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Figure 1: Report Structure
Introduction

Purpose of the Land Use and Infrastructure Analysis

This Analysis forms part of the Glenfield to Macarthur Land Use and Infrastructure Strategy and describes the methodology and evidence base that informed the vision and projected growth for the Minto precinct. Applying the principles of ecologically sustainable development has been intrinsic to this process.

The Analysis has incorporated a review of the character, demographics and economy of Minto.

A comprehensive audit of the precinct’s environmental and built form characteristics identified areas to be protected and unconstrained land suitable for development.

The vision and growth projections for the precinct have been informed by economic feasibility and market demand analysis and reflect the long term housing and employment needs for the area.

Recommended improvements to the transport network aim to encourage more people to walk, cycle and use public transport for local and regional trips.

Improved connections to ecological corridors and open spaces have been identified and recommendations made to improve the quality of open spaces and the public domain.

A summary of the infrastructure requirements to support the precinct’s growth is also provided to guide more detailed service and infrastructure delivery investigations.

Figure 2: Glenfield to Macarthur Urban Renewal Corridor
Precinct Character

Minto precinct is located approximately 37 kilometres from Sydney. The precinct is located in the centre of the Glenfield to Macarthur urban renewal corridor, between Ingleburn and Leumeah stations on the Cumberland, Airport, Inner West and South Lines.

The precinct is defined by Campbelltown Road in the west, Essex Road and Minto Road in the north, Pembroke Park in the south and Minto Marketplace in the east.

The boundary of the precinct is based on a radius of 800m – 1.5km from Minto Station, which represents a 10-20 minute walking trip.

Minto is a predominantly industrial precinct, with large areas of light and heavy industrial uses on the western side of the rail corridor. On the eastern side of the precinct, land uses are divided by Ben Lomond Road with low rise residential and retail uses to the north and significant industrial uses to the south.

The Macarthur Intermodal Shipping Terminal is located on the eastern side of the precinct, south of Ben Lomond Road. The terminal is located on the Southern Sydney Freight Line.

Residential development is characterised by low rise detached housing. A small neighbourhood shopping centre is located adjacent to the station; however, the recently refurbished Minto Marketplace, approximately 1.5km east of the station, is the primary focus of retail activity in the precinct.

The precinct also contains a number of significant sporting fields and associated facilities directly across from the station, including Coronation Park and Minto Indoor Sports Centre.

An aerial image of the precinct is provided in Figure 3. A series of photos that illustrate the existing built form and character of the precinct are provided on pages 8 and 9.
Demographics and Economy

Demographics

The population of the precinct is relatively small, with only 1,947 residents at the last census in 2011. Key characteristics of the precinct population include:

- A larger proportion of children aged under 15 years, and fewer people in their twenties compared to Sydney as a whole.
- A larger proportion of people aged over 65 years compared to Campbelltown and Sydney, including a greater share of people aged over 85 years, a reflection of the location of an aged care facility within the precinct.
- A median age slightly below that of the Corridor and Sydney but slightly above that of Campbelltown LGA.
- A higher proportion of separate houses than Sydney, but smaller than Campbelltown LGA.
- A greater proportion of semi-detached terrace or townhouse dwellings than Campbelltown LGA and Sydney.
- A slightly smaller proportion of dwellings were owned outright or with a mortgage than Campbelltown LGA and Sydney.

Economy

In 2011, there were 3,477 jobs in the precinct. As the precinct is predominantly industrial, the majority of jobs were industrial, with a focus on heavy manufacturing. Minto Marketplace also provides a number of retail and business jobs in the precinct.

- A slightly lower proportion of families consisting of parents with children than Campbelltown LGA.
- A lower proportion of couple only households than Campbelltown LGA and Sydney.
- A higher proportion of multiple family and other households compared to both Campbelltown LGA and Sydney.
- Average household size of the precinct was 2.8 persons per household which is slightly lower than the average of Campbelltown LGA but above that of the corridor.
- A higher proportion of people travelled to work by train than Campbelltown LGA and Sydney. Just over half of residents travelled to work by car, significantly less than Campbelltown LGA and Sydney.
- A significantly higher proportion residents born overseas than Campbelltown LGA and Sydney. The top three countries of birth other than Australia are Bangladesh, India and Philippines.

<table>
<thead>
<tr>
<th>Minto Population</th>
<th>Under 15</th>
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<tr>
<td></td>
<td>15 - 39</td>
<td>35%</td>
</tr>
<tr>
<td></td>
<td>40 - 64</td>
<td>29%</td>
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<tr>
<td></td>
<td>Over 64</td>
<td>14%</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Minto Households</th>
<th>Couples with Children</th>
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<tr>
<td></td>
<td>Lone Person</td>
<td>18%</td>
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<tr>
<td></td>
<td>Couples Only</td>
<td>15%</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>15%</td>
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<tr>
<td></td>
<td>Single Parent Families</td>
<td>14%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Minto Housing Type</th>
<th>Separate Houses</th>
<th>61%</th>
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<tbody>
<tr>
<td></td>
<td>Semi-Detached</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>Apartments</td>
<td>14%</td>
</tr>
</tbody>
</table>
Constraints Analysis

This section is an assessment of the constraints within the precinct. The physical characteristics of the precinct have been mapped and analysed to identify constrained and unconstrained sites for renewal. These characteristics include: transport and movement; open space; topography; flooding; vegetation; bushfire risk; heritage; recent residential development; land ownership; and social infrastructure.

The combination of these elements reveal the overall level of development constraint within the precinct. However, not all constraints that are identified are necessarily barriers to change, often they are opportunities for renewal in the future.
Site Context

Transport and Movement

Campbelltown Road and Pembroke Road serve as the primary north-south access ways in the precinct, while the Hume Motorway provides the main regional route for through traffic in the area. The main access points include Ben Lomond Road and Redfern Road which both run east-west through the precinct.

East-west vehicle movements are limited, by the lack of road connections across the precinct due to the barrier formed by the rail line and the large industrial landholdings on the western side of the rail line. Ben Lomond provides the primary access across the rail line.

Walking Catchment

Figure 8 below demonstrates the 5, 10 and 20 minute walking catchments from Minto station. Pedestrian and cycling accessibility across the rail corridor is greatly restricted by the rail corridor and the lack of dedicated and signalised crossings along Minto and Redfern Roads, as well as Ben Lomond Road particularly near the school and public open spaces.

There are also a number of local streets with limited street lighting and pedestrian footpaths that further restrict active modes of transport.
Open space network

Coronation Park provides significant recreational open space in the precinct. It is of regional significance, providing a number of community and sporting facilities which include an indoor leisure centre, 46 netball courts and associated building which host the NSW State Age Netball Championships, and a multi-purpose oval.

South of Ben Lomond Road, public open space is limited to Pembroke Park. There are limited passive recreational opportunities in the precinct.

Bow Bowing Canal, located to the west of the railway line, flows north-south through the industrial area. This space is severely underutilised due to the lack of access, lighting and the built form character of the industrial land uses surrounding it.

Figure 9(b) identifies the location of recreational and passive open space in the precinct.
Topography

The topography within the precinct is relatively flat. The industrial area in the west of the precinct is flat until a sharp ridgeline cuts into the south-western corner of the precinct along Campbelltown Road. This ridge-line gives some of the industrial estates views down into Minto.

The eastern half of the precinct gently rises upwards to the ridgeline at Minto Heights. The residential area to the north of the precinct is flat and slopes gently down to the rail corridor and Bow Bowing Canal.

Flooding and Drainage

Figure 11 shows the location of waterways and associated riparian corridors in the precinct.

Campbelltown City Council is currently preparing a Floodplain Management Plan to identify areas subject to flooding. Once finalised, this Plan will be used to manage flood risk and inform future planning for the precinct.

Any development of land within the precinct will need to consider whether the land is flood prone and address any relevant flooding controls.
Vegetation and Ecology

The precinct contains very little vegetation that is classified as Endangered Ecological Communities under the Threatened Species Conservation Act 1995. In the south of the precinct, Pembroke Park contains small areas of Cumberland Plain Woodland and River Flat Eucalypt Forest on Coastal Floodplains.

Other smaller tracts include vegetation on the corner of Ben Lomond Drive and Pembroke road, framing a newly developed industrial site.

Bushfire Risk

Due to the limited amount of vegetation in the precinct there is a relatively low amount of land that is subject to bushfire risk. The areas of risk are currently Pembroke Park which is unlikely to change use and newly developed industrial land to the south of Ben Lomond Road.

Any redevelopment of land within these bushfire prone areas will need to provide the required asset protection zones in accordance with relevant bushfire protection guidelines.
Heritage

There are no heritage items located in the precinct.

Located on the eastern boundary is Campbellfield (Redfern’s Cottage), a local heritage item. Although not located within the precinct, any future development in the vicinity would need to consider this item.

Recent Residential Development

Recent development is considered a short to medium term constraint to development as the average life cycle of a building is generally 30 to 40 years.

Analysis of recent residential development over the last 15 years indicated that incremental low rise development has occurred throughout the precinct. Figure 15 below illustrates where this development has occurred.

Much of the recent development has occurred outside of the precinct to east at Minto heights (One Minto), with some dispersed recent development occurring within the precinct.

A relatively low proportion of existing dwellings in Minto have been redeveloped. This provides opportunities for a large number of sites in the precinct to be redeveloped over the next 20 years due to the condition and age of the existing building stock.
Land Ownership

The following figure illustrates the different land ownership patterns in the precinct. The NSW Government has a small number of landholdings including Minto Public School, Sarah Redfern High School and the Minto Leisure Centre.

A number of land holdings are owned by Campbelltown City Council, including the Bow Bowing Creek and Canal, Coronation Park, Pembroke Park and the Indoor Sports Centre.

There is some residential strata titled land in the eastern corner of the precinct, and a small amount of industrial/commercial strata in the west of the precinct.

Overhead transmission wires and corresponding easements traverse the length of the precinct from the north to the south along the train line. This significant utility service and easement corridor represent a constraint to certain types of land within its vicinity.

Figure 16: Land ownership within the Minto precinct
Social Infrastructure

The precinct is well served by community facilities and infrastructure, as indicated in Figure 17. There are two open spaces, two schools, as well as a range of religious centres, childcare and early learning facilities, and community services.

Many of the community facilities are located in the eastern half of the precinct within an 800m radius of the station. The majority of the precinct’s residents live in this eastern half of the precinct.

Local Government Social Infrastructure
1. Coronation Park
2. Minto Community Hall
3. Minto Early Learning Centre
4. Minto Scouts and Guides
5. Pembroke Park

State Government Social Infrastructure
6. Minto Fire Station
7. Minto Public School
8. Sarah Redfern Public School and Playing Fields

Private and Non-government Infrastructure
9. Assemblies of God Church
10. Faith Tabernacle
11. Empowered Church
12. Fastlane Karting
13. Minto Medical Centre
14. New Generation Child Care
15. St James Anglican Church
16. The Rainbow Family Centres for Children

Figure 17: Social Infrastructure within the Minto precinct
Combined Constraints

The combined constraints mapping indicates that there are large areas of the precinct that are unconstrained.

Very few lots in the western half of the precinct are constrained, with strata being the only prohibitive constraint.

The land to the east of the station has seen a small amount of recent residential development over the last 5–10 years and is likely to accommodate renewal over the term of this strategy.

Unconstrained Land

Unconstrained land provides the most potential for renewal over the next 20 years, subject to further investigations.

The eastern half of the precinct is relatively unconstrained and has potential to contribute to the future renewal and capacity of the precinct.

There are also large areas of unconstrained land on the western side of the rail corridor which have the potential to contribute to the renewal of industrial and employment uses in the future.
Housing
- Provide a variety of housing types within walking distance of the station to cater for all members of the community.
- Retain the existing character of areas north of Durham Street, while encouraging medium rise apartments west of Pembroke Road.

Jobs
- An upgraded local centre will complement Minto Marketplace by creating a lively and active hub around the station that services the daily shopping needs of residents and commuters.
- Construction and industrial related jobs will continue to be the major land use for the precinct as the demand for new housing increases.
- Longer term potential for the precinct's employment lands to accommodate industrial related office uses and more consolidated employment activities.

Movement Network
- Promote cycling and walking by providing new shared pathways, separated cycleways, footpaths, pedestrian refuges, street tree planting, bicycle storage facilities and lighting.
- Develop a continuous, safe regional commuter and recreational cycle route from Glenfield to Macarthur adjacent to the rail corridor.
- Introduce new local cycle routes to improve connections with Minto station and the surrounding area, including through the northern ecological corridor.
- Improve connections between Minto Marketplace and Minto station through the transformation of Redfern Road as a major transport route with widened footpaths, cycle paths and street tree planting.

Open Space and Public Domain
- Enhance the local centre around Minto station with pedestrian friendly streets, outdoor dining, street tree planting, inviting public gathering spaces and attractive street furniture.
- Establish a quality open space and public domain network that provides better linkages to and upgrades of existing open spaces.
- Enhance the importance of Coronation Park as a district asset through a diversification of uses, upgraded change rooms and a district size children's playground.

Built Form
- Ground floor retail and local jobs within the local centre around Minto station to generate activity.
- Providing a range of building heights, with increased heights closest to the station to maximise pedestrian activity and increase trade for local businesses.
“An important employment centre that also meets the community’s retail needs”
Land Use and Infrastructure Plan

Figure 27: Minto Land Use and Infrastructure Plan

Legend
- Precinct Boundary
- Station
- Train Line
- Existing Connection
- Proposed Connection
- Green Link
- Proposed Green Link
- Active Frontage
- Precinct Gateway
- Medium Rise Residential
- Low Rise Residential
- Mixed Use Retail & Residential
- Community Infrastructure
- Industry & Innovation
- Employment
- Retail
- Open Space
Future Precinct Character
The following diagrams and images demonstrate the desired future character for each area in Minto precinct.

Low Rise Residential
This area will evolve to become a mixture of single-detached dwellings and town-houses, which will serve as a transition between the existing low rise residential areas beyond the precinct and medium rise housing closer to the station.

Medium Rise Residential
This area could accommodate town houses and medium rise apartments where the site is an appropriate size to deliver a high level of amenity. This could comprise of 3-4 storey apartment buildings, with potential for landscaped setbacks to enhance the existing streetscape.

Mixed Use Retail & Residential
This area could accommodate a mix of retail and residential uses that would complement the character of the local area. Buildings would have ground floor retail that would provide local services for residents and commuters, with apartments above ranging from 3-6 storeys in height. These would be set back from the street to ensure the scale and feel of Minto Road is maintained.

Industry & Innovation and Employment
These areas could accommodate large floorplate industrial and commercial offices and workshops on sites that are carefully designed to integrate with existing uses. These areas will experience intensification of employment over time. Offices and more consolidated employment activities are likely to occur, particularly close to the station in the north west.

Figure 28: Proposed location of low rise residential, and desired character and built form
Figure 29: Proposed location of medium rise residential, and desired character and built form
Figure 30: Proposed location of mixed use retail & residential, and desired character and built form
Figure 31: Proposed location of industry & innovation and employment, and desired character and built form
Transport and Movement

The proposed transport network aims to:

- Improve walking and cycling connections to Minto Station;
- Increase direct bus routes and improve suburban bus route travel times to centres; and
- Improve road and street legibility and permeability throughout the precinct.

Key network improvements are identified in Figure 32 and include:

**Public Transport**

- Investigate opportunities to improve direct connections and reduce travel times for the suburban bus network to create a more connected system that provides direct routes to, from and through the corridor
- Consideration of a local loop bus service within the precinct
- Kiss and ride facility on the eastern side of Minto station

**Walking and Cycling**

- New regional cycle route parallel to the railway line to provide better connections to the station and surrounding area
- Series of local cycle network improvements, including:
  - Surrey Street
  - Stafford Street/Monaghan Street
  - Through Coronation Park to Rose Reserve
- Streetscape works, such as footpath improvements and pedestrian crossings, to improve station connections and pedestrian environments.

**Parking**

- Undertake a parking study for the precinct to identify parking demand, develop appropriate parking management strategies and identify opportunities for improved mode share to increase walking, cycling and public transport use.

Figure 32: Proposed transport infrastructure improvements in Minto

Legend:
- Precinct Boundary
- Proposed Regional Cycle Network
- Proposed Local Cycle Network
- Proposed Local Pedestrian Network
- Campbelltown to Liverpool Suburban Bus Route
- Campbelltown to Leppington Suburban Bus Route
Environment and Open Space

Coronation Park provides significant recreation and sporting facilities for the precinct and wider district. Due to the heavy utilisation of Coronation Park by organised sporting activities, there are limited opportunities for passive recreation within the precinct.

Priorities for the precinct include investigating opportunities to improve passive recreation, improving green links and upgrading existing recreation facilities and amenities.

Key recommendations for the precinct are proposed to:

- Enhance Coronation Park as a district recreation facility with diversified uses, including children’s play equipment
- Enhance Pembroke Park as a significant ecological asset
- Encourage green streets linking green spaces within the precinct
- Enhance and improve connectivity to ecological corridors and green links
- Improve regional and local cycle and walking connections within the precinct
- Supplement existing street tree plantings.

Community Facilities

The precinct is well served by the Minto Community Hall. The modest forecast population growth for the precinct will not generate a need for any additional community facilities.

Education

Advice from the NSW Department of Education indicates that any additional demand for schools is likely to be met through expansion of existing schools and no new schools are likely to be required by 2036.
Projected Growth

Minto precinct’s projected growth is a calculation of the amount of residential and employment development that is expected to take place by 2036. The outcome of these projected growth calculations is provided below.

Residential

The Department applied the Urban Feasibility Model (UFM) to determine the precinct’s development potential under existing market conditions. The analysis indicated the potential for low rise developments to be feasibly developed in the current market.

Additional market demand analysis indicated that in the short to medium term, feasibility may increase as land values and property prices increase and the availability of detached homes decreases. It is anticipated that around 380 additional dwellings could be delivered in the precinct by 2036. This equates to around 19 dwellings per year, which has been used to assess future infrastructure requirements in the precinct.

Low rise residential housing will continue to be the predominant housing type to be developed throughout the precinct in the short term. However, over time there is likely to be increasing demand for a greater diversity of housing close to the station, which will facilitate more retail investment and employment opportunities. This is consistent with broader market trends. Further from the station, low rise housing will remain the predominant housing type.

Employment

An employment lands analysis projected demand for an additional 126,000m² of employment lands within the precinct to 2036. This will deliver around 1,300 additional jobs, predominately in education and health (27,000m²) and industry (31,000m²).

The Land Use and Infrastructure Plan provides appropriate employment floorspace to ensure there is capacity to accommodate this employment growth.

The majority of industrial land will be retained on the western side of the precinct to provide for the additional industrial floorspace requirements. Redevelopment of the local centre adjacent to the station will provide the required additional capacity for retail floorspace.

Calculating Growth Potential

Minto precinct’s projected growth is a calculation of the amount of residential and employment development that is expected to take place by 2036. The projected growth calculations take into consideration the following factors:

- Development on unconstrained sites. Development is projected to occur on the unconstrained sites identified on page 15 of this report.
- The Proposed Future Character and Built Form. The Land Use and Infrastructure Plan on page 18 identifies the desired future character and built form throughout the precinct. These building types have been applied to the precinct’s unconstrained sites.

- Assumptions. A series of assumptions have been applied to calculate the land areas required for each development type, and the number of dwellings and jobs that could be provided. These assumptions are documented in Figure 5 of the Glenfield to Macarthur Urban Renewal Corridor Strategy.

- Economic Feasibility. An analysis of the housing potential and development feasibility of the precinct’s unconstrained sites was undertaken using the Department’s Urban Feasibility Model (UFM). The UFM is a strategic planning tool used to determine the likelihood of the current market to deliver various types of dwellings.

- Market Demand. A high level demand analysis has been undertaken to determine the demand for different dwelling types on unconstrained sites within the precinct. The analysis:
  - Assessed the desired future character, built form and housing types proposed under the Land Use and Infrastructure Plan, against market conditions and demand; and
  - Identified take-up/realisation rates for each land use within the precinct, which informed the calculation of the projected growth.

The ‘take-up’ or ‘realisation’ rates were informed by several factors, including broader population growth, property sub-markets, historic dwelling activity, the development pipeline, the precinct’s dwelling capacity and current market feasibility.
## Infrastructure Analysis

Figure 38 provides a summary of the infrastructure items required to support the projected growth in the precinct. This includes public transport, walking and cycling upgrades, roads and community infrastructure. Services utilities such as water, sewage, electricity and gas will also be upgraded as the growth occurs.

The infrastructure items would be funded and delivered by a range of sources as identified in Figure 38, and would be subject to more detailed investigations to inform the delivery time frames, design and costings.

<table>
<thead>
<tr>
<th>Item</th>
<th>Measure</th>
<th>Planning Responsibility</th>
<th>Timing</th>
<th>Funding Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Public Transport</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Increased rail services to meet the needs of the precinct’s growth</td>
<td>TfNSW</td>
<td>To be determined as precinct develops</td>
<td>TfNSW delivery responsibility</td>
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<td>2</td>
<td>Investigate opportunities to improve direct connections and reduce travel times for the suburban bus network</td>
<td>TfNSW</td>
<td>To be determined as precinct develops</td>
<td>TfNSW delivery responsibility</td>
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<tr>
<td>3</td>
<td>Potential extension of local bus services to provide a loop service within the precinct</td>
<td>TfNSW</td>
<td>To be determined as precinct develops</td>
<td>TfNSW delivery responsibility</td>
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<td>Kiss and ride facilities on the eastern side of Minto station</td>
<td>TfNSW/Council</td>
<td>To be determined as precinct develops</td>
<td>Council's Section 94 Plan/VPA</td>
</tr>
<tr>
<td>5</td>
<td><strong>Walking &amp; Cycling</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>New regional cycle routes parallel and perpendicular to the railway line to provide better connections to the station and surrounding area</td>
<td>TfNSW</td>
<td>To be determined as precinct develops</td>
<td>TfNSW funding responsibility</td>
</tr>
<tr>
<td>7</td>
<td>Series of local cycle network improvements, including at: <em>Surrey Street</em> <em>Stafford Street/Monaghan Street</em> <em>Through Coronation Park to Rose Reserve</em></td>
<td>Council</td>
<td>To be determined as precinct develops</td>
<td>Council's Section 94 Plan/VPA</td>
</tr>
<tr>
<td>8</td>
<td>Streetscape works such as footpath improvements, pedestrian crossings and refuges, street tree planting, bicycle storage facilities and lighting.</td>
<td>Council</td>
<td>To be determined as precinct develops</td>
<td>Council's Section 94 Plan/VPA</td>
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<tr>
<td>9</td>
<td><strong>Education &amp; Community Infrastructure</strong></td>
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<td></td>
</tr>
<tr>
<td>10</td>
<td>Additional teaching spaces and infrastructure at existing primary and high schools</td>
<td>Department of Education and Communities</td>
<td>To be determined as precinct develops</td>
<td>Delivered as part of DEC's School Cluster Asset Plan</td>
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Figure 38: Infrastructure servicing required in the Minto precinct.