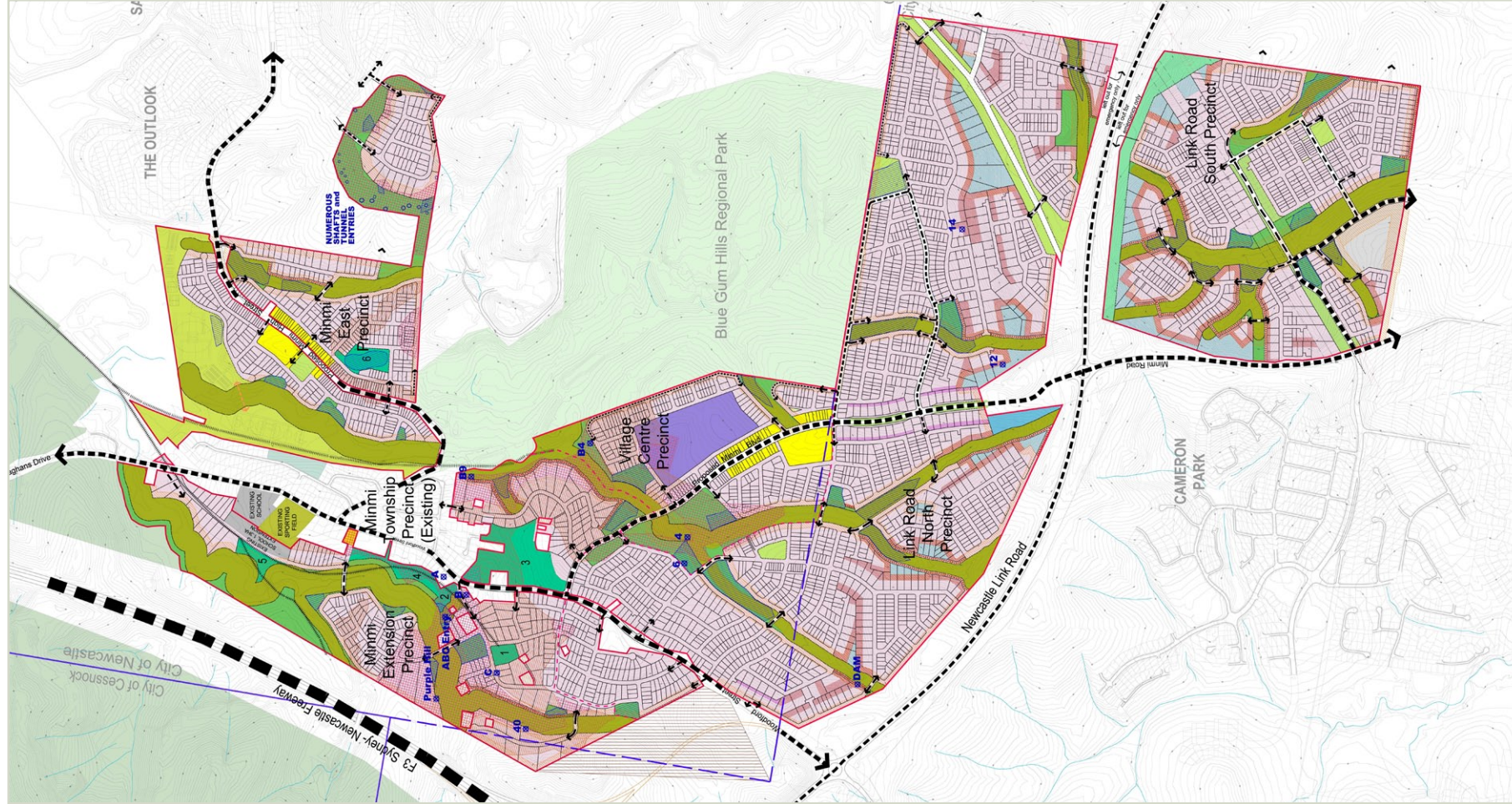
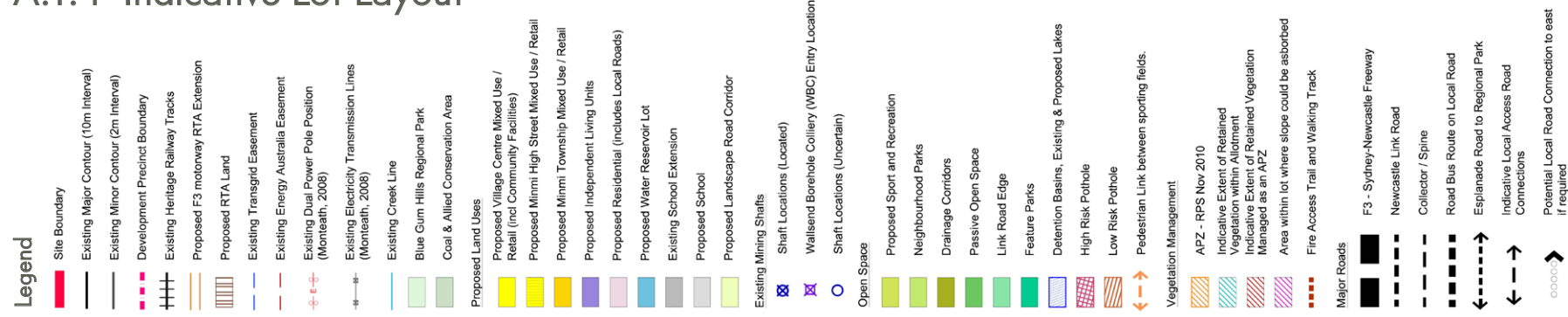


Figure A.1.4. Indicative Lot Layout

A.1.5 Lot Typologies

The following lot typologies have been developed in response to the natural characteristics of the site, the existing built form evident within the Minmi township, and nearby heritage items. Each precinct will accommodate a variety of lot typologies, which will facilitate a diverse range of housing. Housing diversity will assist in creating a vibrant and sustainable community, and will also promote

housing choice and therefore affordability. The indicative controls identified for these lots aim to ensure that future housing responds to the desired character of the overall development. Further discussion in relation to desired future character is provided in the following sections.

Lot Typology	Lot Size	Housing	Minimum Frontage	Storeys	Vehicle Access
Townhouse & Mixed Use	280-350m ²	attached (up to 3 storey on High Street and Minmi Village)	8m	two (3 storey on High Street and Minmi Village)	rear lane
Small Courtyard	300 - 470m ²	attached / detached	10.5m	single or two	front or rear lane
Large Courtyard	470 - 550m ²	attached / detached	13.5m	single or two	front
Traditional	525 - 900m ²	detached	typically 15m	single or two	front
Lifestyle Lots	>800m ²	detached	typically 17.5m	single or two	front
Lifestyle Heritage	>800m ²	detached	typically 17.5m	single	front

A.1.6 Building Heights

The adjacent plan and table below identify maximum building height limits for development on the site. These building heights are a response to geotechnical and slope constraints.

Urban design principles in relation to bulk and scale have also been considered in establishing the final plan. The prescribed heights aim to:

- ensure houses are designed in proportion to allotment area;
- allow house designs that optimise cross ventilation and solar access;
- minimise overshadowing of private open space within lots and on adjacent lots;
- ensure solar access to principal living areas and facilitate energy-efficient design; and
- distribute building heights across the site to maximise solar access, having regard to lot orientation and slope.

Development	Maximum height (from finished floor level to ridge of roof)
Single to two storeys	9m
Three	12m
Ancillary Structures (covered alfresco areas and porches)	3.5m

Building height means the vertical distance between ground floor level to the ridge of the roof. An additional 1.5m is to be added to the maximum building heights where the ground floor use is retail/commercial



Figure A.1.6. Indicative Building Heights

A.1.7 Proposed Precincts

The Concept Plan divides the subject area into five precincts: Minmi East, Minmi Extension, Village Centre, Link Road North and Link Road South. The precincts consist of a balanced mix of urban characteristics, which will assist in the delivery of a cohesive but diverse built landscape that will define the new township of Minmi. The natural features of the landscape, including topography, riparian zones and significant vegetation formed the basis for the identification of each of the five precincts. The layout and design of each precinct has also been directly influenced by the physical attributes of the land. Consideration has been given to the relationship between future development and these attributes. The following sections provide an overview of the defining characteristics of each of the precincts.

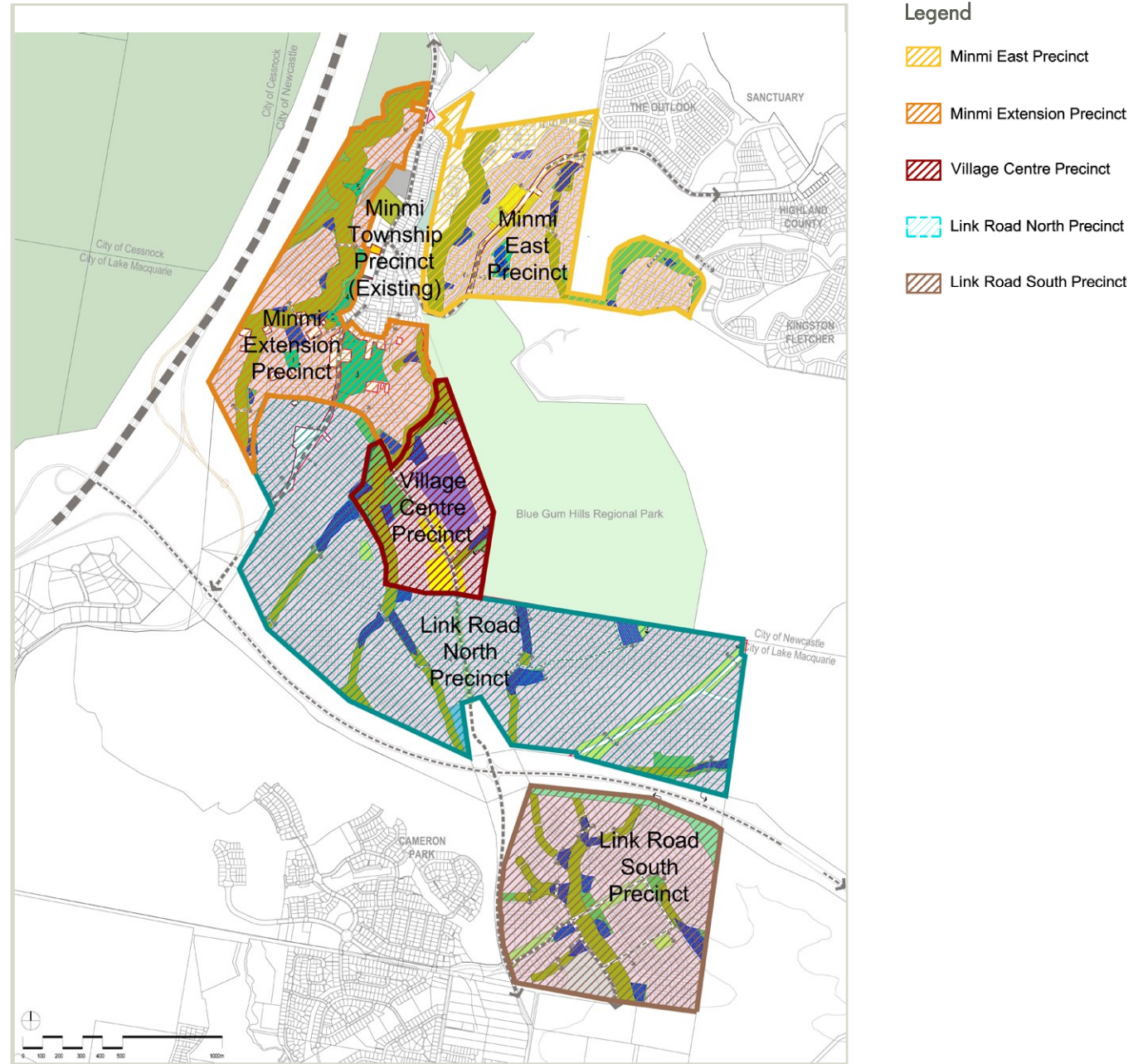


Figure A.1.7. Indicative Proposed Precincts Plan

A.1.7.1 Minmi East Precinct

Minmi East Precinct (approx 80 ha) adjoins the existing Minmi township and extends either side of Minmi Road connecting the existing Minmi township with the new estates of The Outlook, Hidden Waters and Fletcher. The precinct is bounded by the existing Minmi township to the west, Blue Gum Hills Regional Park and Summerhill Waste Management Centre to the south, Fletcher to the east and Hexham swamp to the north.

The Concept Plan has identified and given consideration to the key attributes of the existing landscape within the Minmi East precinct, including riparian corridors, visually prominent ridge lines and the existing lake. These features have been incorporated into the overall structure of the precinct and will assist in strengthening the local 'sense of place'.

Future development within parts of the precinct is constrained by geotechnical issues resulting from previous open cut mining activities along the southern side of Minmi Road and the riparian corridor and flood plain in the north.

To ensure a village character that sits within the landscape of the region, it is proposed that the existing Minmi Road become a village High Street. This will provide identity to the Minmi East Precinct and enhance connectivity with the existing developments to the west and north-east. The general character of the precinct is to be contemporary urban, within a setting characterised by natural water bodies and native vegetation within the area. The precinct will provide for greater density (in comparison to the other precincts) offering a diversity of lot sizes to cater for a range of household types. Lot sizes will range in area from 280m² to 900m², with a mix of dwelling types, including town houses; courtyard houses; shop-top apartments and detached traditional housing types. The absence of geotechnical constraints in parts of the precinct will enable development of up to 2-3 storeys. However, the predominant building height will be 2 storeys with a maximum of 3 storeys along proposed High Street.

A sporting complex in the northern part of the Minmi East Precinct will contribute to the village character of the precinct and provide a social and cultural focus for the community. It is located to take advantage of the riparian corridors and existing heritage tracks in the area. Connectivity between the lake, Blue Gum Hills Regional Park, High Street and the sporting complex has been achieved through the network of open spaces and pedestrian routes within the site.

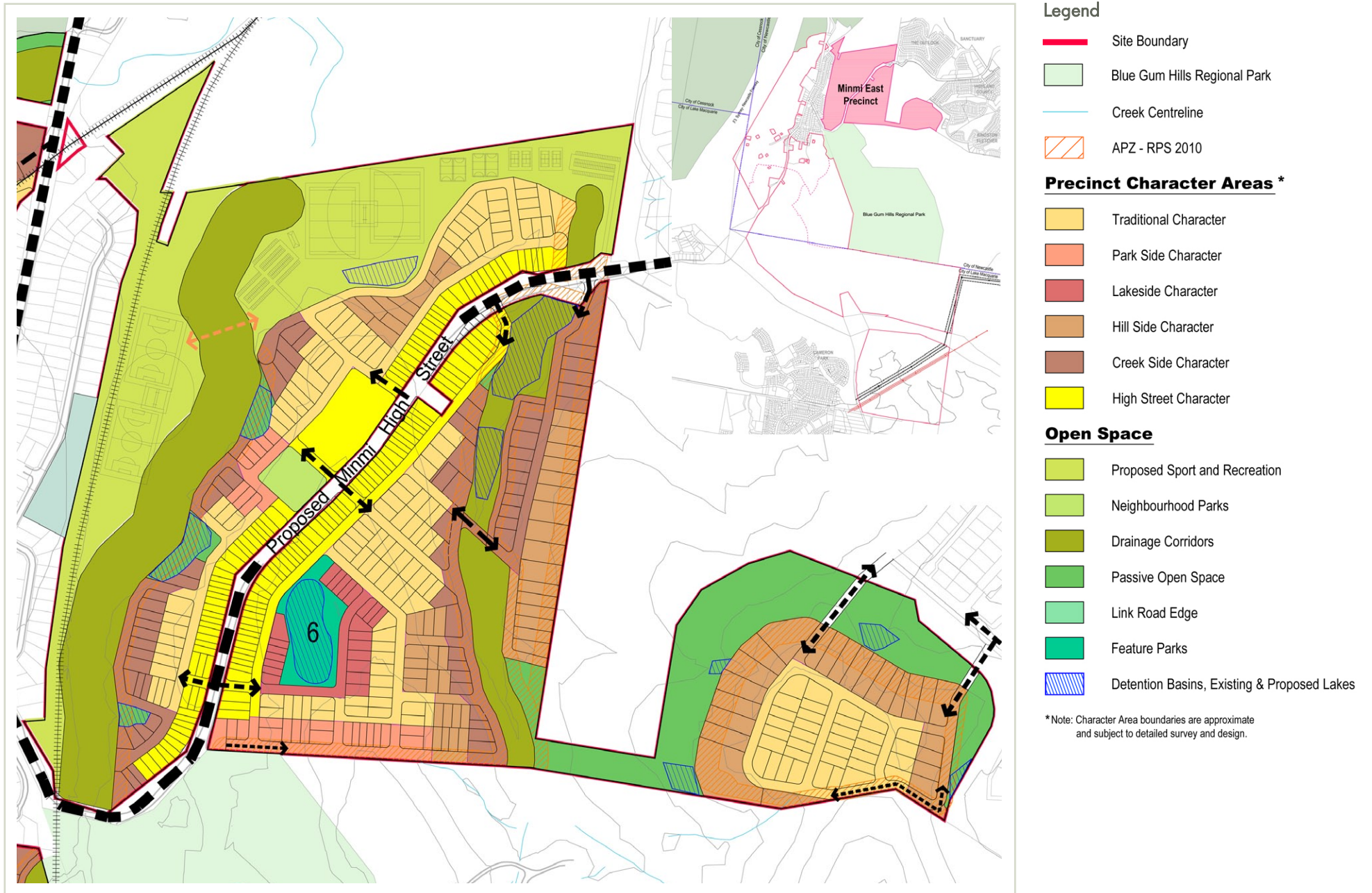


Figure A.1.7.1 Indicative Proposed Precinct - Minmi East Precinct