Part A

General Controls

Holroyd Development Control Plan 2013

General Controls

Contents

General Controls

Introduction

Land to which this Part applies

This Part of the DCP applies to all land within Holroyd Local Government Area.

Relationship to other Parts of this DCP.

Part A of Holroyd DCP 2013 shall be read in conjunction with the following Parts of Holroyd DCP 2013, which contain objectives and development controls that may relate to development in this part:

Part B - Residential Development

Part C -Commercial, Shop top housing and Mixed use Development

Part D - Industrial Development

Part E - Public Particpation

Part F - Advertising and Signage

Part G - Places of Public Worship

Part H - Heritage and Conservation

Part I - Child Care Centres

Part J - Site Specific Controls

Part K - Holroyd Gardens

Part L - Town Centres

Part M - Merrylands Centre

Part N - Transitway Station Precincts

Part O - Guildford Pipehead Site

Part P - Pemulwuy Residential

Part Q - Pemulwuy Northern Employment Lands

Part R - Tamplin Road Reserve

Definitions

1. Subdivision

1.1. Design and Landscaping for Subdivision

Objectives

O1. To provide detailed criteria for the subdivision of land.

O2. To permit subdivisions that provide a safe and convenient environment for pedestrians, cyclists and motorists.

O3. To provide subdivision layouts that are compatible with and acceptable for the intended use of each lot.

O4. To promote subdivision layouts that provide comfortable living and working spaces.

O5. To ensure that subdivision of land throughout the LGA has regard to site opportunities and constraints.

O6. To ensure that subdivision respects the predominant subdivision pattern of the locality.

O7. To ensure that allotments of sufficient size are created to facilitate development that meets the requirements of different zones.

O8. To maintain and enhance existing streetscape and landscape character.

O9. To enhance the setting of buildings.

O10. To provide for acoustic and visual privacy through layout of lots and streets.

O11. To reinforce and define vehicle speed control design through street layout.

O12. To provide shade for buildings and areas of open space through protection and provision of trees.

O13. To preserve certain mature trees of high ecological or amenity benefits.

O14. To preserve significant landscape elements that contribute to the existing landscape character of the street, are sensitive to site attributes, existing landscape features, streetscape view and vistas.

Development Controls

C1. In determining the suitability or otherwise of any subdivision application, consideration of the following matters will be taken assessed:

a) Slope and orientation of land;
b) Opportunities for solar and daylight access to future development;
c) Design of roads, access ways and individual site access;
d) Retention of special qualities or features of a site, such as trees and views;
e) Availability of utilities;
f) Evacuation controls as per flood risk precincts table in Section 8;
g) Provision of adequate site drainage;
h) Provision of public open space;

i) Heritage conservation;

j) The adequacy of each site in achieving relevant development standards detailed within this control plan such as setbacks, car parking, landscaping, etc; and

k) The relationship of the subdivision layout to adjacent land suitable for subdivision.

C2. Landscape the subdivision to enhance the natural features of the site and adjoining areas. For example, preserve existing landscape elements such as peaks, valleys, rock outcrops, vegetation stands and watercourses .

C3. In established areas, ensure landscaping relates to the scale of other elements of the streetscape and the landscaping of adjoining development. For example, locate landscaped areas to adjoin the landscaped areas of adjacent allotments so as to provide for a contiguous area of deep soil and vegetation (see Figure 1).

C4. Avoid rear fences directly fronting public roads. Where this is unavoidable, the following measures may be required (see Figures 2 & 3):

- greater setbacks for landscaping against fences, consistent with acoustic and road design standards (Figure 2).
- building frontages to face road by provision of parallel access road separated by landscaped buffer (Figure 3).

C5. Subdivision must aim to retain all trees, except those marked for removal by a tree survey conducted by an Australian Qualification Framework (AQF) Level 3 Arborist. Such trees must be shown on the approved engineering plan or the approved preliminary plan of subdivision.

Where consent to remove trees is granted, provide suitable replacement trees for those to be removed.

Note: Consult with Council's Tree officers for advice on species and location.

Note: For Subdivision Design requirements specific to residential subdivision, see Part B of this DCP.

Figure 1

Figure 2: Landscaped berm

Figure 2 & 3

Easement of support

C6. The provision of an easement of support will be required to cover all embankments that extend into the lots if the batters are steeper than 5 to 1. In place of the embankment.

Note: Council will consider a retaining wall whose structural integrity is to the Engineer's satisfaction as indicated on an approved engineering plan.

Retaining walls

C7. Provide space for a retaining wall, together with protection fence if required, where:

- **a)** the boundary of a new road coincides with the boundary of land not owned by the subdivider, and
- **b)** construction of the road would deprive such land of support, and
- **c)** the batter of an embankment encroaches upon such land.

1.2. Services

Objectives

O1. To ensure the provision of public utilities to each allotment, within road reserves, in an efficient and cost-effective manner.

O2. To maximise the opportunities for shared (common) trenching and to reduce restrictions on landscaping within road reserves.

O3. To ensure residential, industrial and business areas are adequately serviced in a timely, cost-effective, coordinated and efficient manner.

Development Controls

C1. Easements required by Council for the purpose of subdivision may include those necessary for utility services. The width of the easement is to be determined by the service authority.

C2. The design, construction and location of utility services shall conform to Council's stormwater standards and work specifications for subdivision and developments and the specific standards of the relevant servicing authority.

C3. Design road corridors and other accessways to take into account existing services to avoid any unnecessary alterations or diversions.

C4. Where possible, coordinate compatible public utility services in common trenching to minimise cost.

C5. Reform areas affected by construction works to appropriate grades, covered with 100mm of topsoil and then grassed.

Electricity

C6. For subdivision requiring a new low voltage electricity supply, reticulate via an underground supply system. Service battleaxe blocks with underground electricity to the rear of the accessway.

Water supply

C7. Provide an adequate reticulation water supply system from water supply mains for domestic supply and fire fighting purposes.

Sewerage

C8. Arrange sewerage reticulation to allow the whole of each new allotment to be serviced by gravity drainage.

Certificates for water and/or sewerage facilities

C9. Ensure provision of water and/or sewerage facilities is authorised by the appropriate Certificate from Sydney Water. The Council must supply Sydney Water with a copy of its first approval (including conditions). At the same time, the Council will supply the subdivider with a form of application to Sydney Water. The subdivider must then obtain from Sydney Water a Certificate under Section 73 of the Sydney Water Act 1994, stating that the applicant has paid a contribution towards the required services or has made other suitable arrangements.

Note:

- For controls related to easements, see Section 7.3 of this Part.
- Holroyd Local Environment Plan 2013 may apply in some instances.

1.3. Drainage

Objectives

O1. To minimise impacts on the water quality and hydrology of natural watercourses.

O2. To prevent stormwater damage to the built and natural environment.

O3. To reduce nuisance flows to a level which is acceptable to the community.

O4. To provide a stormwater system which can be maintained economically.

O5. To provide a stormwater system which utilises open space in a manner compatible with other uses.

O6. To control flooding and enable access to allotments.

O7. To stabilise the land form and control erosion.

O8. To prevent both short and long term inundation of development.

O9. To manage food and the availability of flood free access and egress.

Development Controls

Note:

- For controls related to stormwater see section 7 of this Part
- Holroyd Local Environmental Plan 2013 may apply in some instances

C1. Design the drainage system in accordance with the major/minor stormwater flow concept (for a 1% AEP storm event) as per the current edition of Australian Rainfall and Runoff, meet the following guidelines:

Trunk drainage

Note: Trunk drainage applies to flows over 2m3/s in a 20% AEP storm event, or to a pipe >900mm in diameter

C2. Construct detention basins to eliminate the increased run-off from the proposed development for all storms up to and including a 1% AEP storm event.

C3. In private land use and/or public reserve, drainage shall be either piped, in a lined channel, or a combination of a pipeline with a grass swale . Applicants should consult with Council's Engineering Services Department to determine the most appropriate method for the particular site.

C4. In public reserves only, the minor (low) stormwater flow system shall generally be designed for a 20% AEP storm event unless the retention basin design dictates otherwise.

C5. Generally, any low flow pipe in a grass swale shall not be less than 600mm diameter.

C6. In a public road, base the pipeline on a minimum 20% AEP storm event, but contain the gap flow (i.e. the difference to a 1% AEP storm event) within the road reserve at safe depth and velocities for pedestrians and vehicles.

C7. Design major structures over, and/or filling near creeks, on the basis that upstream inundation must not be increased in any storm event up to and including a 1% AEP storm event. Council may also require consideration of the effects of larger storms up to the Probable Maximum Flood (PMF).

C8. Locate drainage lines to minimise disturbance to landforms.

C9. Avoid steep gradients to minimise runoff velocities.

C10. Minimise road carriageway widths to that required to accommodate vehicles, cyclists, pedestrians and PMFs.

C11. Make provision for the deceleration, infiltration, detention, and cleansing of stormwater through source controls such as landscaping, vegetated filter strips, infiltration pits, sand/gravel filters and vegetated swales (including the their ongoing maintenance), with due consideration to the impact of any resultant altered water table. See Section 7.4 of this part for Stormwater flow targets for sites 2,500m^2 and greater in area.

C12. Where the above measures are implemented, design stormwater drainage system to reflect the resultant peak flows. See Figures 4 & 5:

Local drainage

C13. Within private property and at sag points in public roads, generally provide a piped system based on a 5% AEP storm event. Under certain circumstances a piped system to accommodate

greater than a 5% AEP storm event may be required.

C14. Within public roads, provide a piped system generally based on a 20% AEP storm event. Depending on inlet and outlet conditions, a more major storm may need to be accommodated. Pay particular attention to the location of depressions in the terrain and watercourses which may function as overland flowpaths for stormwater. At the design stage, also give consideration to the likely effect of overland flow on proposed building structures and the need for clearly defined/constructed overland flow paths over easements and natural depressions for at least all storms up to the 1% AEP storm event.

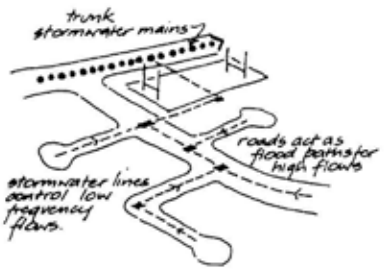


Figure 4

C15. In areas where localised flooding has occurred, it may be necessary to prepare and submit to Council a "stormwater master plan". See Section 7 of this part.

C16. Maintain overland flow paths over easements, natural waterways and depressions. Applicants should note that On Site Detention (OSD) provisions may be required in certain locations to restrict stormwater flows to minimise risks of downstream flooding.

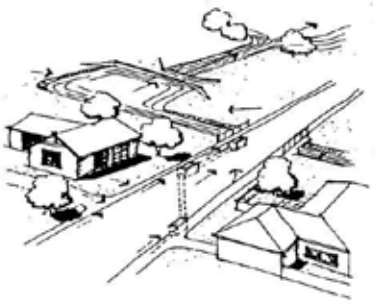


Figure 5: Typical combination of public roads, piping, retention basin and stream.

Figure 5

C17. If adequate detention basins are provided as part of the subdivision development, On Site Detention will not be additionally required for individual allotments. Full details of On Site Detention requirements are available in a separate policy. Applicants are advised to check with Council's Engineering Services Department.

C18. Lay stormwater drainage runs in reinforced concrete pipes with necessary inlets, junction boxes and headwalls. Make provision for disposal of stormwater discharge into suitable channels or piped drains under the control of Council. Provide inter allotment drainage.

C19. The designing engineer is required to provide certification at the completion of work, prior to final approval of the development, that the stormwater system has been constructed and will function in accordance with the design.

Note: Upgrading/augmentation of the existing downstream drainage system may be required. This may be in the form of actual construction work, to be carried out by the applicant at the time of development or in the form of a contribution to be determined by Council at development application stage.

Easements/ Restrictions/Covenants

C20. Where a stormwater drainage line, including inter-allotment for subdivisions, is proposed and/ or an existing line is proposed to be utilised through adjoining property, a drainage easement giving drainage rights to the benefited lot is required.

C21. All easements required within a site (other than those required only for the purposes of a strata plan subdivision) shall be created pursuant to Section 88B of the Conveyancing Act, subject to the approval of Council.

C22. Create easements over trunk and local drainage systems in favour of Council. Create easements over inter allotment drainage in favour of the benefiting allotments. Council shall be joined as a party whose consent is required for any amendments to easements for rights of carriageway, utility services, inter-allotment drainage, and the like, but not nominated as a beneficiary.

C23. Consideration shall be given to the path taken by stormwater during storm events that generate runoff in excess of the design pipe capacity up to the 1% AEP storm event (overland flow paths) and system blockage. Where overland flows could result in flood damage on adjoining properties, the pipe and collection system shall be designed to accommodate runoff generated by the 1% AEP storm event.

C24. The erection of buildings/permanent structures, retaining walls and/or dividing brick walls and filling over easements shall not be permitted unless written approval from the benefiting property is provided or if they will alter the performance and function of the easement to the detriment of the site or adjoining properties. Drainage easements shall be accessible for maintenance of stormwater drainage line and allow for stormwater overland flow paths. Council will not permit the above structures over public easements.

C25. Where easements are required to be created over the adjoining property, Council requires written confirmation from the affected property owners that they are willing to participate in the negotiation of an easement with the development application. If an existing easement is to be utilised the applicant shall submit proof from the Department of Lands that the site benefits from such an easement. Proof of registration of the easement, at the Department of Lands, will be required prior to the issue of development consent (including deferred commencement).

C26. Easements required by Council for the purposes of Strata or Community plan subdivision may include those necessary for utility services not initially provided with a development by the developer. Width of easement is to be determined by the service authority, to the satisfaction of the Director of Engineering Services.

C27. Arrange easements required in connection with the provision of electricity in consultation with Integral Energy or the equivalent authority, and such easements shall be created by transfer or otherwise depending upon the circumstances.

Note:

- For specific subdivision controls for residential and industrial development see Part B and Part D of this DCP.
- For easement widths, section 6 in this part.

2. Roads and Access

The location, type and design of access points to a development will have significant impacts on the streetscape, the site layout and the building façade design. It is important that access is integrated with site planning from the earliest stages to balance any potential conflicts with streetscape requirements and traffic patterns and to minimise potential conflicts with pedestrians.

Objectives

O1. To provide roads consistent with their function within the road network, having regard to their safety, visual impact and amenity of local areas.

O2. To provide sufficient road reserve, carriageway and verge widths to allow roads to perform their designated functions within the road network.

O3. To minimise road construction and life cycle costs without compromising other objectives.

O4. To integrate adequate car parking and servicing access without compromising street character, landscape or pedestrian amenity and safety.

O5. To optimise the opportunities for active street frontages and streetscape design.

2.1. Road Design and Construction

Development Controls

Works Affecting State Roads

Note: In respect of any application for consent to open a public road or other means of access forming a junction or intersection with a state road, the consent authority shall consult with the Roads and Maritime Service of New South Wales and shall take into consideration:

- the treatment of the junction or the intersection and its location having regard to town planning principles and to the safety and convenience of the public;
- the effect of opening the road or other means of access on the development of the locality; and
- any representations by the Roads and Maritime Service of New South Wales.

Road Specifications and levels

C1. Construct and seal all driveways, accesses and car parking areas to Council's requirements.

C2. Ensure all public engineering works comply with Council's Specification for Subdivisions and Developments (current version), unless as otherwise approved by Council.

C3. For any works requiring levels within the road reserve, submit Council's Vehicular Crossing application form prior to works commencing.

Existing road frontages

C4. Where an existing road frontage is directly or indirectly involved in a subdivision, provide that road with the following (for the purposes of drainage and access):

- kerbing and guttering,
- sealed pavement to the gutter, and
- a footway and path paving formed to levels which will be supplied on application to Council.

Subdivision & new roads

C5. Where the land is zoned for the purpose of a proposed new road, Council shall not consent to a subdivision of land of which the proposed road forms part unless the subdivision makes provision for the opening of a road in reasonable conformity with the proposed road.

C6. Subdivision involving new roads shall conform to any site specific development controls for the area, showing the road network which satisfies projected district and regional travel.

C7. If Relocation of services is required, it will be at the subdivider's expense. Council will also require reconstruction of such works where the Engineer deems this necessary in respect to existing facilities.

2.2. Road geometry and Intersections

Development Controls

C1. Ensure that Road layout and geometry accords with approved standards such as the Austroads Guide to Road Design, or the Roads and Maritime Service's Guide to Traffic Engineering and supplements, and Australian Standards.

C2. .Ensure that the minimum distance from an access place or road to a collector road is 60 metres if the junction is on the same side of the road, or 40 metres if the junction is staggered on opposite sides of the road. See Figure 6.

C3. Ensure that intersections are T-junctions and/or roundabouts. See Figure 6.

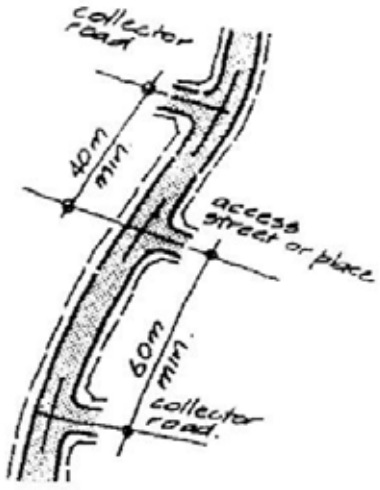


Figure 6

2.3. Road Design and Construction within Industrial Zones

Development Controls

C1. Ensure that new roads are constructed with kerb and gutter and are sealed from gutter to gutter. Construction is to be of a standard not less than Council's standard specification for heavy duty roads.

C2. Ensure that the minimum width of carriageway plus verge is 20 metre wide with 12 metre carriageway and 4 metre verges .The construction of 1.2 metre wide concrete footpaths will be required.

Note: Complete standard specifications for road and drainage works may be purchased or inspected at the Council Chambers.

C3. Cul-de-sac roads will only be accepted where surrounding land has been fully developed, or where the site specific controls for the area provide for cul-de-sac roads.

C4. Ensure that cul-de-sac roads have an 18 metres radius turning circle with 18 metres radius reverse curves on boundary alignments. See Figure 7.

C5. Provide a higher strength pavement for cul-de-sacs at intersections in industrial areas. Generally a minimum of 1 metre clearance is required.

2.4. Vehicular Crossings, Splay Corners, & Kerb and Guttering

Objectives

O1. To enable a person using the road to have access to the land on the other side of the footpath or channel.

O2. To provide road reserves consistent with their function within the road and pedestrian network, having regard to their safety, visual impact and amenity of local areas.

Development Controls

C1. Construct all works in accordance with Council's Vehicular Crossing Policy.

C2. Construct a plain concrete (not patterned or coloured) vehicle crossing at each vehicle entrance/exit to the property, to specifications found in Council's Vehicular Crossing Policy.

C3. Where a vehicular crossing exists and is in poor condition or is damaged during construction/ demolition or does not comply with Council requirements, Council require it to be fully reconstructed at no cost to Council. Where levels are changed as a result of development, the developer shall reconstruct the adjacent road pavement to suit the new levels.

C4. Fully reinstate the road shoulder adjoining newly constructed vehicular crossings to the satisfaction and/or requirements of Council's Engineer.

C5. For safety reasons, access to a property from a public road must clearly avoid items such as sewer vents, service poles, existing trees, street construction, light standards, telecommunications areas, stormwater pits, pedestrian crossings, pram ramps and the like, transformer units and the like which may be located in the footway area, unless the applicant is able to make arrangements for the relocation of equipment not owned by Council at no expense to Council.

C6. Maintain pedestrian safety by minimising potential pedestrian and vehicular conflicts through:

- Limiting the width and number of vehicle access points,
- ensuring clear site lines at pedestrian and vehicle crossings,
- utilising traffic calming devices, and
- separating and clearly distinguishing between pedestrian and vehicular accessways.

C7. Ensure adequate separation distances between vehicular entries and street intersections. For corner allotments, vehicular crossings must be no closer than 6 metres from the tangent point of the kerb at the intersection.

C8. Optimise the opportunities for active street frontages and streetscape design by:

- making vehicle access points as narrow as possible
- consolidating vehicle access within sites under single body corporate ownership
- locating car park entry and access from secondary streets and lanes.

C9. Where not already provided, splay corners are to be dedicated in road reserves at intersections as follows:

- Commercial subdivision 4m x 4m

- Industrial subdivision 6m x 6m
- Residential Subdivision 3m x 3m.

C10. As a condition of consent with all development applications, construct kerb, guttering and associated works along the street frontage(s) where no kerb and guttering currently exist.

C11. For development in R3, R4 and business zones, reconstruction of kerb and gutter where it is in poor condition will be required.

C12. Where kerb and guttering are damaged during construction/demolition, Council requires them to be fully reconstructed in accordance with Council's Engineer's requirements and at no cost to Council.

C13. Where kerb and gutter levels are changed as a result of development, the developer shall reconstruct the adjacent road pavement to suit the new levels. Council will require lodgement of a cash bond or a bank guarantee against satisfactory completion of these works. The amount of such bond will be determined at the development application stage and paid prior to the release of the construction certificate.

Note: Existing footpaving, kerb, gutter and the like is considered to be in "poor condition" where at least one of the following is observed: -

- The existing shows signs of failure with exposed (visible) aggregate within the concrete, cracking and/or level difference that creates or has potential to create a trip hazard;
- The kerb and gutter has rotated (tilted) and/or levels have changed which can result in stormwater ponding within the gutter;
- The existing footpath, kerb and gutter are not in accordance with Council's current standard, e.g. 150 kerb with monolithic gutter;
- The crossfall of the adjoining roadway is excessive. Generally 3% to 5% is considered acceptable within urban areas. Adjustment of the kerb and gutter level is necessary to reduce the crossfall, providing adequate vehicle ingress and egress and reduce the potential for a standard vehicle to scrape, and consideration of stormwater requirements;
- Excavation and installation of electrical conduit is required as part of the development within the footpath area in accordance with the relevant authority requirements;
- Removal of existing redundant vehicular crossings and construction of new vehicular crossings in different locations as part of the development. This will result in new and old sections which may be difficult to construct, can create a poor finish to the project, result in higher maintenance costs and can be difficult to construct without impacting on the adjoining existing asset.

2.5. Concrete Footpath Paving & Underground Ducts

Development Controls

C1. For all new development within R3, R4 and business zones, construct a concrete footpath of a minimum 1.2m width and associated works along the street frontage(s) and in specific locations consist of the following widths:

- R3 Medium Density Residential zone - 1.2 metres
- R4 High Density Residential zone - 1.5 metres

- Business zones (except where a contribution towards public domain improvements is required) - 2.5 metres

Note: Existing concrete footpaths which are in poor condition or were damaged during construction/demolition are to be fully reconstructed in accordance with Council's Engineer's requirements at no cost to Council. Council will require lodgement of a cash bond or a bank guarantee against satisfactory completion of these works. The amount of such bond will be determined at the development application stage and paid prior to the release of the construction certificate.

Note: Make satisfactory arrangements with the relevant electricity supply authority for the installation of underground ducts in the footpath area, prior to the construction of any concrete works on the footpath.

2.6. Kerb (Pram) Ramps

Development Controls

C1. In the case of new corner developments in business zones (except where a contribution towards public domain improvements is required), the construction of kerb ramp/s and associated works at road intersections is required.

Note: Existing kerb (pram) ramps which are in poor condition or were damaged during construction/demolition are to be fully reconstructed in accordance with Council's Engineer's requirements at no cost to Council

C2. Where kerb and guttering levels are proposed to change, the developer shall reconstruct the adjacent road pavement to suit the new levels.

Note: Council will require lodgement of a cash bond or a bank guarantee against satisfactory completion of these works. The amount of such bond will be determined at the development application stage and paid prior to the release of the construction certificate.

2.7. Guidelines For Road Widenings, Road Closures And Splay Corners in and Adjacent To Residential R4 Zones

The increase in population associated with higher density development makes it necessary for wider carriageways and footpaths to cater for the increase in vehicular and pedestrian traffic. Therefore, to achieve a more consistent road width and a more efficient road system, Council requires in those areas of higher density development, that a strip of land be dedicated for road widening.

Objectives

O1. To provide controls for road widening, road closures and splay corners.

O2. To achieve a more consistent carriageway width along the length of nominated roads.

O3. To achieve a more efficient road system in those areas of higher density development associated with the increase in population.

O4. To provide wider carriageways and footpaths to cater for the increase in vehicular and pedestrian traffic.

O5. Within the 'no development' strip located at the rear of the properties between Tottenham Lane and High Street, Granville (shown on Appendix K)

a) to make the laneway a safer place;
b) to create passive supervision;
c) to improve landscaping; and
d) to minimise opportunities for graffiti and vandalism.

Development Controls

Plans

C1. Plans for development applications must show any road widenings, splay corners, road closures and/or "No Development Strips" that are required by the provisions of this development control plan. This applies where:

a) the property is identified in Appendix K of this section; and
b) the property is not a single dwelling house.

C2. Applicants should note that this provision also applies to development for commercial purposes on land zoned Business, in accordance with Part C of this DCP.

Road Widening

C3. 1.5m of land shall be dedicated for road widening and/or footpath widening in areas where wider carriageways and footpaths are necessary to cater for the increase in vehicular and pedestrian traffic, as identified in Appendix K.

C4. The developer must meet the cost of constructing the widened road pavement, kerb and gutter and foot paving on the new alignment in accordance with the provisions of this plan.

Splay Corners

C5. In accordance with Appendix K showing where splay corners must be provided, the developer must construct and dedicate to Council any splay corner thus identified.

Road Closures

C6. Maps 1 and 4 Appendix K show where road closures will be constructed by Holroyd City Council. Council will maintain access to existing developments after the road closures have taken place.

C7. All new developments will not be permitted to use the roads proposed to be closed by the provisions of this plan for access to their land. Access to these sites must be off another road.

'No Development' Strip

C8. The 'no development' strip is located at the rear of the properties between Tottenham Lane and High Street, shown in Appendix K. The 'no development' strip is to start from the rear of the lots, and be a strip of land 4 metres wide. Landscape this land and keep it free from any structures.

C9. Locate decorative tubular pool style fencing that stands a minimum of 1.5 metres on the boundary of the laneway. Existing conditions are permitted, but the no development strip must be implemented for any future development to be approved.

Rear Access Laneway between High Street and Tottenham Lane

C10. Existing access from the laneway to lots will be continued. Access from the laneway to new developments will be prohibited, with access being from either Raymond Street, High Street, Junction Street or Tottenham Lane.

Land Fronting Parkside Lane, Westmead

C11. On those properties (Appendix K) subject to 6.0 metres of road widening, Council will require a minimum 4.0 metre setback to Parkside Lane. This setback distance shall be measures from behind the line of the required road widening as if the area of road widening had already been taken.

Implementation

C12. Carry out the construction of the road widening when:

- **a)** Affected sites are developed for any purpose other than for a single dwelling house.
- **b)** Affected sites containing an existing use, other than a single dwelling house, is the subject of an application for further development.
- **c)** Affected sites are the subject of an application for subdivision or strata subdivision.

C13. Complete the works required under this Development Control Plan prior to the release of an occupation certificate by Council.

C14. In the case of all sites, other than those used, or to be used, for a single dwelling house, show the required works on any strata or subdivision plan submitted to Council for approval. Council will hold a bond on the dedication of the subject land.

Andrew Place, Girraween

C15. 0.5m of land as shown in Figure 10 of Appendix K is to be dedicated to Council for the purposes of road widening.

C16. A 10m wide accessway shall be provided between Andrew Place and Targo Road as indicated in Figure 10. Amalgamation of 155, 153A Targo Road and 18-20 Andrew Place (as indicated in Figure 10) is required in order to achieve the accessway.

C17. Development within the amalgamated lots shall be orientated to address all road frontages including Targo Road, Andrew Place and the proposed accessway.

Land Fronting Church Street, Granville

C18. 5m of land as shown in Figure 11of Appendix K is to be dedicated to Council for the purposes of road widening.

Greystanes Shopping Centre

C19. A 9m wide easement for the purposes of a public thoroughfare shall be provided in accordance with Figure 12 of Appendix K.

3. Car Parking

3.1. Minimum Parking Spaces

Objectives

O1. To ensure that adequate and convenient off-street parking facilities are provided for all vehicles generated by the various types of development.

O2. To ensure that off-street parking facilities do not interfere with traffic flow and safety in adjacent streets or endanger pedestrian traffic on or off the site.

O3. To limit traffic generation associated with private vehicle use, in order to encourage public transport, walking and cycling, as alternative forms of transport, where possible.

Development Controls

C1. Parking spaces shall be provided in compliance with Council's minimum car parking spaces requirements as set out in Table 3.1.

C2. Parking rates for commercial and other non-residential land uses may be provided off-site with payment of a local parking contribution where a Section 94 development contributions plan makes provision for such contributions.

C3. Notwithstanding the above provision, a minimum parking rate of 20% and maximum of 70% must be provided on-site.

Note:

- State Environmental Planning Policy 59 may apply in some instances.
- Site specific parking rates as indicated in Part G may apply.
- Where circumstances warrant, such as for Major Parking Generators for example, Council may seek higher standards.
- If applicants are of the opinion that in the circumstances of the proposed development, the full car parking requirement is not necessary, or will not be required when the use of the building commences, Council may reduce the requirement for parking or may defer the provision of some of the car parking. In the latter case, Council may permit a portion of the car parking area to be used for an alternative purpose or may require the area to be landscaped.
- Holroyd Local Environmental Plan 2013 may apply in relation to parking rates for Heritage Items.
- All calculations for parking rates shall be rounded up.
- Controls permitted S94 contributions for future public parking do not apply until a S94 plan permits such contributions.

General Controls

Residential			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Attached dwellings and Small lot dwelling houses (<300m^2 or 8m or less width)	Per dwelling	1	2 (max. 1 covered)
Dwelling houses (other than on small lots), semi detached dwellings, dual occupancies.	Per dwelling	2 (min. 1 covered)	n/a
Multi dwelling housing	Bedroom per dwelling: Studio / 1 bedroom	1	1.5
	2 bedroom	1	2
	3 bedroom	1.2	2
	4+ bedroom	1.5	2
	Visitor / dwelling	0.2	0.5
Residential flat buildings, dwellings in B1, B2 and B6 business zones (including shop top housing)	Bedroom per dwelling: Studio / 1 bedroom	0.8	1
	2 bedroom	1	1.5
	3 bedroom	1.2	2
	4+ bedroom	1.5	2
	Visitor / dwelling	0.2	0.5
Dwellings in mixed use development in B4 Mixed Use zone (including shop top housing)	Bedroom per dwelling: Studio / 1 bedroom	0.8	1
	2 bedroom	1	1.2
	3 bedroom	1	1.2
	4+ bedroom	1.2	1.5
	Visitor / dwelling	0.2	0.2
Secondary dwellings ("Granny Flats")	Additional parking spaces	None required	n/a

Self-contained dwellings and "hostels" for aged and disabled persons (excluding Residential Care Facilities)		Refer to State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004	
"Residential Care Facilities" As defined by the SEPP (Housing for Seniors or People with a Disability) 2004 (use for "Nursing and Convalescent Homes")			
Group Homes and "hostels "		Refer to State Environmental Planning Policy (Affordable Rental Housing) 2009	
Bed and Breakfast Accommodation	Off-street spaces per guest bedroom	1 (provided behind the building line)	n/a
Private Hotels	spaces per bedrooms,	1 per 2	n/a
	+ spaces per resident manager,	+ 1	
	+spaces per employees.	+ 1 per 2	

Motels / Hotel Accommodation in B4 Merrylands zone [not "Pub"] and B2 (Wentworthville, Pendle Hill, Toongabbie & Guildford) zone.	spaces per unit	1	n/a
	+ spaces per employees	1 per 2	
Motels / Hotel Accommodation in all other areas.	spaces per unit	1	n/a
	+ spaces per employees	+ 1 per 2	

Retail & Commercial			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Commercial (including retail premises, business premises and office premises) - B4 zone	Ground Floor Leasable GFA	1 per 50m^2	1 per 15m^2
	Above Ground Floor Leasable GFA		
Commercial (including retail premises, business premises and office premises) - B2 zones in: * Wentworthville * Pendle Hill * Toongabbie * Guildford	Ground Floor - Leasable GFA	1 per 20m^2	1 per 15m^2
	Above Ground Floor - Leasable GFA	1 per 40m^2	1 per 20m^2
Commercial (including retail premises, business premises and office premises) in all other B1, B2 and B6 zoned areas	Ground Floor - Leasable GFA	1 per 20m^2	1 per 10m^2
	Above Ground Floor - Leasable GFA	1 per 40m^2	1 per 15m^2
Neighbourhood shop	leasable GFA	1 space per 30m^2	n/a
Bulky goods premises (in B5 zones) + Open yard activities/ storage (including "Timber and building supplies " + "Landscape and garden supplies") + Hire Centres	GFA, or	1 per 50m^2, or	n/a
	Spaces per employees,	1 per 2, whichever is the greater	
	+ space per open yard area	+ 1 per 140m^2	

Retail & Commercial continued			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Food and drink premises and registered clubs in B1, B2, B6 and R4 zones:	GFA	1 per 10m²	n/a
Upon demonstration to Council that the restaurant will have its main patronage outside of normal business hours and that there is existing parking in the vicinity, consideration may be given to reducing the above requirement. (For major developments with a mixture of uses, overlapping parking demands may be considered.)			
Food and drink premises (including Restaurants, Take away food and drink premises and Pubs) in all zones other than B1, B2, B4, B6 and R4)	GFA	1 per 8m²	n/a
Pubs and Registered Clubs in B4 zones	GFA	1 per 25m²	n/a
Upon demonstration to Council that the pub, tavern or licensed club will have its main patronage outside of normal business hours and that there is existing parking in the vicinity, consideration may be given to reducing the above requirement. (For major developments with a mixture of uses, overlapping parking demands may be considered.)			
Health consulting rooms (in residential area)	per surgery, specialist room, etc	3 (min. 1 disabled)	n/a
Medical centre	GFA	1 per 25m²	
Note: disabled parking at medical centres is at the discretion of Council, (above the minimum elsewhere of 2 spaces per 100 visitor or customer spaces up to 400 spaces, and 1 per 100 thereafter, or part thereof).			
Sex Services Premises	space per employee on the premises	1 per 2 (1 suitable for disabled)	n/a

Automotive			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Car Wash Facility (machine and hand wash)	per automatic bay, or	5 (to allow for queuing)	n/a
	per GFA hand-wash bays or where vacuum facilities are available		
	+ per staff member	+ 1	
Service Station	per work bay (in vehicle workshop)	6	n/a
Convenience Store	GFA	1 per 20m²	n/a
Vehicle repair stations, vehicle body repair workshop	per work bay	3	n/a
	+ GFA of offices	+ 1per 40 m²	
Spare parts/accessories sales	GFA	1 per 20m²	n/a

Battery, tyre, muffler service	per work bay	3	n/a
	+ GFA of offices	+ 1 per 40 m^2.	
Vehicle showroom , and new and used car sales yard (called "Vehicle sales or hire premises "	GFA of display area	1 per 140m^2	n/a
	+ space per employees.	+ 1 per 2 employees	

Entertainment and Recreation			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Function centres	per guest	0.25	n/a
	+ per employees	+ 1 per 2	
	+ GFA of office	+ 1 per 40m^2	
Squash Courts	spaces per court	2	n/a
Tennis Courts	spaces per court	2	n/a
Bowling Alley	spaces per alley	2	n/a
Indoor Cricket	spaces per pitch	15	n/a
Lawn Bowling Greens	spaces for the first green	30	n/a
	spaces for additional greens	+ 15 for each	
Gymnasium and Fitness Centre*	GFA	7 per 100m^2	n/a
*Applies whether the Centre is a separate development or in conjunction with other recreational facilities.			
Entertainment Facilities (Theatres, Cinemas, Concert Halls, Public Halls, places of assembly)	per seats	1 per 6 (based on the maximum accommodation allowed under any licensing requirement)	n/a
Recreation Facilities Major**	GFA of assembly area, or	1 per 10m2 or	n/a
	space per seats	1 per 6 seats, whichever is greater	
**Recreation Facilities Major applies to sports stadiums, showgrounds, racecourses, motor racing, and the like			
Recreation Areas***	Requires a traffic study		n/a
***Recreation Areas applies to children's playgrounds, community sporting facilities, public parks, reserves, gardens, and the like			
Information and education facility****	GFA of assembly area, or	1 per 10m^2	n/a
	space per seats	1 per 6, whichever is greater	
****Information and education facility includes an art gallery, museum, library, visitor information centre and the like.			

General Controls

Industrial			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Factories (including amenities)	GFA	1 per 70m²	n/a
	+ GFA of offices	+ 1 per 40m²	
Warehouses (including amenities)	GFA	1 per 300m²	
	+ GFA of offices	+ 1 per 40m²	
Note: The above figures do not apply to Yennora Distribution Centre– see Part D			
Industrial Units	GFA of each unit	1 per 70m²	n/a
Bulky goods premises	GFA or	1 per 50m² or	n/a
	space per employees	1 per 2 employees, whichever is the greater	
Open yard activities/ storage (including "Timber and building supplies ")	GFA	1 per 140m²	n/a
	+ space per employees	+ 1 per 2 employees	
Hire Centres	GFA of buildings	1 per 70m²	n/a
	+ GFA of open yards storage area	+ 1 per 140m²	

Community Uses			
Use	**Measure**	**Minimum Spaces Required**	**Maximum Spaces Required**
Hospitals	* per beds	1 per 3	n/a
	+ per resident matron	+ 1 per resident matron	
	+ per employees	+ 1 per 2 + an ambulance bay	
Note: disabled parking at hospitals is at the discretion of Council, (above the minimum elsewhere of 2 spaces per 100 visitor or customer spaces up to 400 spaces, and 1 per 100 thereafter, or part thereof).			
Schools (primary and secondary)	* per employee,	1 per 1	n/a
	+ per students	+ 1 per 100 (for visitors parking)	
	+ public areas	+ pick up and setdown area + bus bay	
Note: Numbers assume that the school has a policy of not permitting final years students to drive to school. Otherwise, a traffic study is required.			
Child Care Centres/Kindergartens/After school care facilities	per children	1 per four	n/a
	per employee (only required for child care cetres located in the R2 zone)	1 per two	
Places of Public Worship	GFA	1 per 8.5m²	n/a

Bicycle Parking

USE/LOCATION	MEASURE	MINIMUM SPACES	MAXIMUM SPACES
Ground floor - business zones	GLFA: Employee	1 per 300m^2	Unlimited
	GLFA: Visitor	1 per 2500m^2	
All first- floor business zones and all other commercial floors	GLFA: Employee	1 per 200m^2	
	GLFA: Visitor	1 per 750m^2	
Residential Flat Buildings	Unit:		
	Studio	None	
	1 bedroom	0.5	
	2 bedroom	0.5	
	3+bedrooms	0.5	
	+Visitors per unit	0.1	

3.2. Parking Design Guidelines

Objectives

O1. To ensure that parking areas are readily accessible and usable and adequately provide for circulation and manoeuvring of vehicles.

O2. To ensure that the external appearance of any car parking structure or area is of an acceptable standard and finish when viewed from the street.

Development Controls

Note: Parking design for specific land uses are addressed under those Parts of this DCP.

External Appearance

C1. Use setbacks from the front facade and landscaping to soften the impact of car parking structure or areas. Unpaved car parking will not be permitted.

Alterations and Additions

C2. Where the application involves alterations and additions to existing premises for the purpose of its existing use, base the additional car parking requirement on:

a) the net increase in gross floor area, or

b) the number of seats, or

c) beds or

d) whatever the specific requirement is for that type of development,

in addition to the original parking requirement. However, if the Council is of the opinion that the application involves the virtual reconstruction of the building, it may require the provision of car parking based on the total requirement of the development - existing plus proposed.

Change of Use

C3. Where the application involves a change of use to a purpose which would generate a greater car parking requirement than the previous purpose, in terms of this Plan, provide additional parking based on the difference between the two requirements. See also the clauses regarding changes of use involving virtual reconstruction of the building.

C4. Take into consideration the possibility of a change of use, and make due allowance for the provision of additional parking spaces when the property is developed. This applies particularly to properties where the type of occupancy could be subject to variation. Failure to provide adequate parking spaces under these circumstances could lead to the rejection of a development application for a change of use.

New Buildings

C5. New buildings shall be assessed in terms of the total parking requirement specified under this Plan. Do not calculate parking requirements based on a previous use on the land. However, Council may consider a reduction in its requirements where it is of the view that:

C6. the proposed usage is preferable to the previous use, and

a) there would be some hardship in carrying out the proposal if the full car parking

requirement were to be met, and

b) there would not be any increase in on-street parking generated by the proposal relative to the previous use of the land.

Mixture of Uses

C7. Where a development comprises several uses that require different parking spaces according to this Plan, it will be assessed as follows:

a) Where the component uses are operated concurrently (e.g. squash court/fitness centres), parking will be assessed as the sum of the requirements for each component. Where the Plan requirement for one or all of those components is based on the gross floor area, calculations shall include an appropriate proportion of any shared common or administrative area.

b) Where the component uses are not operated concurrently (e.g. markets and church halls; or indoor recreation facilities and warehouse), parking will be based on whichever of the components generates the greatest car parking requirement. The onus will be on the applicant to satisfy Council that the uses are not operated concurrently.

c) Where the main usage periods of the component uses do not coincide, Council may consider a reduction in the car parking requirement provided the total car parking is not less than that needed for the component which generates the greatest requirement. The onus will be on the applicant to satisfy Council that the main usage periods do not coincide or compete with car parking.

Major Parking Generators - Justification of Parking Proposals

C8. For applications involving major traffic generating development, such as major retail development, new hotels and licensed clubs, certain recreational uses, etc. the applicant will have to justify to Council the amount of car parking which should be provided. All such uses, identified by Schedule 3 of State Environmental Planning Policy (Infrastructure) 2007, are potentially intensive generators of car parking, and parking for the disabled. Accordingly, the level of parking generation may vary substantially. The Council will therefore require the preparation of an appropriate study or survey.

Previous Provisions of Parking Spaces

C9. Where a provision of car parking has previously been made in respect of a particular property, such provision may be taken into account when assessing the parking requirement for any redevelopment of that land.

3.3. Dimensions and Gradients

Objectives

O1. To ensure that parking areas are readily accessible and usable and adequately provide for circulation and manoeuvring of vehicles.

Development Controls

Dimensions for Car Parking Spaces

C1. A minimum parking space length of 5.5 metres applies; however longer spaces are required for parallel parking. This applies to both enclosed and open car parking spaces.

C2. A minimum parking space width of 2.4 metres applies; however the following widths also apply:

a) enclosed garages (single) - 3.0 metres with 2.8m metres minimum between door jambs;
b) where the space is also used for access to waste bins or to a courtyard (single garage)- 3.6 metres;
c) enclosed spaces (e.g. between walls/fences) - 3.0 metres;
d) double garages - 5.5 metres with 5.3m metres minimum between door jambs;
e) where the space is also used for access to waste bins or to a courtyard (double garage) - 6.1 metres.

C3. A minimum clearance height of 2.3 metres applies.

C4. Minimum widths and clearance heights for parking for the disabled shall comply with the requirements of AS2890.6-2009.

Note: The above dimensions are clear of all obstructions including columns, ducts, pipes, jambs, etc.

Aisle Widths for Open Car Parks not containing Garages

C5. For 90 Degree Parking

Space Width Metres (m)	Aisle Width Metres (m)
2.4	7.2
2.5	6.7
2.6	6.3
2.7	5.8

C6. For undercover parking consisting of garages or lockable spaces, the minimum aisle width shall be 7.0 metres.

Angle Parking

C7. For angle parking:

Minimum Dimensions (m)	Angle (Degrees)		
	30°	45°	60°
Aisle Width (Column free)	2.9	3.8	4.6
Aisle Width (with Columns)	3.3	4.3	5.3
Perpendicular Depth of Car Space	4.9	5.6	6.0

Parallel Parking

C8. For parallel parking:

Aisle Width (m)	Space Length (m)	
	Column Free	With Columns
3.0	6.3	6.6
3.3	6.1	6.4
3.6 +	5.9	6.2

Motor Cycling Parking

C9. Parking for motor cycles shall be 2.5 metres deep with a width of 1.5 metres per motor cycle, parking at 70 or 90 degrees to the kerb.

Gradients for Parking Floors

C10. Provide up to the maximum gradients for parking spaces and floors as follows. All gradients must be consistent with Australian Standard AS2890.1 - 2004 (Off Street Parking.), and in the case of any inconsistency with the figures below the Standard applies:

at 90 degrees to the angle of parking	1:16 (6.25%)
parallel to the angle of parking	1:20 (5.0%)
parking spaces for the disabled - in either direction	1:40 (2.5%)

Gradients for Ramps and Driveways

C11. Provide Gradients for Ramps and Driveways as follows:

a) Maximum gradient of 1:6 (17%).

b) Intermediate gradients are required for changes of gradient greater than 1:8 (12.5%). (For the maximum 1:6 gradient an intermediate gradient of 1:10 (10%) for 2.0 metres in length would be required).

c) Gradients adjacent to entry/exit points to be a maximum of 1:20 (5%) for the first 6 metres inside the property boundary, but for long term parking up to 25 spaces with no goods vehicles usage, this may be reduced to a maximum of 1:10 (10%) for 3 metres.

d) Where ramps and driveways are also intended to be used as part of an access route for people with disabilities from parking spaces to the premises or street, gradients are to be of a maximum of 1:14, designed in accordance with AS 1428, Parts 1 & 2.

Straight Ramps

C12. Provide the minimum dimensions for straight ramps (kerb to kerb) as follows:

one way ramps	3.5m
two way ramps	6.5m
Separator width (where provided)	0.6m
Minimum clearance from kerb to obstruction (wall column)	0.3m

Curved Ramps

C13. Provide the minimum dimensions etc for curve ramps as given in Australian Standards 2890.1-1993 Off-Street Parking.

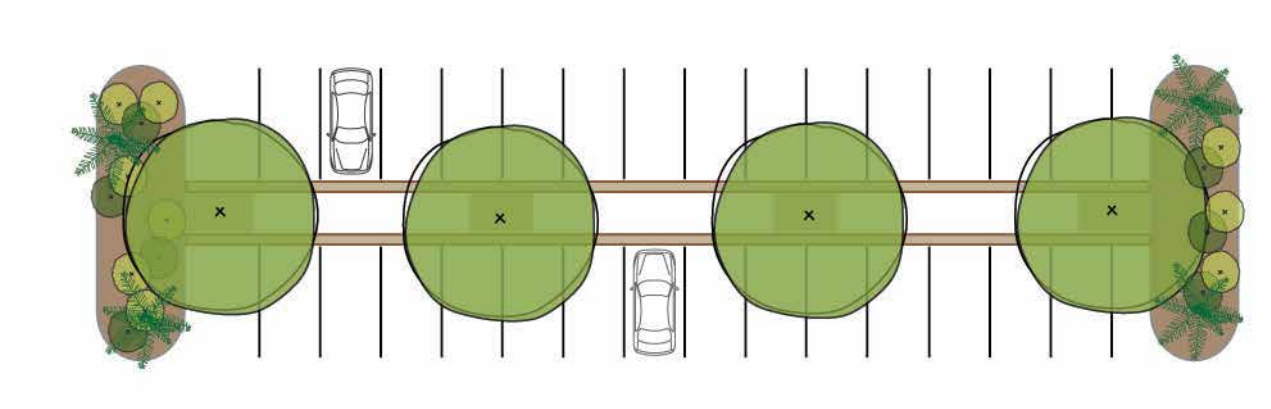


Figure 8

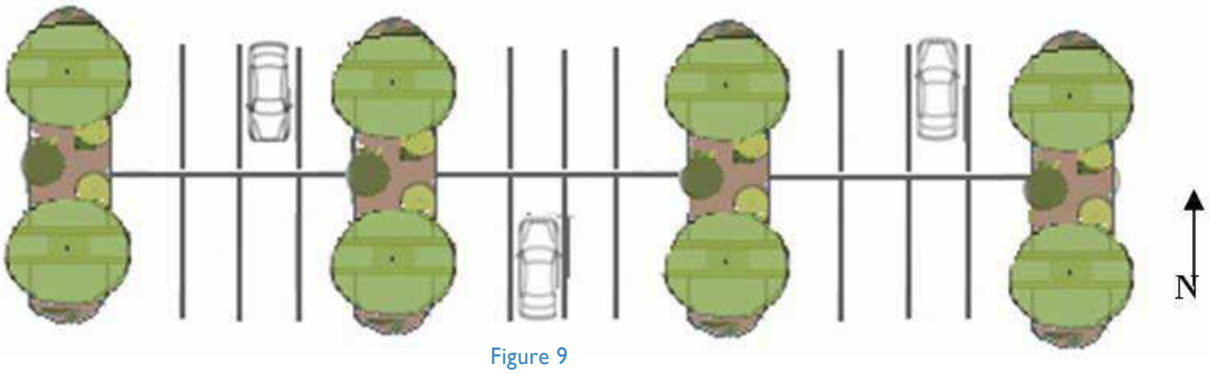
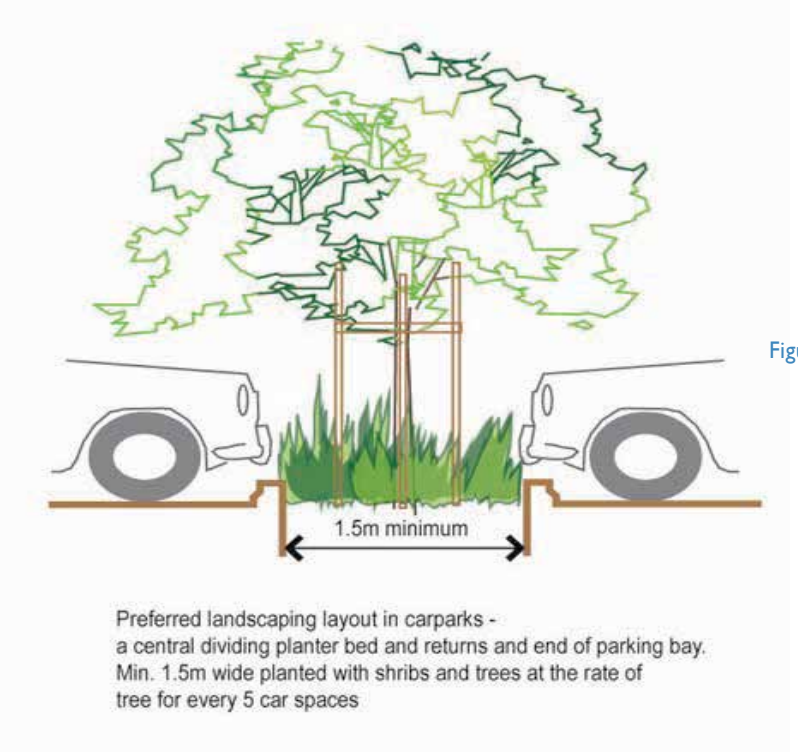


Figure 9



Preferred landscaping layout in carparks -
a central dividing planter bed and returns and end of parking bay.
Min. 1.5m wide planted with shribs and trees at the rate of
tree for every 5 car spaces

Figure 10

3.4. Site Works

Objectives

O1. To ensure that off-street parking facilities do not interfere with traffic flow and safety in adjacent streets or endanger pedestrian traffic on or off the site.

O2. To ensure that parking areas and associated facilities are of an acceptable appearance by imposing construction standards and landscaping requirements.

O3. To provide for adequate drainage, lighting and ventilation within car parking areas.

O4. To ensure that on-site parking is appropriately designed, treated and landscaped.

O5. To reduce the amount of hardstanding areas within an open car park and provide shade to vehicles.

Objectives

Drainage, Light, & Ventilation

C1. In all car parking areas, provide adequate drainage of surface water to Council's stormwater system, to prevent flooding of adjoining property or public footpaths. In this regard, confer with the Council's Development Engineer in the case of open car parks, and the Building Surveyor for parking within buildings.

C2. Where a car park is excavated, make provision for the drainage of runoff and seepage, and where necessary, obtain an easement over adjacent properties to facilitate this.

C3. Obtain consent, to Council's satisfaction, from downstream property owners where the easement is to be created. Consent shall be via proof of the adjoining owner's consent submitted with the development application, and will be required prior to the issue of the Development Consent.

Note: Section 6 of this Part details further drainage and stormwater requirements.

C4. Ensure covered or enclosed car parks have adequate provision for lighting and ventilation, preferably by natural means:

a) Lighting must be sufficient to allow a person to see into the back seat of a parked car.
b) Artificial lighting must be vandal resistant.
c) Council may require the provision of artificial lighting and ventilation where necessary.
d) Mechanical ventilation systems shall be installed for car parks in accordance with BCA and AS 1668 requirements .
e) Ensure mechanical ventilation of car parks minimises noise impacts in accordance with the Protection of the Environment Operations Act 1997. To this end, an acoustic report may be required by Council.

Landscaping of open car parks

C5. Adequately landscape open car parking to screen them from view of the street and other public areas.

C6. Provide a landscape strip of between 1.5 metres and 3.0 metres along the frontage to a street

or other public property. A greater landscaped strip may be required to screen multi-level car parks.

C7. Provide landscaping to all car parking areas so as to break up large expanses of paving and cars. Provide landscaping:

- around the perimeter;
- at the ends of parking bays;
- for north-south central divides, one every five (5) car spaces, set within a continuous planter bed divide (as per Figure 8 & 10);
- for east-west central divides, one every five (5) car spaces between aisles (as per Figure 2) (planter beds of 1.5 m and 3.0m long, surrounded by a 150mm concrete kerb); and
- along pedestrian access routes.

C8. Use contrasting finishes to break up large sections of paving and to delineate pedestrian areas, entries or car parks. Use porous paving wherever possible (Refer Fig. 8 & 10).

C9. Delineate parking and circulation areas by planter beds at the ends of parking bays. Ensure planter beds are a minimum width of 1.5 m and 3.0m long, surrounded by a 150mm concrete kerb and shall contain both trees and shrubs. See Figure 11.

C10. Establish and maintain such landscaping strips with appropriate planting of shrubs and shade trees.

C11. Provide a fully automatic irrigation system in all car park planter beds. Install tree root barriers around the edge of planter beds to reduce future maintenance.

C12. Submit a detailed landscape plan of the open car park as part of the Development Application, for Council's consideration and approval. The landscape plan shall:

- Be prepared by a suitably qualified person and be of a minimum scale of 1:100;
- Plant trees and shrubs in sufficient numbers and scale to ensure that they have an informal an softening effect on buildings and the overall environment;
- Ensure that any on-site stormwater detention system is complementary to and corresponds with the proposed landscape treatment;
- Screen and shade private open spaces;
- Provide privacy to occupants of neighbouring properties;
- Screen poor views;
- Be easily maintained;
- Where possible, use Australian native plants, particularly material indigenous to the area;
- Provide for street trees consistent with, and complementary to existing street trees at 6 metre centres within the footpath area at the front of the property; and
- Detail the position of existing street trees, where relevant, and show the location of street tree plantings.

Car Wash Space provision

C13. Where a car wash space is provided, minimise impervious areas by using pervious or open pavement materials. This may be turfed or gravel and should prevent contaminants from entering the stormwater system . Sydney Water prohibits hosing of hard surfaces during water restrictions.

3.5. Access, Manoeuvring and Layout

Objectives

O1. To ensure that parking areas are readily accessible, usable and adequately provide for circulation and manoeuvring of vehicles.

O2. To encourage the efficient flow of traffic through car parks to minimise the potential for pedestrian and vehicle conflict.

O3. To ensure that off-street parking facilities do not interfere with traffic flow and safety in adjacent streets or endanger pedestrian traffic on or off the site.

O4. To prohibit the use of wide and dominating access ways as they impact on the streetscape and interrupt active uses along street frontages.

O5. To locate on-site car parking so that it is convenient and accessible to the persons using it; that is, within a reasonable distance of access to the premises it serves .

O6. To locate driveways to minimise the loss of on-street car parking, and to minimise the number of access points and impact of pedestrian areas.

O7. To locate car parking and service/delivery areas to minimise their visual impact to the public domain.

O8. To locate parking and service/delivery areas to minimise conflict between pedestrians and vehicles and to minimise impact on public and residential amenity.

Development Controls

Internal Roadways

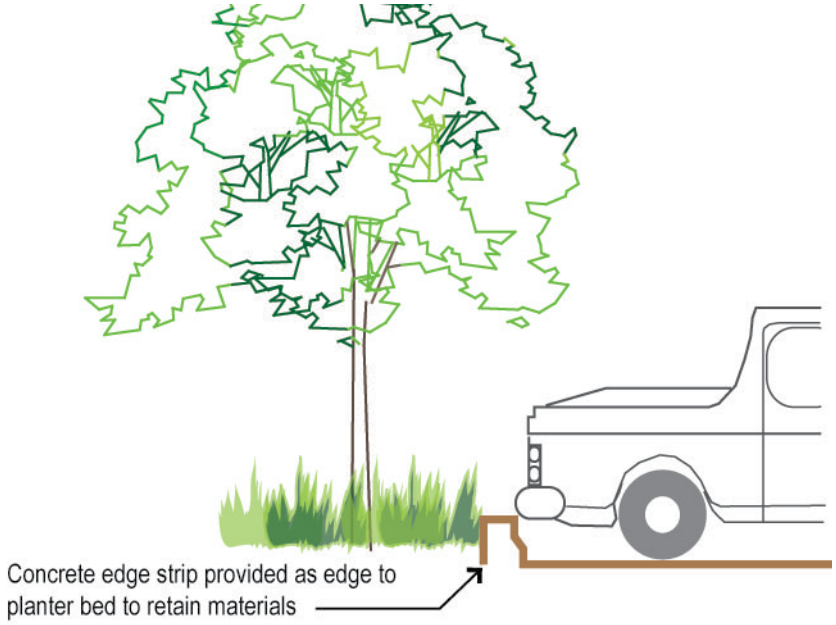
C1. The minimum width for internal roadways that access internal parking areas/structures depends on the number of parking spaces and service bays served. Provide minimum widths for two-way traffic as detailed below:

3-10 spaces	4.0m - 6.0m*
11-25 spaces length not exceeding 40 metres	4.5m - 6.5m
26-50 spaces or 0-25 spaces + service bay	5.0m - 7.0m
Over 50 spaces or 25 spaces + service bay	6.0m - 8.0m

Note:

- Consideration will be given to increasing the higher widths where high levels of heavy vehicle usage are anticipated within a development or where the development fronts an arterial or sub-arterial road.
- *In the case of residential developments of 3-10 spaces, the width for internal roadways is between 3m (plus 1m side boundary setback), and 6.0m (plus 1m side boundary setback).

C2. Passing bays shall be located every 30 metres fro long driveways sevicing 4 or more dwellings.



Wheel stops car overhang into garden beds reducing exhaust fumes and physical damage to planting. Only concrete is permissible

Figure 11

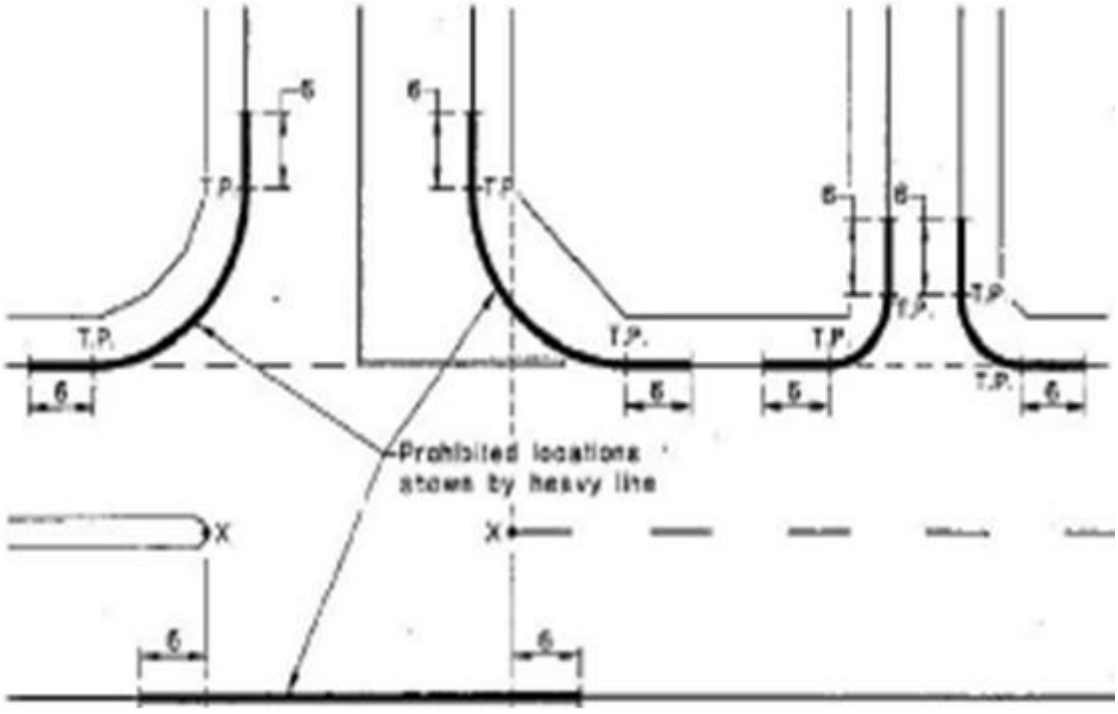


Figure 12

General Layout

C3. Design car parking areas to expedite vehicle circulation by adopting a simple layout and by minimising congestion points and the possibility of conflicting vehicle movements.

C4. Ensure that all vehicles using the car park can conveniently enter and leave the site in a forward direction.

C5. Within larger, short term car parks, adopt a one-way circulation pattern.

C6. Dead-end aisles shall not service more than 12 spaces unless a turnaround facility is provided. A manoeuvring layback is required at the end of dead-end aisles to facilitate access to the end car spaces.

C7. Locate and design driveways to avoid the following:

a) being located opposite other existing access ways with significant vehicle usage;
b) restricted sight distances;
c) on-street queuing; and
d) being located within 6m of an intersection.

Note : Consideration may be given to the provision of car parking facilities on another adjacent parcel of land if the applicant can provide a secure guarantee that such parking will be available at all times during the currency of the development.

C8. Development on arterial roads is to provide access via a secondary street or via a slip road for larger developments (i.e. development sites more than 5000m^2 in size).

C9. Car park entries are to be set back behind the building line to reduce their visual dominance, and to reinforce building articulation along street frontages (min. 1.0m).

Driveways

C10. A passing bayshall be provided every 30m for driveways servicing 4 or more dwellings to comply with Australian Standard 2890.1-2004.

C11. Provide the appropriate class of access driveway for each particular parking facility, taking into account:

a) the land use category;
b) the road frontage type; and
c) the size of the parking facility.

Note:

- For specifications for vehicular crossings, further consult Council's Vehicular Crossing Policy.
- As a general rule, low to medium turnover rates are generated by most residential, industrial and commercial uses, whereas high turnover rates are likely to be generated by entertainment, transport and retail land use.

Minimum setbacks from side property boundaries to driveways

C12. Provide as a minimum the following setbacks from side property boundaries to driveways:

Residential density	Setback from side property boundaries to driveways
Detached dwellings, dual occupancies, integrated housing & medium density development.	1.0m
Residential flat buildings & buildings where there is a commercial component	1.5m

C13. Suitably landscape the area between the driveway and property boundary.

C14. Construct the driveways of full width plain concrete (not patterned or coloured) from the kerb or layback up to the front property boundary. This ensures consistency and regularity in residential environments.

C15. Locate driveways a minimum of 6.0m from kerb return tangent points of corners (refer Figure 12).

Swept Turning Paths

C16. In restricted manouevring areas where standard turning templates cannot be used, a swept path analysis using the largest design vehicle in accordance with Austroads shall be provided.

Note: Where there is any doubt as to the suitability of manoeuvring areas, Council will assess proposed road designs based upon swept turning paths of appropriate vehicles as defined by the Roads and Maritime Service's 'Guide to Traffic Generating Developments' and 'Road Design Manual'.

Clearances

C17. The minimum permitted clear headroom within car parking areas is 2.3 metres, or as per 2.5 metres for parking spaces for the disabled.

C18. Clearance heights for each category of commercal vehicles shall be in accordance with AS2890.2.

C19. Ensure that the provision of pipes, ducts and sprinkler systems within the car park does not compromise minimum clearances.

C20. In casual parking areas, install flexible clearance striker bars at entry points.

Pedestrian Circulation

C21. Locate car parking spaces to not obstruct pedestrian access to the premises or major pedestrian routes. Within large car parks, give consideration to provision of segregated routes for major pedestrian movements.

Speed Humps

C22. Speed humps within car parks are to be in accordance with AS2890.1-2004. Where it is necessary to provide speed humps to regulate vehicle speeds on public roads, these shall be provided in accordance with Council's Local Area Traffic Management Policy.

C23. Locate proposed speed humps in detail on application plans.

Linemarking and Signposting

C24. Linemark all car parking spaces clearly. Where customer or visitor parking is provided, indicate the location of these spaces with signposting .

C25. Where a one-way circulation pattern is adopted, indicate the direction of flow by signposting and arrow markings on the surface of aisles and driveways. Segregated entries and exits are to be signposted to that effect.

C26. In large car parks, indicate the means of egress by directional signs.

C27. Signpost parking spaces for the disabled in accordance with the Australian Standard AS 1741.11 and AS 2890.1.

Note: Show the location of signs on application plans.

3.6. Parking for the Disabled

Objective

O1. To ensure that parking areas are readily accessible.

O2. To provide parking spaces that are usable for disabled people.

O3. To provide adequately for the circulation and manoeuvring of the vehicles of disabled people.

Development Controls

C1. Provide parking for the disabled at the rate of 2 spaces per 100 visitors or customer spaces up to 400 spaces, and 1 per 100 thereafter, or part thereof . Ensure compliance with Table D3.5 (Carparking spaces for people with a disability) of the Disability (Access to Premises — Buildings) Standards 2009 Act, and AS/NZS 2890. 6 - Off-street carparking for people with disabilities.

C2. Council may seek additional parking for the disabled where it is of the opinion that the development, either due to its nature or context, will generate a greater demand for disabled parking spaces than the above rates. For example, adequate parking for the disabled should be provided to service developments likely to have a high level of patronage by people with disabilities, such as hospitals, medical centres, housing for older people or people with a disability, etc.

C3. Parking for Self-contained dwellings and "hostels" for aged and disabled persons, and Residential Care Facilities must comply with requirements of the State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004. See Section 3.1 of this Part of the DCP.

C4. Disabled Parking spaces shall be located in accordance with AS 2890.6:

a) as close as possible to the entrance(s) of subject premises,

b) on a maximum floor gradient of 1:40 (2.5%) ,

c) with ramp access to the premises provided at a maximum gradient of 1:14, and

d) be signposted using standard signage in accordance with Australian Standards AS 1741.11 and AS 2890.1.

C5. For Health consulting rooms in residential areas, provide at least 1 surgery space as parking for the disabled, subject to consideration under C2 above;

C6. For Medical Centres provide sufficient parking for the disabled, above the minimum standard elsewhere (of 2 spaces per 100 visitor or customer spaces up to 400 spaces, and 1 per 100 thereafter, or part thereof);

C7. Provide a minimum clearance height of 2.5 metres for parking for the disabled;

C8. Provide a minimum clear headroom within car parking areas of 2.5 metres for parking spaces for the disabled; and

C9. The width shall be in accordance with AS2890.6-2009.

Note:

- Detail the location of parking for the disabled on application plans.

- Specific parking requirements for disabled persons are found elsewhere in this Part of the DCP under Section 3.1 above.

3.7. Referrals/Other Approvals

Note: Pursuant to Section 91 of the EP&A Act1979, some proposals constituting Integrated Development will be referred to the Roads and Maritime Service for approval under the Roads Act 1993. Where this is necessary, proposals should be supported by a traffic study prepared by a suitably qualified Traffic Engineer.

Note: In addition, under the provisions of State Environmental Planning Policy (Infrastructure) 2007, major traffic generators, particularly those on or near to major roads, will require referral to the RMS. Applicants are referred to Part 9 of the Roads and Maritime Service's 'Guide to Traffic Generating Developments'. Where a proposal is referred to either the local or regional traffic committee, applicants should provide appropriate traffic studies prepared by a suitably qualified Traffic Engineer.

4. Tree and Landscape works

4.1. Preservation of Trees

Objectives

O1. To guide the management of trees within the City of Holroyd.

O2. To conserve and retain trees and vegetation within the City of Holroyd.

O3. To provide for and retain habitats for native wildlife.

O4. To promote the retention and planting of trees.

O5. To improve air quality, prevent soil erosion and assist in improving water quality stormwater retention and energy conservation.

O6. To provide shade and shelter for residents.

O7. To enable increased privacy for development.

O8. To maintain the character of place that trees and vegetation provide to the City of Holroyd.

O9. To ensure that pruning works comply with the relevant Australian Standard, in order to maintain and improve a tree's health.

Development Controls

Note: Holroyd Local Environmental Plan 2013 applies to trees prescribed within this DCP.

C1. Prescribed trees or vegetation for the purposes of Holroyd Local Environmental Plan 2013 includes all trees and vegetation over a height of 3.6 metres (12 feet).

C2. Except where located in Pemulwuy, any tree located less than 2 metres from the external walls of an approved residential dwelling, as measured from the outside edge of the trunk at 1 metre above existing ground level, is not a prescribed tree for the purposes of Holroyd Local Environmental Plan 2013.

C3. Tree species listed in Table 1 are not prescribed trees or vegetation for the purposes of Holroyd Local Environmental Plan 2013.

C4. Tree species listing in Table 2 are not prescribed trees for the purposes of Holroyd Local Environmental Plan 2013, where located within 5 metres of the external wall of an approved residential dwelling, as measured from the outside edge of the trunk, 1 metre above existing ground level.

C5. Trees declared noxious weeds under the Noxious Weed Act 1993 are not prescribed trees or vegetation for the purposes of Holroyd Local Environmental Plan 2013.

Note:

- Tree means any woody and soft wooded perennial plant.
- Threatened Species Conservation Act 1995 may apply.
- For tree and vegetation works on heritage items, a development application must be lodged.
- External walls of approved residential dwellings shall not include carports, detached garages, verandahs or any ancillary buildings and cantilevered and pier supported structures, such as decks and balconies.

C6. For the removal of a dead tree, the provisions of Holroyd Local Environmental Plan 2013 are applicable. Applicants are required to obtain advice in writing from Council that the proposed tree removal complies with these provisions.

Note: Council may exempt or delay the need for consent for prescribed tree and vegetation removal or works in the following circumstances:

- Where a natural disaster has been declared. Council will notify residents through various channels including the media, where this is the case. Where damaged trees or branches are removed under this clause, affected parties will be required to forward both a written and photographic record of works carried out to Council.
- Emergency works and public safety: Where a real and ongoing threat to life and property exists, an application to Council may be made by telephone. Where this is not possible, an independent arborist (AQF Certificate Level 4, preferably Level 5) is required to assess the immediate hazard to life and property. This assessment will determine what emergency works are required to make the situation safe. An application for a permit/development application is to be retrospectively lodged along with a written report and photographic evidence from the independent Arborist for Councils' assessment.

Tree Assessment

C7. Matters such as the following are to be considered in the assessment of a tree application:

- Health and condition of tree/s
- Potential hazard/s
- Significant property damage
- Significant poor amenity
- Prominence as part of the streetscape.
- Cultural significance.
- Significant as a visual screen.
- Importance to habitat and wildlife.
- The significance of species.

Note: The following are not considered as substantive criteria for tree removal:

- Flower, leaf or fruit fall causing nuisance, to reduce fruit, resin or bird/bat droppings on vehicles or insect or animal nuisance.
- To increase general natural light.
- To enhance views.
- To reduce shade created by a tree.
- Tree not suiting existing or proposed landscape.
- Unsubstantiated fear of tree failure.
- Dropping of deadwood.
- A tree being too large or high.
- To increase direct sunlight onto solar panels or pool heating apparatus.

Note: Supporting documentation provided with a tree works application, in the form of an Arborist report (Australian Qualifications Framework (AQF) level 5) or any other relevant supporting information prepared by

suitably qualified persons will be considered by Council in its assessment.

Note: It is often difficult to expect applicants to understand what solution to apply to improve a tree's health or rectify a tree's impacts on their property. Council staff may provide more concise information to applicants with an on site inspection of the subject tree/s.

Note: Council may provide alternative solutions for the rectification of tree related issues in lieu of permitting tree removal.

Note: Council may refuse an application for tree removal, but provide consent for appropriate pruning works to a tree or vegetation.

Note: Council will generally require the planting of native replacement trees where approval for tree removal is granted.

Pruning

Note: Pruning works are to be carried out by a minimum AQF Certificate Level 2 arborist after assessment by an AQF Level 3 arborist.

C8. All pruning works, whether exempt or requiring consent, shall comply with Australian Standard 4373-2007 – Pruning of Amenity Trees.

C9. The following pruning works are exempt from requiring consent:

- The pruning of deadwood or dead palm fronds, and vegetation overhanging pedestrian walkways or driveways to a height of 2.4m above the walkway as per clause 7.2.2 of AS4373-2007 to a maximum branch diameter of 150mm.
- The pruning of deadwood as per clause 7.2.2 of AS4373-2007 to a maximum diameter of 150mm.

C10. The following pruning works are exempt from requiring consent, where the branch size is no greater than 50mm in diameter at the branch union, where pruned in compliance with AS4373-2007:

- Pruning the lower lateral branches of a tree to 2.4m above existing ground level.
- Pruning of lateral branches of a tree to allow for a maximum clearance of 1 metre from the main electrical powerlines to an approved building.

C11. Other than those exempt pruning works above, the following pruning works as defined under clauses 7.2 and 7.3 of AS4373-2007 require consent:

- Crown thinning and lifting, selective pruning, formative pruning, reduction pruning, and remedial (restorative) pruning.

4.2. Development Works including existing trees and landscaping

Objectives

O1. To guide the management of trees in the City of Holroyd.

O2. To conserve and retain trees and vegetation within the City of Holroyd.

O3. To provide for and retain habitats for native wildlife.

O4. To promote the retention and planting of trees within new developments.

O5. To improve air quality, prevent soil erosion and assist in improving water quality stormwater retention and energy conservation.

O6. To promote the many benefits of trees such as provision shade, cooling of hard surfaces and increase privacy

O7. To maintain the character of place that trees and vegetation provide to the City of Holroyd.

O8. To encourage the retention of healthy and structurally sound trees.

O9. To ensure a high standard of environmental quality for developments

O10. To enhance the streetscape and amenity for the city of Holroyd.

O11. To ensure the longevity of landscape works by providing essential soil conditions that promote healthy plant growth.

O12. To consider the location and species of new tree plantings in order to minimise the potential impact on buildings in the vicinity.

Development Controls

Tree Management and Proposed Development

Note:

- Applicants are encouraged to obtain pre-development application (Pre-DA) advice regarding tree management and preservation on development sites. Approval for tree removal will not be granted through pre-DA advice.
- Pre-DA advice provided by Council shall inform the preparation and design of development and shall be submitted as a supporting document with the development application.
- Where trees are located on a development site and pre-DA advice has not been sought, applicants are required to submit a report from a suitably experienced independent arborist (AQF Level 5) with a development application.
- All existing trees and other vegetation above 3.6 metres in height on, overhanging and within 5 metres of the subject site and any associated works e.g. easements, are to be shown accurately on a survey plan prepared by a registered surveyor to AHD. The trees are to be shown in terms of trunk location at ground level and canopy spread. The reduced level at the base of the tree, trunk diameter, measured 1.4 metres above ground level and tree height are also to be shown. The trees and other vegetation surveyed are also to be shown whether they will be retained/removed on all other relevant plans.
- Applicants should be aware of the requirements set out under Section 4.1 of this Part.

C1. All proposals and development works shall comply with Australian Standard 4970-2009 – Protection of Trees on Development Sites.

C2. Development shall be designed to incorporate existing trees identified through Council's Tree Retention Assessment in Appendix J as having medium to high retention values, with adequate setbacks to any works and protection measures stipulated in accordance with AS4970-2009 to ensure their long term survival.

C3. Development proposals must consider existing trees situated on adjacent properties with adequate setbacks to any works and protection measures stipulated in accordance with AS4970-2009 to ensure their long term survival.

C4. Vehicular driveways shall be located a minimum of 3 metres from the outside edge of the trunk measured 1 metre above the existing ground level of any street tree to be retained.

C5. Development shall not impact trees on public land.

C6. Trees identified as having moderate to significant retention value, as assessed in accordance with Council's tree retention assessment in Appendix J should be retained with adequate setbacks to any development works to ensure their long term survival.

C7. Notwithstanding the above, Council may decide not to consent to the removal of a prescribed tree or vegetation where:

- The tree is, or helps form, a prominent part of the streetscape, or
- Has cultural/heritage significance, or
- Provides a significant visual screen, or
- Is an important habitat for wildlife, or
- The tree is within a remnant or riparian vegetation.

Note: Council may consider concessions to the standards contained within this development control plan in order to encourage the retention of suitable existing trees.

C8. Council may require a Tree Management Plan (TMP) to be prepared by a consulting arborist (AQF Level 5) in accordance with Australian Standard 4970-2009 – Protection of Trees on Development Sites, and submitted with development proposals where existing trees are to be retained.

Required Landscaping Works

- Controls for specific landscape requirements for each development type are contained within all parts of this DCP.

C9. Where a landscape plan is required, it shall be prepared by a Landscape Architect/Designer. The landscape plan shall be prepared at a minimum scale of 1:100, be fully documented and show sufficient detail to enable construction.

C10. Provide landscaping that enhances the streetscape and setting of development, incorporating a mix of trees, shrubs and ground covers planted appropriately and where necessary, providing essential screening or solar access roles.

C11. Street trees shall be provided in appropriate locations in accordance with Council's guidelines for all new development at a rate of 1 tree per 6 metres of street frontage and from a minimum container size of 45 litres.

C12. Where trees are to be planted, consideration should be given to the species type, height and size of the tree at maturity and to the distance of the tree to any structures including

stormwater pits and services such as overhead powerlines and underground pipework.

Landscape specifications

C13. Proposed landscaping shall incorporate environmentally sustainable principles (ESD) through species selection, minimal water usage, irrigation methods/schemes, soil and mulch types and the use of composting and recycling.

C14. Planting shall incorporate native Australian plants, particularly species indigenous to the Holroyd Local Government Area. A list of preferred plant species is available from Council.

C15. Where land is affected or has high potential to be affected by salinity, proposed landscaping shall consider soil salinity through species selection and soil types.

C16. Landscaping shall ensure that it is in keeping with the character of its locality, be aware of its function associated with the proposed land use and the amenity of the site and streetscape.

C17. All landscape works on structures including planter boxes and roof gardens shall provide the minimum soil depths as stated below:

	Min. Soil Depth	Min. Soil Volume
Turfed areas	100-300mm	
Ground cover	300-450mm	
Shrubs	500-600mm	
Small Trees (Canopy up to 4m)	800mm	9m^3
Medium Tree (Canopy up to 8m)	1m	35m^3
Large Tree (Canopy up to 16m)	1.3m	150m^3

C18. Suitable mulch such as native hardwood mulch is to be provided to all garden areas to a depth of 75mm (pine bark is not considered a suitable mulch). Where garden beds extend to OSD basins, a non-floatable decorative mulch is to be used.

During Construction

C19. Council may require an independent consulting arborist (AQF 5) to supervise and certify all works adjacent to trees that are required to be retained.

C20. A tree protection zone (TPZ) must be established as per AS4970-2009 before the commencement of construction, for the protection of existing trees nominated for retention and shall remain in place until the end of construction.

C21. Unless specifically authorized in writing by Council, no activities are permitted within the TPZ.

After Construction

C22. Council requires all landscape areas to be maintained to a professional standard to ensure the successful establishment of new plants and the ongoing appeal of the development. Council may require the provision of a maintenance schedule.

Table 1 Exempt Trees/Vegetation Species

Botanical Name	Common Name
Acacia baileyana	Cootamundra Wattle
Ailanthus altissima	Tree of Heaven
Alnus jorullensis	Evergreen Alder
Bambusa spp.	Bamboo
Celtis spp.	Hackberry
Cinnamomum camphora	Camphor Laurel
Cotoneaster spp.	Cotoneaster
Diospyros spp.	Fruiting Persimmons
Eriobotrya spp.	Loquats
Erythrina spp.	Coral tree
Ficus benjamina	Weeping Fig
Ficus elastica	Rubber tree
Gleditsia triacanthos	Honey Locust
Ligustrum lucidum	Broad leaf privet
Ligustrum sinense	Small leaf privet
Malus spp.	Apples
Morus spp.	Mulberry
Olea africana	African Olive
Olea spp.	Edible olives
Populus spp.	Poplar
Prunus spp.	Peaches, Plums, Apricots etc
Pyracantha augustifolia	Firethorn
Pyrus spp.	Edible pears
Ricinus connunis	Castor Oil Plant
Robinia pseudoacacia	False Acacia
Salix babylonica	Willow
Schefflera actinophylla	Umbrella tree
Schinus terebinthifolius	Brazilian Mastic Tree
Syagrus romanzoffianum	Cocos palms
Toxicodendron succedaneum	Rhus tree

* Trees/vegetation declared weeds under the Noxious Weeds Act 1993 are also exempt

Table 2 Exempt Tree- 5 metre rule

Liquidambar styraciflua	Liquidambar

5. Biodiversity

The Holroyd LEP 2013 provides for the protection of land that is environmentally sensitive or has high scenic value from adverse development. Such land is identified as:

(a) environmentally sensitive land identified on the Environmentally Sensitive Land Map, and

(b) all land within the E2 Environmental Conservation zones.

This element applies to the environmentally sensitive land identified above, and to any other land within the Holroyd LGA containing threatened species, populations or ecological communities or their habitats (as listed in the TSC Act 1995).

Objectives

O1. To form habitat areas for wildlife.

O2. To minimise water use.

O3. To consider the likely effect of a proposed development on the condition, extent and long term viability of any threatened or significant vegetation within Holroyd.

O4. To consider the possible impact of the development on any habitat or wildlife corridor.

O5. To consider any feasible alternatives to the development that are likely to be of lesser effect and the reasons justifying the carrying out of the development in the manner proposed, taking into account biophysical, economic and social considerations and the principles of ecologically sustainable development.

O6. To promote measures to mitigate any adverse effects of the proposed development on the species, populations or ecological communities.

Development Controls

Threatened Species – Assessment of Significance

Note: Where proposed development sites have remnant indigenous vegetation, designers must be aware of the NSW Threatened Species Conservation Act 1995 (TSC Act) and check whether any of the plant species, populations or vegetation communities on the proposed development site are listed as threatened. In addition, landscape designers must check to see if the remnant indigenous vegetation is a habitat to any threatened fauna.

C1. A Flora and Fauna Assessment: If there is remnant vegetation on the site, submit to Council a Flora and Fauna Assessment, (in accordance with Section 5A of the EP&A Act 1979 and Section 94 of the TSC Act). This will enable Council to determine whether the proposed development is likely to have a significant effect on threatened species, populations or ecological communities or their habitats (as listed in the TSC Act 1995). This will need to be prepared by an appropriately qualified ecologist.

C2. A Species Impact Statement: If Council subsequently determines from the above Assessment that a significant effect on threatened species is likely, Council will request the submission of a Species Impact Statement, (in accordance with the requirements of the EP&A Act). Approval may also be required under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Please contact Council for further information on the TSC Act, and the Federal Department of the Environment, Water, Heritage and the Arts or its replacement for information regarding possible approvals under the EPBC Act.

C3. Select indigenous plant species suitable for the predominantly clay soils and climatic conditions of the Holroyd City Council area. Suitable species lists may be available from Council.

C4. Select a mix of planting types. This involves a variety of structures, incorporating trees and shrubs of various sizes, grasses, groundcovers and climbers.

C5. Select species which minimise water use.

6. Soil Management

6.1. Cut & Fill and Retaining Walls

Objectives

O1. To minimise the amount of cut and fill and therefore disruption to natural drainage patterns.

O2. To maintain the free passage of overland dstormwater flow.

O3. To allow buildings to follow the natural topography of the land, as much as possible, to minimise the need for cut and fill

O4. To minimise soil loss through effective site management practices in order to reduce the impact of sedimentation on downstream waterways and drainage systems .

O5. To maintain privacy for adjoining residents .

O6. To reduce the bulk and scale of dwellings.

O7. To prevent movement of soil in association with the erection or demolition of a dwelling.

Development Controls

C1. Carry out no fill except with the approval of Council.

Note:

- State Environmental Planning Policy (Exempt and Complying Development Codes) 2008, may apply in some instances.
- Specific cut and fill requirements for residential development are location in Part B of this DCP.

C2. Do not place fill over stormwater easements.

C3. On sloping sides, cut and fill should be balanced.

C4. Cut and fill shall not reduce the privacy of adjacent land uses.

C5. Development is to be designed and constructed where possible to integrate with the natural topography of the site.

C6. Soil loss from development is to be minimised through effective site management practices that reduce the impact of sedimentation on downstream waterways and drainage systems and that minimise windblown soil loss.

C7. Validate all fill imported on to the site to ensure it is suitable for the proposed land use from a contamination perspective Contaminated Lands Policy.

C8. Contaminated fill, either imported or existing, is not permitted.

C9. Show the location of any retaining walls plus the heights of the tops and bottoms of walls on all landscape plans.

C10. Limit the height of retaining walls associated with dwellings generally to no more than 1m.

C11. Submit engineering details with the development application if a retaining wall is more than 1m in height.

C12. Limit the overall height of the wall and fence to no more than 2.2m from ground level on the

lower side, where a fence is erected on a supporting retaining wall associated with dwellings.

C13. Maintain access to drainage easements and natural depressions, for stormwater drainage line maintenance purposes and for the free passage of overland flow.

C14. Do not erect retaining walls and/or dividing brick walls and filling over easements and natural depressions.

6.2. Site Contamination and Land Filling

Objectives

O1. To ascertain the extent of contamination of existing undeveloped areas on site.

O2. To recognise where no data exists on the possible contamination of developed land on site.

O3. To ensure that Council is satisfied that no new building works take place on land contaminated by previous land uses.

O4. To ensure future building works are constructed on stable sub-surfaces.

Development Controls

C1. Council may require investigation of existing site contamination levels prior to the approval of new building works on the site.

C2. New building works may need to demonstrate the geotechnical stability of sub-surface conditions prior to Council issuing a Construction Certificate. Contact Council's Engineers for further information.

Note: Refer to Council's Contaminated Land Policy for details of when Council requires site contamination investigation.

6.3. Erosion and Sediment Control

Objectives

O1. To minimise the disturbance caused by erosion and sedimentation.

O2. To effectively control the movement of water and sediment from the top of the site through to the bottom of the site.

O3. To continue to be effective from the initial clearing of the site through to the completion of the development.

O4. To minimise the potential for sediment and silt-laden waters coming off the site or contributing to watercourses.

O5. To minimise soil loss from development through effective site management practices that reduce windblown soil loss.

O6. To progressively rehabilitate the disturbed areas of the site.

Development Controls

Minimum Erosion and Sediment Control Standards

C1. Wholly contain on the site all soil materials arising from the removal of vegetation, clearing, levelling, filling, excavation and/or disturbance of any site, including the placement of any building material stock piles; and

C2. Do not permit said soil materials to enter adjacent lands, street gutters, drains and/or waters.

Vegetation

C3. Minimise the area to be cleared and leave as much vegetation as possible.

C4. Progressively stabilise and/or revegetate all disturbed areas as soon as practicable.

C5. Implement appropriate erosion control measures to effectively minimise erosion until the disturbed areas are restored.

Sediment Fencing

C6. Erect a sediment fence(s) along or adjacent to the downslope boundary(s) of the site before work begins.

C7. Construct the fence from an approved geotextile filter fabric to capture the sediment from stormwater runoff.

C8. Key either ends of the fence into the ground and turn its base upslope.

C9. Regularly remove excessive sediment build up behind the fence in order for the fence to stay effective.

C10. Where the sediment fence is located adjacent to the street, erect the fence on the development side of the turf filter strips and within the property boundary.

Stormwater control

C11. Divert upslope water around the work site and stabilise channels.

C12. Protect all stormwater entry points with approved filtration device e.g – sand bags, geotextile fabric installed under the stormwater grate, hay bales wrapped in geotextile fabric.

C13. Ensure that the neighbouring property is not flooded.

C14. Using the most appropriate type, locate sediment traps at all points where stormwater leaves the site and enters the street stormwater gutter or drainage system.

C15. Clean the sediment traps regularly in order to maintain effectiveness.

Site Access

C16. Provide an all weather site access pathway for vehicles.

C17. Limit all vehicles entering and exiting the site to a single, stabilised, controlled area so as to avoid excessive ground disturbance.

C18. Ensure appropriate sediment controls are implemented at the entry/exit point to prevent sediment being tracked off the site, such as aggregate extending a minimum of 6 metres into the site as a shaker. The all-weather access may require additional aggregate from time to time.

C19. All runoff from driveways, access ways and water used to clean sediment off wheels of vehicles must be drained into an approved sediment trapping device on site.

C20. Any additional vehicles are to park on the road way and not on Council's footpath.

C21. Sweep the road every day and dispose of waste material on site. Washing of roads, driveways and footpaths is unacceptable.

Turf Filter Strips

C22. Leave or lay a kerb-side turf filter strip to slow the speed of water, minimise erosion and trap excess sediment.

C23. Should the soil on the nature strip be disturbed, install a strip(s) of turf 600mm width adjacent to the street gutter.

C24. Do not remove native vegetation on the nature strip to make way for turf.

Stockpiles

C25. Stockpile soil and other materials within the sediment controlled boundaries on the construction site.

C26. Do not store stockpiles of building materials on nature strips, footpaths, roadways, access ways or within drainage lines and easements.

C27. Protect the stockpiles with appropriate sediment & erosion control measures.

Guttering and downpipes

C28. Install stormwater roof guttering and downpipes connected to an approved stormwater system as soon as the roof framework has been completed. Connecting to the stormwater system immediately after the roof is laid will improve site access and drainage and prevent erosion.

C29. Downpipes may be temporarily removed during wall construction.

Responsibilities

C30. The construction and maintenance of all erosion & sediment controls shall be supervised by personnel:

- **a)** With appropriate training or demonstrated knowledge and experience in erosion & sediment control; and
- **b)** Who will act with due diligence during the design, implementation and maintenance of the erosion & sediment control plan and measures; and
- **c)** Who will conduct modifications and changes as required and as directed; and
- **d)** Who will remove such structures when the site is no longer prone to erosion or sedimentation; and
- **e)** Who have the appropriate authority to make decisions on the site without further consultation.

C31. Ensure all staff on site are aware of their obligations under the environmental legislation and conditions of consent for the development.

C32. Maintain erosion & sediment control measures for the entire period of construction. Keep logs of maintenance and cleaning schedules and have them signed by the appropriate person at the end of each day.

C33. Ensure the approved control measures are implemented prior to any land disturbance commencing and are maintained until the completion and/or effective establishment of stabilisation works. Once in place, the approved control measures shall be effectively maintained for as long as they are required (if unsure, Council staff are available to comment on whether controls are adequate or still needed).

C34. All site personnel are responsible for notifying the appropriate people prior to the removal of any erosion & sediment control measures. The control measures must be reinstated within the same working day.

6.4. Erosion and Sediment Control Plan

Objectives

O1. To consider early in the planning stage a strategy to manage erosion & sedimentation that is integral to the initial site development.

O2. To gauge an understanding of the features and limitations of the site in order to prevent and minimise erosion and sedimentation.

O3. To plan and complete both development activities and erosion & sedimentation control together.

O4. To outline how potential erosion and sedimentation from any site will be minimised.

O5. To account in the Erosion and Sediment Control Plan (ESCP) for all aspects of development of the site.

Development Controls

C1. All Development Applications must have an ESCP where the proposal has, or could have the potential to involve:

- **a)** the disturbance of the soil surface including that which arises from clearing, levelling, shaping, filling, excavation and/or placement of fill thereon; or
- **b)** any changes in the rate and/or volume of runoff entering, directly or indirectly, to any waters or flow over any land .

Note: Holroyd City Council retains the discretion to decide when an ESCP is required.

C2. Where an ESCP is required, the Council must approve it prior to any soil disturbance occurring.

The Form of an ESCP

C3. Vary the form of the ESCP depending on the complexity, scope and nature of the development. The plan can be in the form of a simple statement for minor proposals to detailed plans and associated documentation for major proposals. The content of an ESCP is outlined below in this section of the DCP.

C4. For major proposals that are staged over an extended time, prepare a staged ESCP.

C5. Demonstrate within the ESCP that the minimum erosion and sediment control standards (see Checklist at 11.2) have been incorporated.

Note: Unsatisfactory ESCPs will be rejected, and development applications will not be approved until an amended ESCP satisfactory to Council has been submitted.

C6. To enable an ESCP to be effective, use the correct format. The nature and size of the development or work will determine the preparation and detail of the plan. The standard format for an erosion & sediment control plan consists of:

C7. A site plan;

- **a)** Supporting information;
- **b)** Construction details, calculations and notes; and
- **c)** Details of reasons for staging (where appropriate).

The Site Plan

C8. A Site Plan for the ESCP shall include as a minimum the following:

- **a)** A recognised scale (1:100, 1:200 for a general plan);
- **b)** Locality;
- **c)** Contours;
- **d)** Existing & proposed vegetation;
- **e)** Existing site drainage;
- **f)** Land slope gradient;
- **g)** Location of stockpiles;
- **h)** Erosion control measures;
- **i)** Sediment control measures;

j) Location of roads, driveways, and accessways and all impervious surfaces;
k) Details of site revegetation program;
l) Outline of maintenance program for erosion & sediment control;
m) Details of method for pumping out / removal of excess water from the site; and
n) Name of person responsible for implementing ESCP.

Supporting information

C9. Submit supporting information along with the plan which may include:

a) A brief description of any areas on site that have the potential for serious erosion or sedimentation, together with the proposed management details;
b) A maintenance strategy for all control measures, including the nomination of responsibility for the follow–up maintenance required;
c) A brief description of the overall site rehabilitation program; and
d) Stormwater management plan.

Construction details, calculation and notes

C10. Provide Construction drawings and/or written specifications for the structural erosion & sediment controls proposed.

Responsibilities

C11. The person responsible for a site to which this DCP applies shall:

a) Prepare and implement an ESCP which specifies how erosion and sedimentation will be controlled, including the need for removal of excess water on site; and
b) Implement erosion and sediment control measures specified in the development application, pursuant to the Environmental Planning & Assessment Act, 1979; and
c) Implement erosion and sediment control measures as specified in this DCP.

Notes:

- Council's approval of development applications will be subject to approval of submitted erosion & sediment control plans.
- Failure to comply with the submitted ESCP causing a pollution incident to occur will result in Council issuing a monetary penalty infringement notice under the Protection of the Environment Operations Act, 1997 for every day that the offence occurs. More serious matters can be heard in the Local Court or in the Land & Environment Court.
- Failure to comply with the submitted ESCP will result in Council serving Clean Up Directions and Prevention Notices under the Protection of the Environment Operations Act, 1997. There is an administration fee that is associated with both notices and a time limit of thirty (30) days to pay the fee.
- Failure to comply with the submitted erosion & sediment control plan may also result in Council serving a stop work notice requiring all work on the site to cease until compliance is met.

6.5. Salinity management

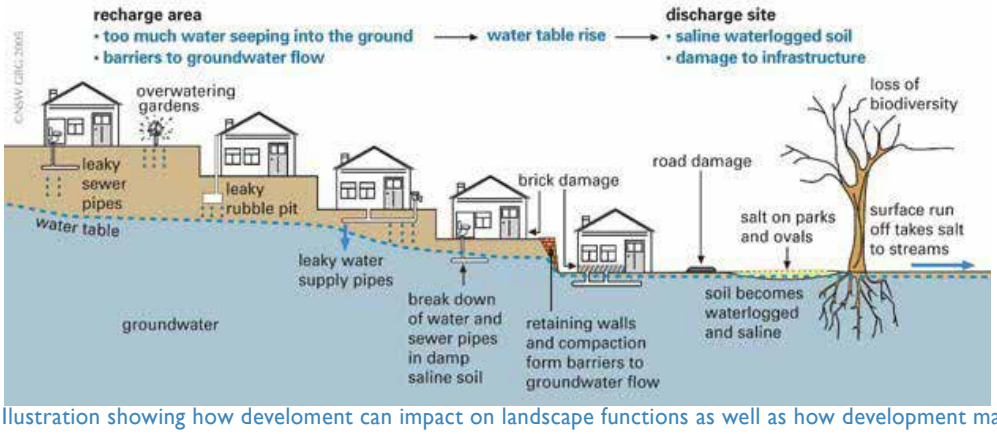


Figure 13. Illustration showing how develoment can impact on landscape functions as well as how development may be impacted upon by salinity processes. Source: www.dpi.nsw.gov.au

Important note about map interpretation

The LEP map of salinity potential is based on a map prepared by DIPNR in 2002. Mapping was undertaken at a scale of 1:100,000 and at such a small scale it is not possible to determine the salinity potential of individual lots. It is therefore necessary to identify the salinity potential for the broader locality of a development site, which is all land within a 1km radius of the site.

The salinity mapping has been incorporated into Council's LEP maps, which are available through Council's website.

Where it is difficult to determine which colour is applicable, it should be assumed that the colour for the higher salinity potential applies.

Objectives

O1. To ensure further spread of urban salinity is prevented, and remedy, where possible, existing areas of salinity.

O2. To ensure minimal disturbance to natural hydrological systems as a result of development and appropriately manage land uses affecting land salinisation and/or those affected by salinity.

O3. To ensure the land is used and developed in a manner that does not significantly increase water infiltration to groundwater systems and does not significantly increase salt loads in waterways, wetlands, drainage lines or soils.

O4. To ensure the impact of a development on prevailing and potential soil or groundwater salinity in the urban environment is controlled.

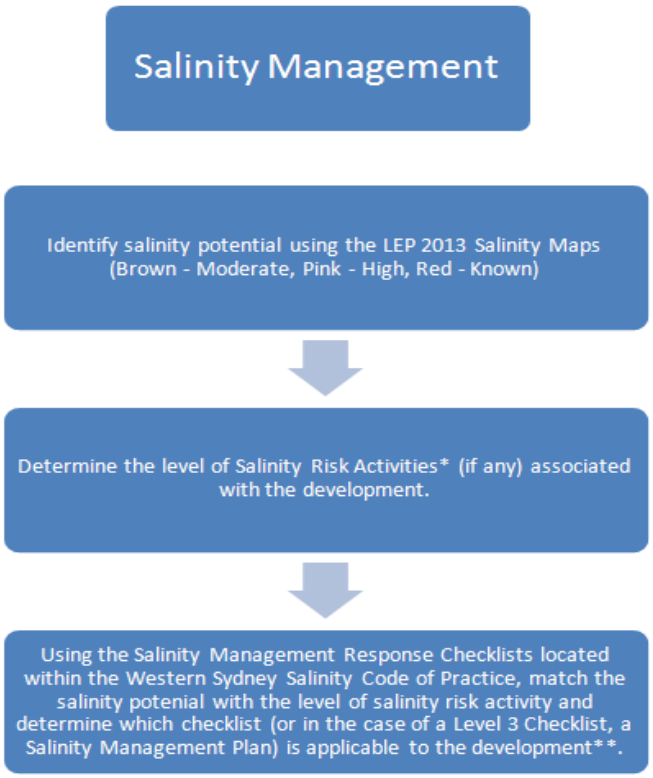
O5. To ensure soil or groundwater salinity does not impact on the structural integrity of a development.

O6. To ensure that consideration is given to any physical limitations of land, including soil salinity and the impacts of that salinity, to minimise the potential for future adverse economic impacts arising from development.

Development Controls

C1. The following flowchart shall be used to determine an appropriate course of action for salinity investigation and management for single or multi-lot developments.

C2. If a Level 1 or 2 Salinity Management Response is required, the applicant shall use the relevant Salinity Management Response Checklist to determine appropriate measures to prevent salinity impacts. These measures shall be detailed in the Statement of Environmental Effects or equivalent and be approved by Council prior to the issuing of development consent.



*Refer to the Western Sydney Salinity Code of Practice for examples of salinity risk activities. If the development does not involve any salinity risk activities then no checklist applies and the development application can proceed normally.

**The Western Sydney Salinity Code of Practice can be obtained from the NSW Government's Office of Environment and Heritage website.

Figure 14.

C3. If a Level 3 Salinity Management Response is required:

- This investigation shall be approved by Council prior to issuing development consent.
- The Salinity Management Plan shall be approved by Council prior to issuing development consent.
- The Salinity Management Plan shall be integrated into a Total Water-cycle Management Plan for the site for developments where such a plan is developed.

C4. The Salinity Management Response shall be based on site conditions and the proposed development. It shall include controls to protect buildings and also strategies to protect infrastructure, including roads and underground services and to manage the water cycle. The response shall assume worst-case scenario for salinity on the site.

C5. Salinity investigations shall be undertaken by an appropriately qualified professional with experience in salinity investigations and management.

C6. Management strategies for salinity shall be developed in accordance with the approved Guidelines. This includes general management strategies for all sites and salinity processes and strategies including, but not limited to, the following:

- Building requirements
- Vegetation and landscaping
- Roads and pavements
- Soil landscapes with shale geology
- Localised concentrations of salinity
- Deeply weathered soils
- Salinity in groundwater.

C7. Council may require monitoring reports to be submitted to ensure appropriate measures or management strategies are being employed.

C8. For developments involving the construction or removal of dams, artificial wetlands or stormwater retention ponds, Level 3 Salinity Management Response is required, and water sensitive urban design (WSUD) principles shall be applied.

C9. Development shall have minimal impact on the water table. For areas with moderate to high salinity potential, development shall demonstrate no net increase in hydrologic load or water inputs and shall maintain the natural water balance.

7. Stormwater Management

Stormwater management aims to prevent the negative impact of water on human life and property, and of development on the receiving waters of the catchment.

Objectives

O1. To manage flooding and to minimise urban run-off impacts on watercourses and downstream properties.

O2. To minimise any negative impacts on development and natural processes in urban environments.

O3. To provide effective measures to:

a) prevent adverse effects on the flood peak at any point upstream or downstream of development; and

b) ensure development will not adversely alter the quality or flow characteristics of stormwater leaving the site; and

c) minimise alteration of flow distributions and velocities to avoid adverse impacts on the proposed development or other properties.

O4. To incorporate effective measures to improve the water quality of stormwater leaving the site, where likely or potentially adverse impacts have been identified.

O5. To emulate the runoff characteristics of more natural site conditions.

O6. To reduce mains water consumption by capturing stormwater.

O7. To ensure the provision of all roofing with adequate gutters and downpipes connected to the site stormwater system.

7.1. Roof and Surface Water

Development Controls

C1. Design the eave, gutter and downpipe systems to prevent overflows for storms up to the 5% Annual Exceedance Probability (AEP) storm event.

C2. Design box gutter and downpipe systems to prevent overflows for storms up to the 1% AEP storm event. Council's on-site detention policy may also require a design standard for storms up to the 1% AEP storm event.

C3. Discharge the drainage system to an open-grated surface inlet pit and then into Council's drainage system.

C4. Design stormwater drainage pipelines to the following minimum standards:

a) 90mm diameter where the line only receives roofwater runoff;

b) 100mm diameter where the line receives surface runoff or if the line is part of an on-site detention system;

c) a minimum pipeline grade of 1.0% for pipes with a diameter less than 150mm and 0.5% for pipes of greater diameter. Consideration may be given to reducing the grade of the pipe if

the pipe line is a return line associated with an on-site detention storage basin;

d) underground pipes shall be provided with a minimum cover of 100mm for private pipelines and 300mm for public pipelines;

e) Council will permit above-ground pipework only if it is considered that site constraints prevent otherwise. In this case, all works shall comply with the relevant Australian Standard and be subject to Council approval.

C5. Pits shall be installed to facilitate maintenance of stormwater pipes, orifice plates, and debris screens. Cleaning eyes will be permitted at pipe junctions, pipe change in direction or reflux valves.

C6. All drainage systems draining to Council's drainage system or to a public road must have a grated drainage pit of not less than 450mm x 450mm within the site over the outlet pipe and adjoining the site boundary.

C7. Runoff, whether generated on-site or by upstream properties, shall not be obstructed or redirected so as to alter flow distributions and velocities to the detriment of any other property.

C8. Where the efficiency of an existing drainage system (as outlined within Council's works specification for subdivisions and development) on the property will be compromised by the proposed development, modify the existing system to comply with this part of the DCP and to offset any adverse impacts.

C9. Mechanical means, such as pumpout systems, will not be permitted for discharge of roof and surface water.

7.2. Stormwater Drainage- Acceptable Systems

Development Controls

C1. Gravity fed drainage systems, consisting of a combination of underground pipes/conduits (i.e kerb and gutter etc) shall be implemented to discharge stormwater from a site. This may include discharge to natural watercourse or creek.

Note: An on site detention (OSD) system is required for most development types in order to control the discharge of stormwater from a site as provided in Section 7.3.

C2. Where a site slopes away from the street, drainage shall occur through access to, or the creation of, an easement to enable inter allotment drainage through properties downstream (i.e via gravity).

C3. Charged Systems are only acceptable for minor development types such as garages, shed, single and secondary dwellings and dual occupancies (not subject to OSD), where attempts to gain access to an easement for a gravity fed system have been unsuccessful, and subject to criteria in Section 7.3.

C4. Pump systems are permitted for basement car parks, for seepage and runoff from access ramps, and subject to criteria in Section 7.3.

Note: Infiltration/absoprtion trench systems and rubble pits are generally not acceptable within Holroyd due to the soil types being unsuitable and will not be considered for new dwellings.

7.3. Stormwater Drainage- Technical

Gravity Systems

C1. Stormwater outlets discharging to the public road shall generally do so in front of the development site or to a point on the kerb requiring a pipeline less than 45 degrees relative to the front property boundary alignment. Where the connection into the kerb or existing Council drainage system cannot be laid at or less than 45 degrees to the front property boundary alignment, the following will apply:

- **a)** A drainage easement shall be obtained through the adjoining downstream property to a point where the 45 degree limit can be achieved or the existing nearest drainage system under the control of Council is extended to the property frontage. A grated gully pit, to the relevant Council standards, will be required at the end of any street drainage pipe requiring extension;
- **b)** All Council drainage pipes shall be reinforced concrete with a minimum diameter of 375mm.
- **c)** Fully detailed designs, including a long section of the pipe and a pipe trench cross-section detail, shall be submitted for all proposed drainage works within the road reserve

C2. Stormwater outlets shall not be permitted to cross a public road. However, consideration may be given to the extension of Council's stormwater system to the site frontage, subject to compliance with the preceding clause.

C3. Discharge to a suitable natural watercourse or creek may be allowed subject to approval by Council. Approval and compliance with the standard guidelines from the NSW Office of Water and The NSW EPA are also required.

C4. Where stormwater is to discharge into a natural watercourse, bushland, or open space, full details of the proposed method of stormwater discharge shall be supplied to Council detailing the means of preventing scouring or erosion at the point of discharge.

On Site Detention

C5. On-site detention systems shall be provided for all new developments, except for single dwellings, extensions, additions and improvements on existing single residential lots. The design and construction of an on-site detention system shall be in accordance with Council's On-site Stormwater Detention Policy. Note: Council's On-site Stormwater Detention Policy is based on the guidelines developed by the Upper Parramatta River Catchment Trust.

C6. Despite C5, on-site detention shall be required for development associated with single dwellings where this is specified by a restriction on the title of the property (generally only lots created after 1991) or where the impervious area of the site is increased beyond that permitted for single dwellings by this DCP.

C7. Any agreement, covenant or similar instrument which would otherwise prohibit or restrict an on-site detention system required by this DCP, does not apply.

C8. Fully documented On-Site Detention (OSD) drawings, prepared by a suitably qualified person, shall be submitted with the development application, along with a completed Holroyd City Council On-Site Detention drawing submission checklist.

Note:

- Councils OSD Policy and checklist are available from Council's customer services section or from the Council website.
- Applicants should seek full details of Council's On-Site Detention requirements early in the design of the development.

C9. Upon completion of a site stormwater drainage system and prior to occupation of the development, a suitably qualified and registered engineering consultant must certify that the stormwater system has been constructed and can be maintained in accordance with the approved design.

C10. Where an on-site detention system is required, a restriction on use of land and positive covenant shall be registered on the title of the subject property, requiring that the on-site detention system constructed on the site:

(i) not be altered, unless approved by Council; and
(ii) be maintained in good working order.

Charged Lines

C11. Charged lines shall only be permitted for development stated in Section 7.2 subject to the following conditions:

a) Documentary evidence being submitted with the application demonstrating that an easement to enable a gravity drainage system cannot be acquired from downstream properties, based on a reasonable offer.

b) It can be demonstrated that it will not cause any adverse third party impacts along the diverted route (outside the street network).

c) It can be demonstrated that there are no existing drainage problems downstream in the catchment where the water is to be directed.

d) Flows shall not be transferred from one creek catchment to another.

e) A full hydraulic analysis of the system is submitted with the application, including hydraulic grade line and calculations.

f) The charged line connects to a junction pit immediately adjoining the boundary and then is drained by gravity into the Council kerb and gutter, with no direct connection into the Council system.

g) A cleaning eye is provided at the low point of the system within a pit to enable the system to be cleaned and flushed.

h) The charged line is not connected with an on-site detention system;

i) A restriction on use of land and positive covenant shall be registered on the title of the subject property requiring that the charged line system constructed on the site:
(i) not be altered, unless approved by Council; and
(ii) be maintained in good working order.

Pump Systems

C12. Pumpout systems shall be permitted for basement car parks, associated with residential dwellings, commercial or industrial development, for seepage and runoff from access ramps, subject to the following:

a) Demonstrate that drainage by gravity is impractical.

b) Grade the basement car parking areas to fall to the sump and pump system.

c) Limit the contributing catchment area to the pump-out system to the basement access ramps and sub-soil drainage only.

d) Ensure that the access ramp catchment draining to any sump does not exceed 50 square metres unless it can be demonstrated that there are no existing drainage problems downstream from where the drainage is being redirected.

e) Install two (2) submersible type pump units, the capacity of each being calculated to allow for subsoil drainage and any water falling on access points to the basement car park. Calculate stormwater run-off to the sump and pump system for a 1% AEP storm of five (5) minute duration.

f) Design the two (2) pumps to operate on an alternative basis to ensure that both pumps receive equal usage and neither pump remains continuously idle.

g) Provide storage capacity in case of pump failure, with its volume being sufficient for a 1% AEP storm of twelve (12) hour duration, with:

- a below-ground component capable of storing the volume generated by the 1% AEP ninety (90) minute storm; and
- an above-ground component capable of storing the remaining volume up to the 1% AEP storm twelve (12) hour duration, such that the above ground component acts as a visual warning to occupants.

h) Provide alarm systems to give a flood warning in case of pump failure, including:

- non-audible alarm positioned at the main entrance to the basement car park; and
- audible alarms positioned at the first floor level of each common property stairwell within the building or buildings.

i) Submit engineering details and manufacturers specifications for the pumps and switching system for approval by Council's Engineer, including a plot of the System Curve against the Pump Curve.

j) Ensure that pumpout systems are compliant with any other relevant guidelines contained in Council's On-Site Detention Policy.

k) Connect pumpout systems to a junction pit from which water drains by gravity into Council's stormwater drainage system, with no direct connection being permitted. Locate the junction pit immediately adjoining the property boundary.

i) Register a restriction on use of land and positive covenant on the title of the subject property requiring that the pumpout system constructed on the site:
(i) not be altered, unless approved by Council; and
(ii) be maintained in good working order.

General

C13. Development shall not take place on any land unless arrangements satisfactory to the Council have been made for the carrying out of drainage works, on or for the land.

C14. Where development increases the flow of stormwater from the site, Council may require the upgrading / augmentation of the existing downstream drainage system, dependent upon the scale of the increase. This may be in the form of actual construction work to be carried out by

the developer at the time of development, or in the form of a contribution to be determined by Council at the development application stage.

C15. A hydraulic analysis may be required, to demonstrate that the development will not adversely affect any existing overland flow paths, if the development has:

i) existing public drainage structures within the site;

ii) or existing public drainage structures on an adjoining property;

iii) orthe site is located wholly or partially within a natural overland flow path.

Note: For most overland flow analysis, the assumption of uniform flow will not be appropriate and consideration must be given to upstream and downstream controls.

C16. On sites where localised flooding has occurred, submission of a "stormwater master plan" may be required. Such a plan is to demonstrate that consideration has been given, at the design stage, to the likely effect of overland flow on proposed buildings, structures, fences etc and the need for clearly defined/constructed overland flow paths over easements and natural depressions. Applicants should refer to the Flood Prone Land clause 6.6 of Holroyd LEP 2009 for further guidelines.

C17. Where a site includes either an existing or a proposed overland flow path, register a restriction on use of land and a positive covenant on the title of the subject property. The covenant should require that the overland flow path on the site:

i) not be altered; and

ii) be maintained in good working order.

Note: In this instance, "overland flow path" includes all structures, pipes, drains, walls, kerbs, pits, grates, fencing and all surfaces graded to convey and/or allow stormwater flows to pass through the site.

C18. Stormwater quality control measures shall be provided in accordance with the current version of Council's Stormwater Management Plan.

C19. Where a stormwater quality control system is required under Council's Stormwater Management Plan, a restriction on use of land and positive covenant shall be registered on the title of the subject property requiring that the stormwater quality control system:

i) not be altered, unless approved by Council; and

ii) be maintained in good working order.

C20. Approval of engineering drawings and specifications for the construction of any stormwater drainage line will be required prior to release of development consent. Council will require the payment of a checking and inspection fee, which will be determined prior to release of development consent.

C21. All engineering works, including those within public property, shall be designed and undertaken in accordance with the relevant aspects of the current version of Holroyd City Council's Specification for Subdivisions and Developments.

C22. Where stormwater drainage is being constructed on public land, Council easements or adjoining private property, a bond and/or bank guarantee shall be lodged to cover that construction. The amount of the bond will be determined at the development application stage and payment is to be made prior to the release of the construction certificate.

7.4. Easements

Development Controls

C1. All easements required within a site (other than those required only for the purposes of strata plan subdivision) shall be created pursuant to Section 88B of the Conveyancing Act, subject to the approval of Council. Council shall be joined as a party whose consent is required for any amendments to easements for rights of carriageway, utility services, inter-allotment drainage and the like, but not nominated as a beneficiary.

C2. A drainage easement giving drainage rights to the benefited lot shall be created where a stormwater drainage line and/or an existing line is proposed to be utilised through adjoining property, including inter-allotment drainage within new land subdivisions. Consideration shall be given to the overland flow path taken by stormwater during storm events that generate runoff in excess of the design pipe capacity up to the 1% AEP storm event (overland flow paths) and system blockage.

C3. Where overland flows could result in flood damage on adjoining properties, the pipe and collection system shall be designed to accommodate runoff generated by the 1% AEP storm event. The erection of buildings/permanent structures, retaining walls and/or dividing brick walls and filling over easements shall not be permitted if they will alter the performance and function of the easement to the detriment of the site or adjoining properties. Council does not permit the above structures over public easements.

C4. Drainage easements shall be accessible for maintenance of stormwater drainage line and allow for stormwater overland flow paths.

C5. Where easements are required to be created over the adjoining property, provide written confirmation from the affected property owners that they are willing to participate in the negotiation of an easement with the development application. If an existing easement is to be utilised the applicant shall submit proof from the Department of Lands that the site benefits from such an easement. Proof of registration of the easement, at the Department of Lands, will be required prior to the issue of the construction certificate .

C6. The width of private drainage easements shall be in accordance with Table 3 below:

Table 3- Width of drainage easements

Nominal Pipe Diameter	Easement Width
≤ 150mm	1.0m
> 150mm and ≤ 300mm	1.25m
> 300mm and ≤ 750mm	2.5m
> 750mm	Width required for maintenance, but not less than width of conduit plus 2.0m and not less than 2.8m. Final width to be determined after receipt of the stormwater drainage design.

Notes

- Easement widths may need to be wider to accommodate overland flows up to the 1% AEP storm event.
- Wider easements shall be provided for multiple pipes. In this regard a minimum increase in width of 1.2 multiplied by the additional pipe diameter is required.

- Consideration may be given to a localised reduction in the easement width when considering the impact of existing structures, such as dwellings and garages. However the reduction in width shall take into consideration overland flow path and future maintenance requirements.

C7. Where a Council drainage structure is required across privately-owned land, a drainage easement benefiting Council shall be provided over all Council drainage structures, whether trunk or local, for the conveyance of runoff from public owned land, including parks and roads. Where such a public drainage easement is to be created as a condition of development consent, all costs associated with the creation shall be borne by the applicant.

This requirement is based upon Council's powers under the Local Government Act 1993 to require the creation of an easement in its favour for the purpose of undertaking any of its functions as defined by the Act. To that end, the wording of the easement instrument shall be in accordance with schedule 4A of the Conveyancing Act 1919.

C8. Drainage easements benefiting Council shall:

- have a minimum 2.5 metre width;
- for drainage structures greater than 0.5 metres in width, have a width of 2.0 metres plus the width of the relevant drainage structure, rounded up to the next 0.1m;
- be located such that the drainage structure is located centrally within the easement boundaries.

Note: Where there is existing encroachment onto a Council drainage easement or structure that is unsuitable (as described by C37 above), this shall be removed at no cost to Council as a condition of development consent for the relevant property.

Note: Where an easement is required for Council drainage, only Council shall be empowered to release, vary or modify any restriction or covenant. Documents giving effect to the creation of the restriction and covenant shall be submitted to Council for approval prior to construction.

7.5. Water Sensitive Urban Design (WSUD)

Water Sensitive Urban Design (WSUD) is a multidisciplinary approach for integrating land use and water management (water supply, stormwater and wastewater) planning, with the aim of minimising the impacts of urban development on the natural water cycle. This is achieved by optimising the use/re-use of grey water and rainwater falling on the urban area, while minimising the amount of water lost when it is transported away from the catchment, and reducing the demand for potable water.

Objectives

O1. To protect and enhance natural water systems (creeks, rivers, wetlands, estuaries, lagoons, groundwater systems etc.).

O2. To protect and enhance water quality, by improving the quality of stormwater runoff from urban catchments.

O3. To minimise harmful impacts of urban development upon water balance and surface and groundwater flow regimes.

O4. To avoid impacts on downstream drainage infrastructure, and minimise the need for amplification of the existing stormwater drainage system.

O5. To integrate stormwater management systems into the landscape in a manner that provides multiple benefits, including water quality protection, protection & enhancement of natural ecosystems, stormwater retention and detention, public open space and recreational and visual amenity.

O6. To reduce potable water demand by using stormwater and greywater as a resource.

Development Controls

C1. Development of sites of 2,500m^2 or more in area are to implement water sensitive urban design principles through the provision of appropriate water quality devices, such as:

- rainwater tanks and use;
- stormwater detention basins;
- greywater tanks and reuse;
- gross pollutant traps;
- oil/grit and oil/water separators;
- sand and gravel filter beds;
- wetland ponds;
- retention trenches and basins;
- water gardens;
- vegetated buffer strips;
- grass swales;
- natural drainage systems; and
- natural stream profiles.

C2. All development applications for sites of 2,500m^2 or more in area must be supported by a Water Sensitive Urban Design Strategy, prepared by a qualified civil engineer with suitable experience, containing the following information:

- Background information – a summary of any background information available such as previous or concurrent studies, mapping data and the like;
- Site context – identifying catchments, drainage lines and receiving environments (both within and downstream of the site), the ecological values of the site and its receiving waters;
- Proposed development – describing briefly the proposed development of the site, including site boundaries, proposed land uses , densities, infrastructure and staging;
- WSUD objectives and targets – identifying the objectives and targets that apply to the proposal;
- Constraints and opportunities – identifying the key constraints and opportunities for water management on the site, including flooding. This should include the identification of natural watercourses and other sensitive environments within the site that should be preserved and/or remediated by the development;
- Water conservation – demonstrating how the potable water will be conserved through the use of roofwater, treated stormwater and/or waste water;
- Stormwater management – demonstrating how the stormwater quality and flow targets will be met. It should include stormwater quality and flow modelling results and identify the location, size and configuration of stormwater treatment measures proposed for the development;
- Water table management – indicating the impact on the local water table, including its level or quality, and how this is to be managed, and
- Operation and Maintenance Plan – outlining the inspection and maintenance requirements required to ensure the proposed measures remain effective.

C3. Development for the subdivision of sites of 2,500m^2 or more in area must achieve the stormwater flow targets indicated in Table 4, unless public water quality and flow structures downstream of the site allow these targets to be met. Details of compliance must be included in the Water Sensitive Urban Design Strategy supporting the development application.

Receiving environment	Measure	Target
First, second or third order stream	N/A	Minimise the impervious areas that are directly connected to the stormwater system.
	Waterway stability	Stream Erosion Index between 3 and 5.
Natural bushland	Erosion control	Potential for erosion within downstream areas of natural bushland is minimised.
Natural wetland	Wetland hydrology	Changes to hydrological features identified as critical for the specific wetland type are minimised.

Table 4 Stormwater flow targets and actions for subdivision of sites 2,500m^2 & greater in area

Note: Stream Erosion Index (SEI) is defined as the ratio of the post-development duration of flows exceeding the critical threshold value to the pre-development duration of that flow. The threshold value (or critical flow) is defined as the following percentage of the 2 year Annual Recurrence Interval flow rate estimated for the catchment under pre-development conditions: 10% = cohesion-less (e.g. sandy) bed and banks; 25% moderately cohesive bed and banks; 50% = cohesive (e.g. stiff clay) bed and banks.

C4. Development of sites of 2,500m^2 or more in area, other than subdivision, must minimise the impervious areas that are directly connected to the stormwater system and should minimise the Stream Erosion Index for receiving waters (other than concrete lined drains, fourth or greater order streams and estuarine or tidal waters), ideally to less than 3 but in all cases

to less than 6. Details of compliance must be included in the Water Sensitive Urban Design Strategy supporting the development application.

C5. Development of sites of 2,500m^2 or more in area must treat stormwater leaving the site, through the use of appropriate devices (such as those listed in C1), to reduce pollutants in accordance with Table 5. Such treatment must achieve the targets indicated in Table 6. Details of compliance must be included in the Water Sensitive Urban Design Strategy supporting the development application.

Table 5 Pollutant reduction requirements for various development types – sites 2,500m^2 & greater in area:

Development type	Litter	Coarse sediment	Nutrients	Fine particles	Cooking oil & grease	Hydro-carbons
Low density residential subdivision (sites ≤5ha)	YES	YES	YES	NO	NO	NO
Low density residential subdivision (sites >5ha)	YES	NO	NO	YES	NO	YES
Medium & high density residential	YES	NO	NO	YES	NO	YES
Commercial & retail	YES	NO	NO	YES	NO	YES
Industrial	YES	NO	NO	YES	NO	YES
Food & drink premises	YES	YES	NO	NO	YES	NO
Service stations, car washes & other automotive uses	YES	NO	NO	YES	NO	YES

Table 6 Stormwater quality targets for sites 2,500m^2 and greater in area

Pollutant	Description	Reduction in Load[1]
Litter e.g. cans, bottles, wrapping materials, food scraps	All anthropogenic materials with a minimum dimension >5mm	70%
Coarse sediment	Coarse sand and soil particles (<0.5mm diameter)	80%
Nutrients	Total phosphorus & nitrogen	45%
Fine particles	Coarse sand and soil particles (<0.05mm diameter)	50%
Cooking oil & grease	Free floating oils that do not emulsify in aqueous solutions	90%
Hydrocarbons inc. motor fuels, oils & greases	Anthropogenic hydrocarbons that can be emulsified	90%

8. Flood Prone Land

Objectives

O1. To provide prescriptive controls on the use and development of land subject to various flood risk exposures, which reflect the probability of the flood occurring and the potential hazard within different areas.

O2. To provide clear objectives and performance criteria for a "merit-based approach" to be taken to development decisions which takes account of social, economic and ecological, as well as flooding considerations.

O3. To control development and other activity within each of the individual floodplains within Holroyd LGA, having regard to the characteristics and level of information available for each of the floodplains, in particular the availability of Floodplain Risk Management Studies and Floodplain Risk Management Plans prepared in accordance with the Floodplain Development Manual.

O4. To deal equitably and consistently with applications for development on land affected by potential floods, in accordance with the principles contained in the Floodplain Development Manual issued by the NSW Government.

8.1. Assessment: Three Step Process and Merit Based Approach

Three Step Process

Note:

The criteria for determining applications for proposals potentially affected by flooding are structured in recognition that different controls are applicable to different land uses and levels of potential flood inundation and hazard.

The process to determine what controls apply to proposed development involves:

i) identify the land use category of the development (see Section 6.4 Table 6.1 below);

ii) determine which floodplain and what part of the floodplain the land is located within (refer to Sections 6.3 and 6.5 below and the relevant mapping at Council's website and

iii) apply the relevant controls outlined under Sections 6.6 to 6.9 below.

Merit Based Approach

Due to the variable nature of both site specific flood management and land uses, it is important to provide for merit-based assessment when considering the appropriate approach to manage flooding.

For planning purposes, a merit-based assessment will be required for all sites within a Flood Risk Precinct. Development in all circumstances will need to comply with both the relevant objectives and performance criteria within this plan. In the majority of cases the prescriptive controls shall be complied with. However, variation may be considered in certain situations where the objectives and performance criteria have been shown to be met.

Where a proposal does not comply with the prescriptive controls within this DCP, Council may use its discretion to:

a) Consider alternative flood management approaches for the development, provided that the primary objectives of the DCP are proven by the developer to have been met; or

b) Modify the proposal through the application of conditions so that it is consistent with the provisions of this DCP; or

c) Defer determination of the application and consult with the applicant to achieve consistency with the requirements of this DCP; or

d) Refer the application to an approved Floodplain Management Consultant for a report (at the expense of the applicant); or

e) Refuse the application.

8.2. Additional Information Required

In addition to the general requirements for development applications, applications for development upon Flood Prone Land or potentially Flood Prone Land must address the additional matters listed below (as applicable).

Objective

O1. To ensure that an application for development upon Flood Prone Land provide adequate information to allow proper assessment of the impact of the proposal upon flood flows and vice-versa.

O2. To ensure that an application for development upon land that may be flood prone provides adequate information regarding any flood details (e.g. extent, depth and velocity) on the land or in its vicinity.

Controls

C1. Applications for minor additions to an existing dwelling on Flood Prone Land (see Table 7 below) shall be accompanied by documentation from a registered surveyor confirming existing floor levels to Australian Height Datum (AHD).

C2. Development applications affected by this plan shall be accompanied by a survey plan showing:

a) The position of the existing building/s or proposed building/s;

b) The existing ground levels to AHD around the perimeter of the building and contours of the site; and

c) The existing and proposed floor levels to AHD.

C3. Applications for earthworks, filling of land and subdivision shall be accompanied by a survey plan (with a contour interval of 0.5m) showing relative levels to AHD. On flat sites, the contour interval shall be 0.1m AHD.

C4. For large scale developments, or developments where hydraulic hazard circumstances warrant it, particularly where an existing catchment based flood study is not available, a flood study using a fully dynamic one or two dimensional computer model will be required. For smaller developments the existing flood study may be used if available and suitable (e.g. it contains sufficient local detail), or otherwise a model or estimation of flood analysis accepted in the current edition of Australian Rainfall will be required. From this study, the following information shall be submitted in plan form:

a) water surface contours;

b) velocity vectors;

c) velocity and depth product contours; and/or points

d) delineation of flood risk precincts relevant to individual floodplains.

This information is required for the pre-developed and post-developed scenarios. Analysis shall be up to the 1%AEP flood event.

C5. Where the controls for a particular development proposal require an assessment of structural

soundness during potential floods, the following impacts must be addressed:

a) hydrostatic pressure;
b) hydrodynamic pressure;
c) impact of debris; and
d) buoyancy forces.

Foundations need to be included in the structural analysis.

C6. Where flood modelling or an assessment of potential flood impacts is required, this shall be provided by a NPER-3 certified engineer performing within their area of expertise.

C7. Where Council's flood mapping indicates that the land may potentially be affected by flooding, at the discretion of Council's engineering staff and dependent upon the nature of the development proposed, a development application must be accompanied by a local flood study confirming:

- the extent and nature of any flooding of the site and/or adjoining land and adjacent properties; and
- the proposed development will not increase flood levels, velocities or depths.

8.3. Land Use Categories

All land uses permissible in the Holroyd Local Environmental Plan 2013 have been classified into different categories. These categories are representative of similar uses with similar impacts and approaches to management.

Ten major categories have been utilised and are identified in a table in Table 7 below. Where a land use is not identified in the table, the use will be categorised by Council, depending on its impacts and the perceived best approach for flood management.

Table 7: Landuse Categories for Development upon Flood Prone Land

Where a land use is not identified in the table, the use will be categorised by Council, depending on its impacts and the perceived best approach for flood management.

Sensitive Uses & Facilities	Critical Utilities & Uses	Subdivisions	Filling	Residential or Community Use
• Community use or public building which may provide an important contribution to the notification & evacuation of the community during flood events; • Hospital; and Seniors Housing, including Residential Care Facilities ; • Child care centre; • Educational establishment; & • Institution.	• Gas holder; Liquid fuel depot; Hazardous storage establishment; some Offensive storage establishments; • Public utility undertaking works (including generating works and Water supply system) which may cause pollution of waterways during flooding, are essential to evacuation during periods of flood, or if affected during flood events would unreasonably affect the ability of the community to return to normal activities after flood events; • Telecommunication facilities.	• Subdivision of land which involves the creation of new allotments.	• The net importation of fill material onto a site, except where: • Final surface levels are raised no more than 100mm over no more than 50% of the site; or • Filling is no more than 800mm thick beneath a concrete building slab only • Compensatory earthworks, involving cut & fill, is not considered to be filling provided that: • There is no net importation of fill material onto the site; & • There is no net loss of flood storage at all flood levels.	• Apartment building; Boarding house; • *Camp or caravan park site – long term sites only; • Community use (other than sensitive uses & facilities); • Dual occupancy • Dwelling house; • Family day care; • Home-based child care; • Home industry; • Home occupation; • Integrated housing; • Group Home ; Hostel ; • Medium density housing; • Shop top housing ; Professional consulting room; • Residential flat building; • Recreation establishment; • Backpackers' accommodation ; & • Utility installation (other than critical utilities).

Table 7: Landuse Categories for Development upon Flood Prone Land (cont.)

Commercial or Industrial or Special Uses	Tourist Related Development	Open Space or Non-Urban Uses	Minor Alterations or Additions	Redevelopment
Abattoir; Advertising structure; Amusement centre ;; Animal boarding or training establishment ; Bulky goods premises ; Business premises ; Church; Crematorium ; Entertainment facility ; Food and drink premises ; Freight transport facility ;; Funeral chapel; Hazardous industry; Hazardous storage establishment; Health consulting rooms; Heliport; Hotel accommodation ; Industry; Landscape and garden supplies ; Light industry; Materials recycling or recovery centre ; Medical centre; Offensive industry; Offensive storage establishment; Office premises ; Passenger transport facility ; Place of worship; Pub ; Public administration buildings (other than an essential community facility); Recreation facility (indoor); Registered club ; Restaurant ; Restricted premises; Retail premises (except kiosks, roadside stalls); Roadside stalls; Sawmill; Self-storage units; Service station; Sex services premises ; Shop; see next page	* Camp or caravan sites – short term sites only & Tourist facilities.	Agriculture; Extractive industry; Forestry; Helipad; Mine; Mineral sand mine; Recreation areas & minor ancillary structures (e.g toilet blocks or kiosks); & Stock & sale yard. Open car parks.	These involve an acceptably small (see below for limits) addition or alteration to an exiting development that will cause no significant increase in potential flood losses or risks or adverse impact on adjoining properties. In the case of single unit dwellings, the maximum size of a development is: a once-only addition or alteration to an existing dwelling of no more than 10% or 30m² (whichever is the lesser) of the habitable floor area which existed at the date of commencement of this DCP; or the construction of an outbuilding with a maximum floor area of 20m². In the case of other development categories, the maximum size is a once-only addition to existing premises of no more than 10% of the floor area which existed at the date of this DCP.	This includes sites that have been previously developed and major redevelopment is proposed under the same land zoning. Redevelopment includes 'change of use'. Redevelopment that would normally not be permitted may be permitted on the merits of the case particularly where the economic consequences of not permitting redevelopment would be significant. See Section 6.8 below for further information on Redevelopment.

Table 7: Landuse Categories for Development upon Flood Prone Land (cont.)

Commercial or Industrial or Special Uses	Tourist Related Development	Open Space or Non-Urban Uses	Minor Alterations or Additions	Redevelopment
Timber & Building Supplies; Transport depot ; Truck depot; Vehicle body repair station; Vehicle repair station .; Vehicle Sales or Hire Premises; Vehicle showroom & Warehouse or distribution centre				

*As defined by the Local Government (Caravan & Camping Grounds) Transitional Regulation 1993.

Note: Any fencing that forms part of a proposed development is included in that development's Land Use Category and is subject to the relevant planning considerations applicable to that Land Use Category.

8.4. Flood Risk Precincts

Each of the floodplains within the local government area can be divided into precincts based on different levels of potential flood risk. The relevant Flood Risk Precincts (FRPs) for each of the floodplains are outlined below.

High Flood Risk Precinct

This has been defined as the area of land below the 1% AEP flood that is either subject to a high hydraulic hazard (in accordance with the provisional criteria outlined in the Floodplain Development Manual) or where there are potential evacuation difficulties. Development within this Precinct is extremely restricted, as it is very hard to ensure the safety and protection of both person and property during a critical storm event.

Medium Flood Risk Precinct

This has been defined as land below the 1% AEP flood subject to low hydraulic hazard (in accordance with the provisional criteria outlined by the Floodplain Development Manual). Development within this Precinct is possible, however appropriate flood management measures must be implemented, to ensure the safety and protection of both person and property during a critical storm event.

Low Flood Risk Precinct

This has been defined as all other land within the floodplain (i.e. within the extent of the probable maximum flood) but not identified as either a high flood risk precinct or medium flood risk precinct, where risk of damages are low for most land uses. Development within this Precinct is possible, however consideration for development is needed to ensure that property is protected.

The boundaries of each precinct have been mapped to the extent and to a level of accuracy as current knowledge of flood behaviour allows. The mapping is adjusted, as improved knowledge becomes available. The "Precinct" advised to applicants will represent the most accurate information available at the time of issue of flood advice.

The precinct advised by Council is the highest category applicable to the site. It may only cover part of the site and a lower category may cover other parts of the site. The prescriptive controls applicable to each Precinct apply only to the part of the site so affected.

Note: See Section 8.6 for further information on:

- Freeboard
- "Redevelopment"
- Flood compatible materials.

8.5. Broad Considerations for Development on Flood Prone Land

When assessing proposals for development or other activity on Flood Prone Land, Council will take into consideration the following specific matters.

Objective

O1. To ensure that the development of Flood Prone Land minimises its impact on the ecology and use of waterways; and

O2. To ensure that the development of Flood Prone Land minimises its impact on the amenity of adjoining localities.

Development Controls

C1. Ensure the proposal does not have a significant detrimental impact on:

a) water quality;
b) native bushland vegetation;
c) riparian vegetation;
d) estuaries, wetlands, lakes or other water bodies;
e) aquatic and terrestrial ecosystems;
f) indigenous flora and fauna; or
g) fluvial geomorphology.

C2. Undertake development to mitigate the potential impact of flooding (e.g. house-raising) in a manner which minimises the impact upon the amenity and character of the locality.

C3. Do not constrain the orderly and efficient utilisation of the waterways for multiple purposes.

C4. Do not adversely impact upon the recreational, ecological, aesthetic or utilitarian use of the waterway corridors.

C5. Where possible, provide for the enhancement of the waterway corridors, in accordance with Ecologically Sustainable Development principles.

C6. Ensure that proposals for house-raising provide appropriate documentation, including:

a) a report from a suitably qualified engineer, to demonstrate that the raised structure will not be at risk of failure from the forces of floodwaters; and
b) details such as landscaping and architectural enhancements which ensure that the resultant structure will not result in significant adverse impacts upon the amenity and character of an area.

8.6. Significant Development on Flood Prone Land

The type and stringency of controls have been graded relative to the severity and frequency of potential floods and have been categorised into high, medium or low risk in Section 6.5. The general intent of planning controls in Flood Risk Precincts is to ensure minimal risk of damage by flood to both people and property.

This section applies to all development upon Flood Prone Land, with the following exceptions:

- Exempt development, as indicated in State Environmental Planning Policy (Exempt and Complying Development) 2008 and in Part 3 and Schedule 2 of Holroyd Local Environmental Plan 2013;
- Minor alterations and additions, and
- Fences and public domain works, not carried out with other development on Flood Prone Land.

Objectives

O1. To ensure the proponents of development and the community in general are aware of the potential flood hazard and consequent risk associated with the use and development of land within the floodplain.

O2. To require all development to be raised above the flood planning level (being the 1% AEP + freeboard) or (in certain development only) to be designed such that it will be protected up to

the flood planning level.

O3. To require development of high sensitivity to flood risk (e.g. critical public utilities) to be sited and designed such that they are subject to an acceptably minimal risk from flooding.

O4. To allow development with a lower sensitivity to the flood hazard to be located within the floodplain, subject to appropriate design and planning controls, provided that the potential consequences which could still arise from flooding, remain acceptable having regard to the New South Wales Flood Prone Land Policy and the likely expectations of the community.

O5. To prohibit any intensification of the land uses located within the high hazard precinct, and wherever appropriate and possible, allow for their conversion to natural waterway corridors.

O6. To ensure that design and planning controls required to address the flood hazard do not result in unreasonable impacts upon the amenity, economy or ecology of an area.

O7. To ensure that development does not result in any increased risk to human safety but does endeavour to reduce such risks.

O8. To ensure that the additional economic and social costs which may arise from damage to property from flooding is not greater than that which can reasonably be managed by the property owner, property occupants and general community.

O9. To ensure that redevelopment mitigates the extent of the flood effect to new buildings or existing buildings to be refurbished.

O10. To reduce flood damage to inundated areas such as the part of a building below the flood planning level.

Development Controls

C1. The proposal shall only be permitted where reliable access is available for the evacuation of an area potentially affected by floods. Evacuation shall be consistent with any relevant flood evacuation strategy where in existence.

C2. Development shall not detrimentally increase the potential flood affectation on other development or properties, either individually or in combination with the cumulative impact of development that is likely to occur within the same floodplain.

C3. Development shall, to the fullest extent practicable, maintain the site's flood storage capacity and preserve and improve flood flow capacity through the site.

C4. Development shall not result in significant impacts upon the amenity of an area by way of unacceptable overshadowing of adjoining properties, privacy impacts (e.g. by unsympathetic house-raising) or by being incompatible with the streetscape or character of the locality.

C5. Development shall comply with the prescriptive controls relevant to the appropriate Flood Risk Precinct and Land Use Category indicated in Table 8.

Note: All prescriptive development controls relating to development within Flood Risk Precincts, other than those related to minor additions and alterations, fences and public domain works, have been tabulated within Table 8. Various matters referred to in Table 8 are explained in detail in subsequent sections of this Part.

General Controls

Land use categories see table 1 / Planning Consideration	Flood Risk Precincts (FRPs)																												
	Low Flood Risk										Medium Flood Risk										High Flood Risk									
	Sensitive Uses and Facilities	Critical Utilities and Uses	Subdivisions	Filling	Residential	Commercial or Industrial	Tourist Related evelopment	Open Space or Non-Urban	Re-development	Minor Additions	Sensitive Uses and Facilities	Critical Utilities and Uses	Subdivisions	Filling	Residential	Commercial or Industrial	Tourist Related evelopment	Open Space or Non-Urban	Re-development	Minor Additions	Sensitive Uses and Facilities	Critical Utilities and Uses	Subdivisions	Filling	Residential	Commercial or Industrial	Tourist RelatedDevelopment	Open Space or Non-Urban	Re-development	Minor Additions
Design Floor Level	3	3			2,5	2,5	2,5			4					2,5	2,5	2,5	1	5,6	4								1	5,6	4
Building Components	2	2													1	1	1	1	1	1								1	1	1
Structural Soundness	2	2													1	1	1	1	1	1								1	1	1
Flood Effects	2	2	2	1	2	2	2						1		2	2	2	2	1	2								1	1	2
Evacuation	2,4	2,4	3,4		4	3,4	3,4						3,4		3,4	3,4	3,4	1	3,4	3,4								1	3,4	3,4
Management and Design	4	2,4	1										1		3	4	4	3,4	4,5	3,4								3,4	4,5	3,4

Not relevant Unsuitable Land Use

NOTES:
Terms are defined in Part K of the DCP.

Filling
Filling of the site, where acceptable to Council, may change the Flood Risk Precinct considered to determine the controls applied in the circumstances of individual applications.

Freeboard
Freeboard to habitable floor level equals an additional height of 500mm.
For sites subject to local overland flooding only, the freeboard to habitable floor level can be reduced to the following:
i) Upstream catchment area <2ha – freeboard 200mm minimum;
ii) Upstream catchment area >16ha – freeboard 500mm minimum;
iii) Upstream catchments between 2 to 16ha – freeboard may vary linearly between 200mm to 500mm.

Design Floor Level
1. All Floor Levels shall be equal to or greater than the 20% AEP flood level plus freeboard unless justified by site specific assessment.
2. Habitable floor levels shall be equal to or greater than the FPL (1% AEP flood plus freeboard).
3. All Floor Levels shall be equal to or greater than the PMF event.
4. Floor levels shall be as close to the design floor level as practical & no lower than the existing floor level when undertaking alterations or additions.
5. Floor levels of open car parking areas and garages shall be 150mm above the 1% AEP flood. This may be achieved with an suspended floor which allows the continued passage of flood waters or filling if justified by a site specific assessment, (subject to "Flood Effects" and other controls below new line). Basement car parking must be protected from the 1% AEP flood plus freeboard of 500mm, except where, in Council's view, it is impractical to do so, but freeboard shall not be less than 150mm.
6. Habitable floor levels of residential, commercial and industrial re-development shall be protected to the FPL (1% AEP flood level plus freeboard). For Commercial/Industrial sites where it is impractical to achieve this (and subject to Council approval) the building is to be effectively flood proofed to FPL and the floor level is to be as high as practical.

Building Components & Method
1. All structures to have flood compatible building components below or at the FPL (1% AEP flood level plus freeboard).
2. All structures to have flood compatible building components below or at the PMF event level.

Structural Soundness
1. Engineers report to demonstrate and certify that any structure can withstand the forces of floodwater, debris & buoyancy up to & including the FPL (1% AEP flood plus freeboard).
2. Engineers Report to demonstrate and certify that any structure can withstand the forces of floodwater, debris & buoyancy up to & including a PMF event.

Flood Effects
1. Engineers report required to demonstrate and certify that the development will not increase flood effects elsewhere.
2. The impact of the development on flooding elsewhere shall be considered.

Note: When assessing flood effects, the following must be considered:
- loss of storage area in the floodplain;
- changes in flood levels & velocities caused by alteration of conveyance flood waters; and
- cumulative impacts of the development.

Evacuation
1. Reliable egress for pedestrians required during a 20% AEP flood.
2. Reliable egress for pedestrians and vehicles to an area refuge on or off site that is above the PMF level is required during a PMF event.
3. Reliable egress for pedestrians to the lowest habitable floor level is required from the building to an area refuge above the PMF level, either on-site or off-site.
4. Applicant to demonstrate that the development is to be consistent with any relevant flood evacuation strategy or similar plan.

Management and Design
1. Applicant to demonstrate that potential development as a consequence of a subdivision proposal can be undertaken in accordance with this Plan.
2. Site Emergency Response Flood plan required (except for single dwelling-houses) where floor levels are below the design floor level.
3. Applicant to demonstrate that area is available to store goods above the FPL (1% flood plus freeboard).
4. No external storage of materials below the FPL (1% flood plus freeboard) which may cause pollution or be potentially hazardous during any flood.
5. The applicant is to prepare an Economic Analysis of Flood Losses (See Appendix 1). The applicant to submit a Flood Preparedness Loss Minimisation Plan.

Freeboard

C6. Buildings within a Flood Risk Precinct are required to be built above the 1% AEP flood level, with an additional height known as freeboard, which is applied to take into account the impact of possible localised blockages or wave action that may occur, during a flood event.

C7. Freeboard requirements can vary depending on the size of the upstream catchment or the proposed use of the building or utility. In some cases determining the appropriate freeboard will occur through the development application assessment process, however for specific uses, namely residential, commercial and industrial uses the freeboard has been set as shown in the following table:

C8. General requirements for freeboard:

Residential	500mm
Commercial and Industrial	500mm (or effectively flood proofed to that level)
Open car parking and garages	150mm
Basement car parking entrances	500mm (where practical, but not less than 150mm)
Storage areas	500mm

Note: Regardless of the use (i.e. commercial/industrial or basement car parking) some locations will not be allowed to use the Redevelopment Category, due to the nature of the floodway in localised areas. The decision to permit use of the Redevelopment Category will be at the discretion of Council.

"Redevelopment" Land Use Category

Note: Redevelopment includes 'change of use'.

C9. To enable redevelopment of previously developed sites which are flood affected, where it can be demonstrated that the social, economic or environmental consequences of not permitting development would on balance be undesirable, the site may be redeveloped to the same land use with lesser prescriptive controls than would apply to a greenfield site or to a site rezoned to a higher use.

C10. Such an approach will only be permitted where it is impracticable to meet the full controls, as ongoing management will be required. The onus will be on the applicant to prove that this course of action is both necessary and effective in the long term.

C11. Where it is proposed to use flood-proofing, flood-proof the building such that it is eliminates flood damage to the interior. Flood-proofing shall extend to the same height as the flood planning level.

C12. Ensure the redevelopment design incorporates to the fullest extent practical, design features and measures to substantially reduce the existing potential for flood losses and personal risks.

C13. Ensure that redevelopment avoids any adverse flooding impacts on adjoining properties. The development must not obstruct or divert floodwaters.

C14. Ensure that development preserves flood storage to the fullest practical extent.

C15. Ensure, wherever possible, that redevelopment increases the capacity of overland flow paths or flood ways, provided there are no undesirable downstream consequences.

Flood compatible materials

C16. Ensure that the part of a building below the flood planning level uses flood compatible materials, as well as the careful location of electrical equipment, services and stored goods. These requirements can be found in Tables 9 and 10 below, which aim to reduce flood damage to inundated areas.

Table 9 Flood Compatible Materials

Building Component	Flood Compatible Material	Building Component	Flood Compatible Material
• Flooring and Sub-floor Structure	• Concrete slab-on-ground monolith construction • Suspension reinforced slab	• Doors	• Solid panel with water proof adhesives • Flush door with marine ply filled with closed cell foam • Painted metal construction. • Aluminium or galvanised steel frame
• Floor Covering	• Clay tiles • Concrete, precast or in-situ • Epoxy, formed-in-place • Rubber sheets or tiles with chemical-set adhesive • Silicone floors formed-in–place • Vinyl sheets or tiles with chemical-set adhesive • Ceramic tiles, fixed with mortar or chemical-set adhesive • Asphalt tiles, fixed with water resistant adhesive	• Wall & Ceiling Linings	• Fibro-cement board • Brick, face or glazed • Clay tiles glazed in waterproof mortar • Concrete • Concrete block • Steel with waterproof applications • Stone, natural solid or veneer, waterproof grout • Glass Blocks • Glass • Plastic sheeting or wall with waterproof adhesive
• Wall Structure	• Solid brickwork, blockwork, reinforced, concrete or mass concrete	• Insulation • Windows	• Foam (closed cell types) • Aluminium frame with stainless steel rollers or similar corrosion & water resistant material
• Roofing Structure (for situations where the relevant flood level is above the ceiling	• Reinforced concrete construction • Galvanised metal construction	• Nails, Bolts, Hinges & Fittings	• Brass, nylon or stainless steel • Removable pin hinges • Hot dipped galvanised steel wire nails or similar

Table 10: Flood Compatible Building Components & Equipment

Electrical & Mechanical Equipment For dwellings constructed on land to which this Policy applies, the electrical & mechanical materials, equipment and installation shall conform to the following requirements.	**Heating & Air Conditioning Systems** Heating and air conditioning systems shall, to the maximum extent possible, be installed in areas and spaces of the house above the relevant flood level. When this is not feasible every precaution shall be taken to minimise the damage caused by submersion according to the following guidelines.
Main Power Supply Subject to the approval of the relevant authority the incoming main commercial power service equipment shall be located above the relevant flood level. Means shall be available to easily disconnect the dwelling from the main power supply.	**Fuel** Heating systems using gas or oil as a fuel shall have a manually operated valve located in the fuel supply line to enable the cut-off.
Wiring All wiring, power outlets, switches, etc shall, to the maximum extent possible be located above the relevant flood level. All electrical wiring installed below the relevant flood level shall be suitable for continuous submergence in water and shall contain no fibrous components. Earth core linkage systems (or safety switches) are to be installed. Only submersible type splices should be used below the relevant flood level. All conduits located below the designated flood level shall be so installed that they will be self-draining if subjected to flooding.	**Installation** The heating equipment and fuel storage tanks shall be mounted on an securely anchored to be a foundation pad of sufficient mass to overcome buoyancy and prevent movement that could damage the fuel supply line. All storage tanks shall be vented to an elevation of 600 millimetres above the relevant flood level.
Equipment All equipment installed below or partially below the relevant flood level shall be capable of disconnection by a single plug and socket assembly.	**Ducting** All duct work located below the relevant flood level shall be provided with openings for drainage and cleaning. Self draining may be achieved by constructing the ductwork on a suitable grade. Where ductwork must pass through a water-tight wall or floor below the relevant flood level, the ductwork shall be protected by a closure assembly operated from above relevant flood level.
Reconnection If any electrical device and/or part of the wiring be flooded it should be thoroughly cleaned or replaced and checked by an approved electrical contractor before reconnection.	

Economic Analysis of Flood Loss

C17. Where the full prescriptive controls are not met, ensure that an economic assessment, as found in Appendix 1, is submitted with any development application for a flood prone business. This also applies to proposals in the Redevelopment category, including Change of Use.

C18. Notations on Title

C19. Sites where flood-proofing is implemented, require notations on Certificates of Land Title to ensure the longevity of flood proofing. These notations will be required as a condition of development consent.

8.7. Minor Alterations and Additions

Note: "Minor alteration and additions" to all uses (as defined in Section 8.6, Table 7) are permissible with consent within Flood Risk Precincts. However, Council will seek to ensure that the proposed works do not significantly increase the building footprint (thus not impacting on the flood), or that the works potentially increase the risk to property or person in a flood event. It should be noted that these prescriptive controls only relate to increases in building footprint and not general increases in overall floor area (i.e. first floor additions, etc).

Objectives

O1. To ensure that alterations and additions may be carried out without meeting the full requirements imposed on more major development.

O2. To ensure that the proposed minor alterations and additions do not significantly increase the building footprint (thus not impacting on the flood).

O3. To ensure that such alterations and additions are limited in scale and do not potentially increase the risk to property or person in a flood event.

Development Controls

C1. For existing dwellings on flood-prone land, ensure that a once-only alteration or addition to the building footprint achieves a maximum area of 10% or 30m² (whichever is the lesser) of the habitable floor area which existed prior to 1990. This is the year when the major flood studies for Holroyd occurred.

C2. Ensure that a proposal for one (in total) enclosed, detached outbuilding (e.g.: shed/garage) achieves a maximum floor area of 20m² on flood-prone land.

C3. For commercial and industrial proposals on flood-prone land, ensure that a once-only alteration or addition to the building footprint achieves a maximum area of 10% or 30m² (whichever is the lesser) of the habitable floor area which existed prior to 1990. This is the year when the major flood studies for Holroyd occurred.

C4. For all other uses, merit assessment will be used to determine what alterations and additions are permissible.

8.8. Fences and Public Domain Works

Note: It is essential to ensure clear passage of the floodway, as blockages can create increased flood hazard for people and properties. For this reason, special consideration must be given to elements which can potentially block flood paths. This includes public domain works and fencing. Other works with similar characteristics and impacts on the flood way may also require assessment under these same objectives. Council approval is required for these types of works within the Medium and High Flood Risk Precincts.

Objectives

O1. To ensure that fencing and public domain works do not result in the undesirable obstruction of the free flow of floodwaters.

O2. To ensure that fencing and public domain works do not become unsafe during floods and potentially become moving debris, which threatens the integrity of structures or the safety of people.

Development Controls

C1. Fencing and public domain works are to be constructed in a manner, which does not affect the flow of floods to detrimentally increase flood affection on surrounding land.

C2. For developments in High and Medium Flood Risk Precincts, a suitably qualified engineer must certify that the proposed fencing or public domain work is adequately constructed to withstand the forces of floodwaters, or collapse or open in a controlled manner to prevent the undesirable impediment of flood waters.

C3. Fencing within a High Hazard Flood Risk Precinct is not permissible, except for permeable security, or safety fences of a type approved by Council. Hinged gates are not considered suitable.

C4. Council requires a Development Application for all new solid (non-porous) and continuous fences above 0.6m high, in a High Hazard Flood Risk Precinct.

C5. An applicant must demonstrate that a proposed fence will create no impediment to the flow of floodwaters. Appropriate fences must satisfy the following:

a) Open, pool type fence;
b) Fencing panels may be attached by galvanised or other screws, bolts, tech screws, etc, or be attached to a swivel system capable of being opened up during times of flooding;
c) Not less than 90% in High Hazard Flood Risk Precincts and 50% in Medium Flood Risk Precincts of all fence panels shall be permanently open or capable of opening to allow the flow of flood waters; and
d) Any other fence type and design and siting criteria as prescribed by Council.

Council will consider other forms of fencing on merit.

9. Managing External Road Noise and Vibration

Note: This section applies only to land beside certain roads identified under section 8.2 and /or identified below, or any land impacted by road or rail noise and vibration as defined by State Environmental Planning Policy (Infrastructure) 2007 clauses 86, 87, 102 and 103.

All proposed site sensitive buildings are required to comply with the NSW Department of Planning and Infrastructure's (DP&I) *Development Near Rail Corridors And Busy Roads – Interim Guideline*, and the Rail Infrastructure Corporation *Interim Guideline for Applicants, Consideration of Noise and Vibration in the Planning Process.*

Sensitive developments include residences, educational establishments, child care centres, and other sensitive uses such as hospitals, seniors housing and places of worship. The Infrastructure SEPP requires an acoustic/vibration report to accompany development applications for these site sensitive proposals.

The Infrastructure SEPP applies only to those roads "with an annual average daily traffic volume of more than 40,000 vehicles" (based on Roads and Maritime Services daily traffic volume data published on the website of the RMS). However, Council identifies other roads used by heavy vehicles which do not generate the 40,000 vehicle daily average, but which are subjected to vehicle noise and vibration regularly in excess of criteria in NSW Road Noise Policy (EPA 2011) and Assessing Vibration: a technical guideline (EPA 2006). These roads are listed below.

Objectives

O1. To ensure the protection of sleep and amenity of residents and occupiers.

O2. To ensure that consent is not granted to development on land if, in the opinion of Council, it will be affected by noise and vibration to an unacceptable level, unless the development will incorporate attenuation measures to the satisfaction of Council.

O3. To ensure development immediately adjacent to a Classified Road* and certain unclassified roads, mitigate, through the use of appropriate building materials and/or effective design and articulation, the impact of external noise on the amenity of the residential and commercial buildings to an acceptable level.

O4. To ensure development adjacent to, or within, 60 metres of a railway line complies with the Rail Infrastructure Corporation *Interim Guideline for Applications, Consideration of Rail Noise and Vibration in the Planning Process.*

Development Controls

C1. Ensure an acoustic/vibration report is provided as a part of the planning documentation for development proposals adjacent to a Classified Road* and certain unclassified roads (as described below**), or within 60 metres of a railway line.

C2. Development proposal within 60 metres of any railway line and/or adjacent to a Classified Road* and certain unclassified roads (as described below**), must provide a report, to be submitted with the development application, demonstrating that the development will comply with the following criteria. The report shall be prepared by an acoustic consultant having the technical eligibility criteria required for membership of the Association of Australian Acoustical Consultants (AAAC) and/or grade membership of the Australian Acoustical Society (MAAS).

C3. In the report, demonstrate that the development will comply with requirements for vibration and noise levels identified in the NSW DP&I's *Development Near Rail Corridors And Busy Roads – Interim Guideline* (and Rail Infrastructure Corporation *Interim Guideline for Applicants,*

Consideration of Rail Noise and Vibration in the Planning Process, if necessary).

C4. Prior to issuing of an Occupation Certificate, a noise compliance report shall be submitted to the Principal Certifying Authority (PCA) confirming that new building(s) comply with the noise criteria following. The

C5. The report shall be prepared by an acoustic consultant, other than the consultant responsible for the preliminary/design report, having the technical eligibility criteria required for membership of the AAAC and/or grade membership of MAAS.

C6. Floor vibration levels in habitable rooms should comply with the criteria in British Standard BS6472: 1992 Evaluation of Human Exposure to Vibration in Buildings (1Hz to 80 Hz). This is the vibration standard recommended by the NSW DP&I and the NSW EPA.

*Note: "Classified Road" has the same meaning as in the Roads Act 1993, and includes "Highway", "Main", and "Secondary" roads. For the purposes of this clause, it also includes "Regional" roads- a term used to identify unclassified roads which are described as regional under the terms of the State/Regional/Local management arrangement. This clause applies to the following roads within Holroyd, although Council reserves the right to identify new roads as the volume or nature of traffic change , and applicants are advised to consult with Council's Environmental Health Officers for clarification.

Table 10- Classified Roads	
Burnett Street	Greystanes Road
Centenary Road	Hawksview Street
Cornelia Lane	McCredie Road (Fowler to Fairfield Roads)
Cornelia Road	Merrylands Road
Cumberland Highway (Jersey Road) – part Emert St, Freame St, Warren Road (south of Sturt St)	Neil Street
Fairfield Road	Pitt Street
Fowler Road	Sherwood Road
Gipps Road	Toongabbie Road (Great Western Highway to & including Portia Road)
Great Western Highway / M4	Treves Street
	Woodpark Road (Fairfield to Sherwood Roads)

**In addition, the following unclassified roads are considered heavy collector roads

Bridge Road	Ettalong Road
Cumberland Road (north of Merrylands Road)	Targo Road
Dunmore Street	

10. Safety and Security

Objectives

O1. To reduce crime risk and minimise opportunities for crime.

O2. To increase and contribute to the safety and perception of safety in public and semi-public spaces.

O3. To apply crime prevention principles when designing and siting buildings and spaces.

O4. To design dwelling layouts that facilitate safety and encourage interaction and recognition between residents.

O5. To assess and reduce the risk of crime associated in particular with large developments .

Development Controls

C1. A site management plan and formal crime risk assessment (Safer by Design Evaluation) involving the NSW Police Service may be required for large developments which, in Council's opinion, would create a crime risk.

C2. Design new development to reduce the attractiveness of crime by minimising, removing or concealing crime opportunities. The design of development should increase the possibility of detection, challenge and apprehension of persons engaged in crime.

C3. Incorporate and/or enhance opportunities for effective natural surveillance by providing clear sight lines between public and private places, installation of effective lighting, and the appropriate landscaping of public areas.

C4. Minimise opportunities for crime through suitable access control. Use physical or symbolic barriers to attract, channel and/or restrict the movement of people. Use landscaping and/or physical elements to direct people to destinations, identify where people can and cannot go and restrict access to high crime risk areas such as carparks.

C5. Incorporate design elements in public spaces that reflect local character and local values associated with open space, and thus contribute to a sense of community ownership of public spaces. Encouraging people to gather in public spaces through appropriate design techniques, helps to nurture a sense of responsibility for the use and condition of a place.

C6. Clearly define the boundaries between public and private spaces as a method of territorial reinforcement. Methods other than gates, fences and enclosures are encouraged.

C7. When incorporating crime prevention measures in the design of new buildings and spaces, apply subtle design techniques to blend into façades and places, and to be sympathetic with the quality of the streetscape.

C8. Provide non-slip pavement surfaces for public pedestrian areas within developments as well as communal accessways within multi- unit developments.

11. Waste Management

Objectives

O1. To meet the objectives of the Waste Avoidance and Resource Recovery Act 2001.

O2. To control the management of waste by all proposals for demolition.

O3. To control the management of waste by all development (including alterations and additions) requiring consent under Holroyd LEP 2013 and the EP&A Act1979, including but not limited to:

- i) Dwelling houses;
- ii) Medium density housing (including dual occupancy, integrated housing and residential flat buildings);
- iii) Professional Consulting Rooms and Child Care Centres;
- iv) Commercial development (including fit-outs);
- v) Residential development within or adjacent to commercial areas;
- vi) Industrial development (including fitouts);
- vii) Any other application involving construction or fitting out of a premise.

O4. To reduce the demand for waste disposal.

O5. To maximise reuse and recycling of building/construction materials, household generated waste and industrial/commercial waste;

O6. To require source separation and other design and location standards which complement waste collection and management services offered by Council and private providers;

O7. To encourage building designs and construction techniques which will minimise waste generation;

O8. To minimise the overall environmental impacts of waste;

O9. To provide advice to intending applicants on how to prepare Site Waste Minimisation and Management Plans (SWMMP), detailing actions to minimise waste generation and disposal;

O10. To provide advice to applicants on matters to be considered when assessing the waste implications of the variety of applications made under the Environmental Planning and Assessment Act;

O11. To ensure that waste storage facilities are located appropriately and do not impact negatively on the streetscape.

O12. To provide advice to intending applicants on how to reduce and handle waste during the demolition and construction phase; and

O13. To assist in achieving Federal and State Government waste minimisation targets.

11.1. Site Waste Minimisation and Management Plan

C1. All applications for development, as listed above under Objective 03 i) to vii), shall be accompanied by a Site Waste Minimisation and Management Plan (SWMMP).

C2. In the Site Waste Minimisation and Management Plan, outline measures to minimise and manage

waste generated during:

a) Demolition;
b) Construction; and
c) Ongoing use of the site/premises.

C3. Nominate in the Site Waste Minimisation and Management Plan:

a) Volume and type of waste and recyclables to be generated;
b) Storage and treatment of waste and recyclables on site;
c) Disposal of residual waste and recyclables; and
d) Operational procedures for ongoing waste management once the development is complete.

C4. State in the Site Waste Minimisation and Management Plan:

a) the method of recycling or disposal, and
b) the waste management service provider.

Note: See Appendix A for a template for the compilation of a Site Waste Minimisation and Management Plan.

11.2. Demolition of Buildings

Objectives

O1. To promote improved project management through the minimisation of waste generation and maximised re-use and recycling of materials.

O2. To encourage waste minimisation (source separation, re-use and recycling) and ensure appropriate storage and collection waste.

O3. To enforce compliance with Council's Asbestos Cement Policy.

Development Controls

C1. Complete the Demolition section of the Site Waste Minimisation and Management Plan (at Appendix A) satisfactorily, and provide details of onsite storage on plans.

C2. Maximise re-use and recycling of material .

C3. Minimise waste disposal.

C4. Where applicable, give details of asbestos management and disposal , consistent with Council's Asbestos Cement Policy.

Note: See Schedules 2 (Exempt) and 3 (Complying) of Holroyd LEP 2013 for conditions of placement of waste containers, shipping containers and skips on private property or roads.

11.3. Residential Land Use Waste Management

Objectives

O1. To promote improved project management, minimise waste generation and maximise re-use

and recycling.

O2. To encourage waste minimisation (source separation, reuse and recycling) and ensure efficient storage and collection of waste and quality design of facilities.

O3. To ensure that where Council garbage trucks are required to enter the site for the collection of residential waste, developments are designed to accommodate on-site truck movement.

Development Controls

C1. Provide a Waste Cupboard or other appropriate storage area, within the dwelling (probably in the kitchen), of sufficient size to hold a single day's waste and to enable source separation of garbage, recyclables and compostable material.

C2. Provide each dwelling with a Waste Storage and Recycling Area within the dwelling for temporary storage of recyclables and garbage.

C3. Provide each building with Waste Storage and Recycling Areas capable of accommodating the number and type of Council's standard garbage and recycling containers (see Appendix C for details).

C4. Ensure the Waste Storage and Recycling Area has unobstructed access to Council's usual Collection Point.

C5. For dwelling houses, dual occupancies, integrated housing and medium density housing, ensure the waste storage area and composting facilities are located within the rear yard to avoid visual clutter. Where this is impractical and/or inaccessible, waste containers can be stored within the garage or carport if appropriately screened from view of the street.

Note: The occupants of individual dwellings take responsibility for on street placement of garbage and recycling containers.

C6. Ensure that residential flat buildings and shoptop housing have a communal Garbage and Recycling Room located in the basement of the building. This area should:

a) be capable of accommodating Council's required number of standard waste containers and should be designed in accordance with the standards provided at Appendix D.

b) provide, where such an area is proposed, additional space for the storage of bulky waste, such as clean-up materials awaiting placement at the kerb, or recycling.

C7. For large scale proposals, consider providing a number of such Rooms.

C8. At appropriate times, transport waste from the rooms to this Area for collection. In each case the onus is upon the body corporate to ensure on-street placement.

C9. In multi- storey buildings containing more than three storeys, provide a system for the transportation of garbage from each floor level to the Garbage and Recycling Room(s). This may be a garbage chute system. Where such facilities are utilised, provide space on each floor for storage of recyclables, preferably adjacent to the lift well. Because, ongoing management is a significant issue, provide detail in the Development Application. See Appendix F for more detail on garbage chute systems.

C10. In normal circumstances, there will not be a reduction in area requirements where such volume reduction equipment is proposed. This is because Council considers that area requirements should allow for possible changes in onsite waste management arrangements. Similarly, where

Food Waste Disposal Units are provided within units there will not be a reduction in the area/ facility requirements.

C11. Nominate on the site of Residential Flat Buildings and shoptop housing an area for communal composting. While the operation of such a facility will depend upon the attitudes of unit holders and their management, the potential should exist. It is appropriate for this area to be incorporated in the landscaping plans for the development. Design communal composting with the following features:

a) locate with consideration of proximity to units (including adjoining development), odour and location of the drainage system;

b) purpose-build the facility. There are a variety of techniques available and advice on this and public health considerations can be obtained from Council; and

c) carefully signpost the facility, and make it the responsibility of the body corporate (or managing agent).

Council will require the property owner(s) to enter into an indemnity agreement where onsite collection is required.

C12. Where Council garbage trucks are required to enter the site for the collection of residential waste, design developments to accommodate on-site truck movement. See Appendix E for details. Speak with Council's Waste Management Team Leader about the design of such developments. Services will not be provided where there are undue risks.

C13. Provide adequate space for on-site composting.

Note : Where it is considered necessary, provide compactors and other volume reduction equipment in the Garbage and Recycling Room. Such equipment could save space on site where design is difficult and should be considered for all buildings greater than 3 storeys. Do not use volume reduction equipment on recyclables, because removing contaminants from compacted recyclables is almost impossible, and compacted loads containing any contaminants will be rejected by markets.

11.4. Shops, Offices and Restaurants

Objectives

O1. To encourage waste minimisation (source separation, reuse and recycling) and ensure efficient storage/collection of waste and quality design of facilities.

O2. To provide a system for waste management that is compatible with collection service(s).

O3. To facilitate on-site source separation.

O4. To appropriately design and efficiently locate a Waste Storage and Recycling Area and/or Garbage and Recycling Room on-site.

O5. To provide clear access for staff and collection services.

O6. To carefully site and design waste storage and recycling facilities.

O7. To make acceptable administrative arrangements for ongoing waste management (see Appendix G).

Development Controls

Communal Facilities (for Shops, Offices and Restaurants)

C1. Provide communal waste storage and recycling facilities where multiple occupancy, such as a series of shops or an office complex, is proposed, taking into consideration if communal facilities may be necessary. For instance:

- **a)** where the design makes it difficult for all units to have ready access to a Collection Point; and
- **b)** where site characteristics restrict entry of vehicles.

C2. Design a Waste Storage and Recycling Area to ensure each separately tenanted or separately occupied area within the building or complex is provided with a designated and clearly identified space for the housing of sufficient commercial containers to accommodate the quantity of waste and recyclable material generated. Advice on anticipated generation rates is provided at Appendix B. In all cases source separation (e.g. for recyclables) is required.

C3. Consider the use of volume reduction equipment as appropriate where space is a problem. In normal circumstances, there will not be a reduction in area requirements where such equipment is proposed. Council considers that area requirements should allow for changes in onsite management arrangements.

Multi-Level Buildings (Shops, Offices and Restaurants)

C4. Provide a building of Class 5 or 6 (for office or retail) containing more than three storeys with an acceptable method for transporting waste from each level to a Garbage and Recycling Room. This could be a goods lift, a chute system (designed in accordance with Appendix F), or some other means, provided that direct and convenient internal access is available to all levels and tenants. Where such facilities are utilised, space must be provided per floor for temporary storage of waste material and recyclables. Ongoing management is a significant issue – detail is required in the Development Application.

Paper and Cardboard

C5. For offices and commercial premises, provide for paper and cardboard recycling by:

- **a)** source separation at the Waste Storage and Recycling Area or at the Garbage and Recycling Room;
- **b)** education of staff; and
- **c)** arranging regular paper and cardboard collection services.

Alterations & Refurbishment of Shops, Offices and Restaurants

C6. Where a development application is required for alterations or refurbishment of a premises, and waste material is generated , complete a Site Waste Minimisation and Management Plan.

Food, Restaurants and Refrigerated Garbage

C7. Pay special attention to food scrap generation. Provide specialised containment and regular/ daily collection service arrangements.

C8. Provide refrigerated garbage rooms when large volumes of perishables (such as seafood) and infrequent collection is proposed.

C9. Provide grease traps external to the building where there is a likelihood of liquid waste going through plumbing. Make contact with Sydney Water to obtain their trade waste requirements.

Special Waste (such as medical wastes)

C10. Where special waste material is to be generated (such as medical wastes) special arrangements will be required. Make contact with the Council and the NSW Environment Protection Authority for advice on these matters .

C11. Safely store all medical waste within the building until removed by a medical waste transporter holding a current licence to transport medical waste as issued by the Department of Environment and Conservation. Store all used sharps in purpose designed containers to prevent needle stick injury.

C12. Remove medical waste from the premises at regular intervals .

11.5. Residential development in and adjacent to Commercial Areas

Site servicing is required to improve the amenity within a development. It is important that site servicing in commercial areas is achieved with minimal impact between the residential uses in adjoining buildings or shop-top housing and the commercial buildings.

- Site servicing facilities include:
- Garbage storage and collection areas; and
- Ventilation stacks from shops and basements.

Objectives

O1. To provide adequate servicing to the building and all uses within the development.

O2. To minimise the impact of site servicing access on pedestrians and the retail activity by locating site servicing areas to the rear of properties.

O3. To ensure site servicing does not interfere with pedestrian access and retail frontage.

O4. To minimise the noise impact of site services on adjoining buildings and the residential and commercial components of the development.

Development Controls

C1. Facilities must be provided for the separation of waste and recyclable materials. Such facilities must be located away from openable windows to habitable rooms to avoid amenity issues related with smells.

C2. Where garbage chutes are provided in a building, the provision of recycling rooms must also be incorporated into the development. Recycling 'shoots' are not permissible.

C3. Locate waste service areas where they are screened from adjoining properties and the public view, are safe and accessible for residents and still practically accessible for servicing vehicles.

C4. Service access is to be provided, where possible, from rear lanes, side streets or right of ways.

11.6. Industry

General Controls

Objectives

O1. To encourage waste minimisation (source separation, reuse and recycling).

O2. To ensure efficient storage and collection of waste.

O3. To ensure quality design of facilities.

Development Controls

General

C1. Ensure the system for waste management is compatible with available collection service(s).

C2. Provide sufficient space for careful separation and storage of recyclables and garbage on site.

C3. For multi-use industrial units, provide one Waste Storage and Recycling Area per unit, or and Area in communal space(s), and designed to allow for future change of use.

C4. Ensure the Area is easily accessible from each unit and from the Collection Point.

C5. Provide clear access for collection vehicles.

C6. Ensure facilities are carefully sited and well-designed.

C7. Make acceptable administrative arrangements for ongoing waste management (see Appendix G).

Hazardous Waste

C8. Production of hazardous wastes requires particular attention. Contact should be made with the NSW Environment Protection Authority or its equivalent for advice on this matter.

Single Use Operations

C9. Provide every building with a Waste Storage Area, designed and constructed to meet the requirements of Appendix G, capable of providing source separation of paper, metal, plastics, putrescible and liquid waste and flexible in size and layout to cater for future changes of use.

C10. Calculate the size of the Waste Storage Area on the basis of waste generation rates and proposed bin sizes.

C11. Base the calculation of waste generation rates on industry standards and discussion with the collection service provider. In all cases, source separation (e.g. for recyclables) is required.

C12. Include the operation of staff kitchen facilities.

C13. Where possible, provide access from the rear of the property. In all cases, access to normal collection points should be unimpeded. For large developments, include a Collection Area within the design.

Factory Units

C14. Factory-unit developments are less predictable than single-use operations. A number of basic decisions and assumptions need to be made up-front. For example, decide:

a) between individual or communal facilities*;

b) the degree of source separation; and

c) how to estimate generation rates (and therefore area requirements).

Communal Facilities

C15. In some circumstances waste management responsibility can be internalised, with each unit having its own bins (garbage and recycling) and individual unit holders taking responsibility for putting them out for collection.

C16. Provide a communal area in the following circumstances:

a) where the design makes it difficult for all units to have ready access to a collection point; and

b) where site characteristics restrict entry of vehicles.

C17. Design the Waste Storage and Recycling Area to enable each separately tenanted or separately occupied area within the building or complex to be provided with a designated and clearly identified space.

C18. Ensure this space can house sufficient commercial containers to accommodate the quantity of waste and recyclable material generated.

C19. Ensure the Area(s) are sufficiently flexible in design so as to allow for future changes of use of the units; and where provided outside the building, the Area(s) should be suitably screened.

C20. Ensure Storage areas are within the building line, car parking spaces or vehicle manoeuvring areas.

C21. Consider the use of volume reduction equipment as appropriate where space is a problem. In normal circumstances there will not be a reduction in area requirements where such equipment is proposed. Council considers that area requirements should allow for possible future changes in onsite management arrangements. Also, do not use Volume reduction equipment on recyclables, as removing contaminants from compacted recyclables is almost impossible, and compacted loads containing any contaminants will be rejected by markets.

12. Services

Objectives

O1. To provide public utilities to each allotment, within road reserves, in an efficient and cost-effective manner.

O2. To maximise the opportunities for shared (common) trenching and reduced restrictions on landscaping within road reserves.

O3. To ensure residential, industrial and business areas are adequately serviced in a timely, cost-effective, coordinated and efficient manner.

O4. To ensure the timely arrangement for electricity connections.

O5. To ensure allotments have met Sydney Water's requirements in relation to the provision of water and sewerage services.

Development Controls

C1. Ensure the design, construction and location of utility services conform to Council's stormwater standards and the specific standards of the relevant servicing authority.

C2. Design should take into account existing services to avoid any unnecessary alterations or diversions.

C3. Where possible, coordinate compatible public utility services in common trenching to minimise cost.

C4. Reform areas affected by construction works to appropriate grades, covered with 100mm of topsoil and then grassed.

Electricity

C5. Easements required in connection with the provision of electricity shall be arranged in consultation with Integral Energy or the equivalent authority, and shall be created by transfer or otherwise depending upon the circumstances.

C6. In order to ensure the timely arrangement for connections and the relevant electricity supply company's forward planning, including the progressive undergrounding of assets, the applicant is advised to make satisfactory arrangements with the relevant supply company for the connection of electricity prior to the lodgement of application with Council.

Water and Sewerage

C7. To ensure allotments have met Sydney Water's requirements in relation to the provision of water and sewerage services, Sydney Water requires the applicant to obtain a Section 73 Compliance Certificate for their development from an authorised Water Servicing Coordinator (WSC) under of the Sydney Water Act 1994. Obtaining such a certificate will be a condition of any Council approval. In addition to the S.73 Compliance Certificate requirement, the approved plan must also be submitted to a 'Quick Check Agency' accredited by Sydney Water to assess whether the development will affect Sydney Water's sewer and water mains, stormwater drains and/or easements, and if further requirements need to be met. For further information including a list of WSCs and Quick Check Agencies, may be accessed via Sydney Water's

Website.

Postal Services

C8. Applicants are advised to discuss with Australia Post the provision of postal services to their developments. Where a multi-unit industrial or residential development is proposed, Council may require applicants to consult with Australia Post. Please note that Australia Post has a standard for post boxes which is available from the Post Office.

12.1. Telecommunications Facilities

Note : The NSW Telecommunications Facilities Guideline Including Broadband provides principles and measures to control telecommunications facilities.

The heads of consideration that Council can address under this section of the DCP relate to:

- those telecommunications facilities defined as "Not Low Impact Facilities", including mobile telephone base stations and towers, overhead cabling, etc. See this Part for a complete list; and
- those facilities not defined by the Infrastructure SEPP 2007 as Exempt (Schedule 3A, Part 1); and
- those facilities not defined by the Infrastructure SEPP 2007 as Complying (Schedule 3A, Part 2); and
- those facilities on land comprising, or on which there is, a heritage item (natural & built heritage).

For a list of which telecommunications facilities require Council consent, see the end of Appendix I.

For definitions of terms specific to this section, see Appendix I.

Objectives

O1. To preserve the visual character and amenity of Holroyd.

O2. To minimise the visibility and visual impact of telecommunications towers by restricting their siting in relation to residential areas, public areas and significant landscape features.

O3. To design telecommunication facilities to minimise their visibility and visual impact, and within the local context to take account of colour, texture, form, bulk and scale.

O4. To minimise the visual impact of telecommunications facilities on the urban landscape by encouraging, where technically feasible, the sharing and collocation of facilities by carriers.

O5. To encourage the location of facilities emitting electro-magnetic radiation away from community sensitive locations .

Development Controls

Health & Safety

C1. Comply with industry standards recognised by the ACA as a standard for use in that industry. A telecommunications facility must be designed, installed and operated so that the maximum human exposure levels to radiofrequency emissions comply with Radiation Protection Standard – Maximum Exposure Levels to Radiofrequency Fields.

C2. Submit an annual statement of compliance with the ARPANSA Standard for radiation emissions from towers.

C3. Identify with clearly visible signage any microwave radiation emitting facilities (including mobile base station sites) and provide them with appropriate details: i.e. owner of a telecommunications facility or a mobile base station site, emergency contact number and radiation warning signs to the Council's satisfaction.

C4. Take measures to ensure public safety for telecommunications facilities with respect to their structural and electrical safety. A certificate from a suitably qualified structural engineer showing conformity to the relevant Australian Standard is to be provided for soundness of roof top structures.

Note: Under the Deployment of Mobile Phone Network Infrastructure, the Carrier is required to assess the need for physical barriers.

Siting

C5. Take all reasonable steps to co-locate with existing facilities, while ensuring that the cumulative impact of EMR remains safe, has minimal visual & noise impact, does not compromise the structural integrity of the facilities. Co-location is particularly favoured in Industrial, business, recreational and special uses zones.

C6. Where co-location is an option that has been rejected, the carrier must explain to Council the reason for that decision.

C7. Avoid locations in which the facility visually dominates a visually sensitive landscape.

C8. Give evidence of negotiation with stakeholders to find a mutually acceptable location.

C9. Do not locate a tower on a streetscape within the same view as heritage buildings or where in the opinion of Council, the tower would detract from the heritage significance or setting of an item of environmental heritage identified in Schedule 5 of Council's Local Environmental Plan.

C10. Do not locate a tower within 6m of any property boundary within a residential zone, to minimise visual impact.

C11. Do not locate a tower within 6m of any residential building, to minimise visual impact.

C12. Do not erect communications dishes (radio and satellite) on the balconies of residential flat buildings and medium density developments where they will be visible from the street.

C13. Do not erect more than one communications dish (radio and satellite) on the roof of residential flat buildings and medium density developments where they will be visible from the street.

C14. A rooftop antenna or dish should only be located on a building within industrial, business, recreational and special uses zones.

C15. Antennas and dishes, as defined in the above clause, should not be located on rooftops where: -

- the building is a heritage item as identified in Council's Heritage Local Environmental Plan;
- the antennae and dishes are visible from the fronting road at pedestrian eye level;
- the rooftop faces the street;
- within residential areas, the dishes must not be above 1.2m in diameter &/or 1.8m above the ridgeline.

C16. Antennas and dishes should not be located in the front setback of a residential property, to minimise visibility and visual impact.

Aesthetics

C17. Ensure the design, materials, and colour of facilities are consistent with the surrounding architecture and environment. Where attached to a building, integrate facilities as far as possible into the overall architecture and colour of the host building. Visual clutter is to be reduced particularly on tops of buildings, and their physical dimensions (including support mounts) should be sympathetic to the scale and height of the building to which it is to be attached, and sympathetic to adjacent buildings.

Note: Council will give preference to innovative approaches aimed at disguising the presence of a telecommunication facility (i.e. within or behind existing signage).

C18. Advertising signs or messages of any type, including corporate logos and night illumination, shall not be included on towers and associated facilities.

C19. Landscape around towers, where in the opinion of Council, such landscaping would serve to screen or soften the visual impact of the proposed tower when viewed from any public place. Associated equipment and structures may also require screening or softening with appropriate planting of trees and shrubs at Council's discretion, having regard to the context and setting of the particular proposal.

C20. Minimise visual impacts on any dwelling, residential land, school, child care centre, boarding house, hospital, or aged care accommodation.

C21. Facilities must have no negative impact on the streetscape associated with a heritage item or conservation area. For example, all cabling on or in the visual vicinity of a heritage item must be unobtrusive. Dishes should be ground mounted and not visible from the street.

C22. Towers should wherever possible be a self supporting "slimline monopole" construction in an existing landscape dominated by vertical elements (i.e. trees, poles, chimneys, etc). In order to minimise visual intrusion in the given locality or on a streetscape, the height of a tower shall not be excessive.

Environment

C23. Undertake site analysis to respond to site conditions.

C24. Minimise cut and fill on construction sites to avoid problems associated with erosion, sedimentation and disturbance to natural topography and vegetation.

C25. Comply with Council requirements regarding tree protection, erosion and sedimentation control.

C26. Street furniture, paving or other existing facilities removed or damaged during construction should be reinstated (at the telecommunications carrier's expense) to at least the same condition as that which existed prior to the telecommunications facility being installed.

C27. Minimise impacts on flora and fauna during construction, maintenance and operation of facilities.

C28. Where ecosystems may be disturbed, regenerate the understorey in conservation areas to increase overall viability and robustness.

C29. A telecommunications facility that is no longer required is to be removed and the site restored, as far as practical, to its original state.

C30. Locate microwave base stations and structures of similar bulk and scale preferably above the 1% Annual Exceedance Probability flood level.

C31. Where facilities are required to be located within the 1% AEP, do not locate base stations, towers and associated facilities within the floodway, or obstruct or reduce storage volume of waters in any flood plain.

C32. To this end, the floor level of any associated facility should not be less than 500mm above the 1% AEP flood level (known as the flood planning level), with a substructure that does not obstruct the flow of water through the site.

C33. Likewise, any fencing to the periphery of the substation compound shall be of pool type fencing or similar impervious construction of a decorative nature that does not obstruct the flow of water through the site.

C34. Comply with that section of this DCP that controls Tree Management in Holroyd.

C35. Noise levels should be consistent with acoustic requirements for day and night as measured by the NSW Noise Guide for Local Government.

Note: A telecommunications tower, mast, pole, antenna, dish, external equipment shelter, pillar, roadside cabinet and/or pedestal is classified as a Class 10b structure, and as such is controlled by the Building Code of Australia (BCA). As a consequence, these structures must meet the relevant deemed-to-satisfy provisions of the BCA.

Appendix A- Site Waste Minimisation and Management Plan Template

Applicant and Project Details (All Developments)

Applicant Details	
Application No.	
Name	
Address	
Phone number(s)	
Email	
Project Details	
Address of development	
Existing buildings and other structures currently on the site	
Description of proposed development	
This development achieves the objectives set out in the Waste DCP. The details on this form are the provisions and intentions for minimising waste relating to this project.	
Name	
Signature	
Date	

Construction Design (All Types of Developments)

Outline how measures for waste avoidance have been incorporated into the design, material purchasing and construction techniques of the development:

- **Materials**

- **Lifecycle**

General Controls

Demolition (All Types of Developments)
Address of development:_____

Most favourable			Least favourable	
	Reuse	**Recycling**	**Disposal**	
Type of waste generated	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	Specify method of on site reuse, contractor and recycling outlet and /or waste depot to be used
Timber (specify)				
Concrete				
Bricks/pavers				
Tiles				
Metal (specify)				
Glass				
Furniture				
Fixtures and fittings				
Floor coverings				
Packaging (used pallets, pallet wrap)				
Garden organics				
Containers (cans, plastic, glass)				
Paper/cardboard				
Residual waste				
Hazardous/special waste e.g. Asbestos (specify)				
Other (specify)				

Construction (All Types of Developments)

Address of development:_____
Refer to Section 10 of this DCP for objectives regarding construction

Most Favourable			Least Favourable	
	Reuse	**Recycling**	**Disposal**	
Type of waste generated	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	Estimate Volume (m^3) or Weight (t)	Specify method of on site reuse, contractor and recycling outlet and /or waste depot to be used
Excavation material				
Timber (specify)				
Concrete				
Bricks				
Tiles				
Metal (specify)				
Glass				
Plasterboard (offcuts)				
Fixtures and fittings				
Floor coverings				
Packaging (used pallets, pallet wrap)				
Garden organics				
Containers (cans, plastic, glass)				
Paper/cardboard				
Residual waste				
Hazardous/special waste (specify)				

Ongoing Operation (Residential, Multi- Unit, Commercial, Mixed Use and Industrial)

Address of development:_____
Show the total volume of waste expected to be generated by the development and the associated waste storage requirements.

	Recyclables		Compostables	Residual waste*	Other
	Paper/ Cardboard	Metals/ plastics/ glass			
Amount generated (L per unit per day)					
Amount generated (L per development per week)					
Any reduction due to compacting equipment					
Frequency of collections (per week)					
Number and size of storage bins required					
Floor area required for storage bins (m^2)					
Floor area required for manoeuvrability (m^2)					
Height required for manoeuvrability (m)					

* Current "non-recyclables" waste generation rates typically include food waste which may be further separated for composting.

Detail the arrangements that would be appropriate for the ongoing use of waste facilities as provided in the development. Identify each stage of waste transfer between residents' units/commercial tenancies and loading into the collection vehicle, detailing the responsibility for and location and frequency of, transfer and collection.

Plans And drawings (All Developments)

The following checklists are designed to help ensure SWMMPs are accompanied by sufficient information to allow assessment of the application.
Drawings are to be submitted to scale, clearly indicating the location of and provisions for the storage and collection of waste and recyclables during:

- Demolition
- Construction
- Ongoing operation

Demolition
Refer to Section 10 of this DCP for specific objectives and measures.
Do the site plans detail/indicate:

	Tick Yes
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	

Construction
Refer to Section 10 of the DCP for specific objectives and measures.
Do the site plans detail/indicate:

	Tick Yes
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	

Ongoing Operation
Refer to Section 10 of the DCP for specific objectives and measures.
Do the site plans detail/indicate:

	Tick Yes
Space	
Size and location(s) of waste storage areas	
Recycling bins placed next to residual waste bins	
Space provided for access to and the manoeuvring of bins/equipment	
Any additional facilities	
Access	
Access route(s) to deposit waste in storage room/area	
Access route(s) to collect waste from storage room/area	
Bin carting grade	
Location of final collection point	
Clearance, geometric design and strength of internal access driveways and roads	
Direction of traffic flow for internal access driveways and roads	
Amenity	
Aesthetic design of waste storage areas	
Signage – type and location	
Construction details of storage rooms/areas (including floor, walls, doors, ceiling design, sewer connection, lighting, ventilation, security, wash down provisions etc)	

Potential Reuse/Recycling Options

These potential reuse/recycling options are provided as examples only. There are many other reuse and recycling opportunities available and applicants are not limited to those listed below.

MATERIAL	REUSE/RECYCLING POTENTIAL
Concrete	Reused for filling, levelling or road base
Bricks and Pavers	Can be cleaned for reuse or rendered over or crushed for use in landscaping and driveways
Roof Tiles	Can be cleaned and reused or crushed for use in landscaping and driveways
Untreated Timber	Reused as floorboards, fencing, furniture, mulched or sent to second hand timber suppliers
Treated Timber	Reused as formwork, bridging, blocking and propping, or sent to second hand timber suppliers
Doors, Windows, Fittings	Sent to second hand suppliers
Glass	Reused as glazing or aggregate for concrete production
Metals (fittings, appliances and wiring)	Removal for recycling
Synthetic Rubber (carpet underlay)	Reprocessed for use in safety devices and speed humps
Significant Trees	Relocated either onsite or offsite
Overburden	Power screened and used as topsoil
Garden Waste	Mulched, composted
Carpet	Can be sent to recyclers or reused in landscaping
Plasterboard	Removal for recycling, return to supplier or used in landscaping

Appendix B- Waste/Recycling Generation Rates

Construction Waste

'Rule of Thumb' for renovations and small home building

- Timber 5-7% of material ordered
- Plasterboard 5-20% of material ordered
- Concrete 3-5% of material ordered
- Bricks 5-10% of material ordered
- Tiles 2-5% of material ordered

Source: Waste Planning Guide for Development Application, Inner Sydney Waste Board, 1998

Ongoing Operation

PREMISES TYPE	WASTE GENERATION	RECYCLABLE MATERIAL GENERATION
Backpackers' Hostel	40L/occupant space/week	20L/occupant space/week
Boarding House, Guest House	60L/occupant space/week	20L/occupant space/week
Food premises: Butcher Delicatessen Fish Shop Greengrocer Restaurant, Café Supermarket Takeaway food shop	 80L/100m² floor area/day 80L/100m² floor area/day 80L/100m² floor area/day 240L/100m² floor area/day 10L/1.5m² floor area/day 240L/100m² floor area/day 80L/100m² floor area/day	 Variable Variable Variable 120L/100m² floor area/day 2L/1.5m² floor area/day 240L/100m² floor area/day Variable
Hairdresser, Beauty Salon	60L/100m² floor area/week	Variable
Hotel, Licensed Club, Motel	5L/bed space/day 50L/100m² bar area/day 10L/1.5m² dining area/day	1L/bed space/day 50L/100m² bar area/day 50L/100m² dining area/day
Offices	10L/100m² floor area/day	10L/100m² floor area/day
Shop less than 100m² floor area Shop greater than 100m² floor area	50L/100m² floor area/day 50L/100m² floor area/day	25L/100m² floor area/day 50L/100m² floor area/day
Showroom	40L/100m² floor area/day	10L/100m² floor area/day
Multi-Unit Dwellings[1]	80L/unit/week	40L/unit/week

Sources: Adapted from Waverley Council Code for the Storage and Handling of Waste.

[1] Appendix A, Better Practice Guide For Waste Management In Multi-Unit Dwellings 2007

Appendix C- Council's Standard Garbage and Recycling Containers and Indicative Bin Sizes

The waste service requirements for residential developments are as follows:

DWELLING TYPE		NUMBER OF GRABAGE BINS REQUIRED	NUMBER OF RECYCLING BINS REQUIRED
Single		1 x 240L	1 x 240L
Villa or townhouse		1 x 240L	1 x 240L
RFB	1-20 units	1 x 240L bin per 2 units plus 1 additional bin per 10 units	1 x 240L bin per 3 units
	20+ units	1 x 1100L bin per 8 units	1 x bin per 3 units

Note: Council will consider alternative options to the above for developments exceeding 30 units.

Indicative Bin Sizes

BIN TYPE	HEIGHT	DEPTH	WIDTH
120L	940mm	560mm	485mm
240L	1088mm	735mm	580mm
1100L	1465mm	1220mm	1360mm

These dimensions are only a guide and differ slightly according to manufacturer, if bins have flat or dome lids and are used with different lifting devices.

Appendix D- Waste Recycling/Storage Rooms In Multi–Unit Dwellings

Building Code of Australia

Waste/recycling storage rooms must be constructed in accordance with the requirements of the Building Code of Australia (BCA).

Location and appearance

- Waste/recycling storage rooms must be integrated into the design of the overall development. It is preferable that such rooms be located behind the front building line. Wherever possible, the room should be in a basement location within the main building envelope (rather than being a separate stand-alone structure). Materials and finishes which are visible from outside should be similar in style and quality to the external materials used in the rest of the development.
- Waste/recycling storage rooms must be located and designed in a manner which reduces adverse impacts upon the inhabitants of any dwellings on the site and upon neighbouring properties. The location and design of the room should minimise adverse impacts associated with:
  - the proximity of the room to any dwellings;
  - the visibility of the room;
  - noise generated by any equipment located within the room;
  - noise generated by the movement of bins into and out of the room;
  - noise generated by collection vehicles accessing the site; and
  - odours emanating from the room.

Size

- Waste/recycling storage rooms must be of adequate size to comfortably accommodate all waste and recycling bins associated with the development.
- In the case of multi-unit housing and residential flat buildings, the waste/recycling storage room must be able to accommodate bins at the rate described at Appendix E Garbage Truck Dimensions for Residential Waste Collection and Appendix F Garbage Chutes.

Layout

The gradient of waste/recycling storage room floors and the gradient of any associated access ramps must be sufficiently level so that access for the purpose of emptying containers can occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

Within waste/recycling storage rooms, containers used for the storage of recyclable materials should be kept separate from (but close to) general waste containers – so that the potential for contamination of recyclable materials is minimised.

Appendix E- Garbage Truck Dimensions for Residential Waste Collection

This page includes information regarding the dimensions of garbage trucks which are typically used for the collection of residential waste. Developments which require Council garbage trucks to enter the site for the collection of residential waste must be designed so as to accommodate on-site truck movement.

Requirements regarding vehicle turning circles and driveway width/gradient are contained in Australian Standard 2890.2 2002/Planning Facilities – off street commercial vehicles.

It is recommended that an applicant speak with Council's Waste Management Team Leader in regards to the design of development proposals which involve garbage trucks entering the site. Services will not be provided where there are undue risks.

TYPICAL COUNCIL GARBAGE TRUCK USED FOR DOMESTIC WASTE COLLECTION	
Length overall	8.0 metres
Width overall	2.5 metres
Operational height	4.3 metres
Travel height	4.3 metres
Weight (vehicle and load)	22.5 tonnes
Weight (vehicle only)	13 tonnes
Turning Circle	25.0 metres

Appendix F- Garbage Chutes

Garbage chute design

- Garbage chutes must be constructed in accordance with the requirements of the Building Code of Australia (BCA).
- Garbage chutes must be located and insulated in a manner which reduces noise impacts.
- Chutes, service openings and charging devices must be constructed of material (such as metal) which is smooth, durable, impervious, non-corrosive and fire resistant.
- Chutes, service openings and charging devices must be capable of being easily cleaned.
- Chutes must be cylindrical and should have a diameter of at least 500mm.
- There must not be any bends (or sections of reduced diameter) in the main shaft of the chute.
- Internal overlaps in the chute must follow the direction of waste flow.
- Chutes must deposit rubbish directly into a bin or compactor located within a waste/ recycling storage room.
- A cut-off device must be located at or near the base of the chute so that the bottom of the chute can be closed when the bin or compacting device at the bottom of the chute is withdrawn or being replaced.
- The upper end of a chute should extend above the roof line of the building.
- The upper end of a chute should be weather protected in a manner which doesn't impede the upward movement of air out of the chute.

Garbage chute service room design

- The service opening (for depositing rubbish into the main chute) on each floor of the building must be located in a dedicated service room.
- The charging device for each service opening must be self closing and must not project into the main chute.
- Branches connecting service openings to the main chute are to be no more than 1m long.
- Each service room must include containers for the storage of recyclable materials. Signage regarding the materials which can be recycled should be displayed near these containers.
- Each service room must be located for convenient access by users and must be well ventilated and well lit.
- The floors, walls and ceilings of service rooms must be finished with smooth, durable materials which are capable of being easily cleaned.
- Service rooms must include signage which clearly describes the types of materials which can be deposited into the garbage chute and the types of materials which should be deposited into recycling bins.

Management

- Garbage chutes are not to be used for the disposal of recyclable materials. Signage to this effect should be displayed near service openings.
- Arrangements must be in place for the regular maintenance and cleaning of garbage chutes and any associated service rooms, service openings and charging devices.

Arrangements must be in place for the regular transferral of recyclable materials (which are stored in service rooms) to the main waste/recycling storage room.

Appendix G- Commercial/Industrial Waste and Recycling Storage Areas

Building Code of Australia

- Waste/recycling storage areas must be constructed in accordance with the requirements of the Building Code of Australia (BCA).

Location and appearance

- Waste/recycling storage areas must be integrated into the design of the overall development. Materials and finishes which are visible from outside should be similar in style and quality to the external materials used in the rest of the development.
- Waste/recycling storage areas must be located and designed in a manner which reduces adverse impacts upon neighbouring properties and the streetscape. The location and design of the areas should minimise adverse impacts associated with:
  - the proximity of the area to dwellings;
  - the visibility of the area;
  - noise generated by any equipment located within the area;
  - noise generated by the movement of bins into and out of the area;
  - noise generated by collection vehicles accessing the site; and
  - odours emanating from the area.

Size

- Waste/recycling storage areas must be of adequate size to comfortably accommodate all waste and recycling bins associated with the development.
- Waste/recycling storage areas must be able to accommodate separate general waste bins and recycling bins which are of sufficient volume to contain the quantity of waste generated (at the rate described in Appendix B) between collections.

Layout

- The gradient of waste/recycling storage area floors and the gradient of any associated access ramps must be sufficiently level so that access for the purpose of emptying containers can occur in accordance with WorkCover NSW occupational health and safety requirements.
- Within waste/recycling storage areas, containers used for the storage of recyclable materials should be kept separate from (but close to) general waste containers – so that the potential for contamination of recyclable materials is minimised.

Access: waste/recycling collection

- The development must be designed to allow for access by collection vehicles used by the nominated waste contractor. Wherever possible, the site must be configured so as to allow collection vehicles to enter and exit the site in a forward direction and so that collection vehicles do not impede general access to, from and within the site. Access driveways to be used by collection vehicles must be of sufficient strength to support such vehicles.
- Servicing arrangements for the emptying of bins must be compatible with the operation of

any other loading/unloading facilities on-site.

- Access for the purpose of emptying waste/recycling storage containers must be able to occur in accordance with WorkCover NSW Occupational Health and Safety requirements.

Access: general

- In commercial development, public buildings and industrial development, there must convenient access from each tenancy to the waste/recycling storage area/s. There must be step-free access between the point at which bins are collected/emptied and the waste/recycling storage area/s.
- Arrangements must be in place so that the waste/recycling storage area is not accessible to the general public.
- Vermin must be prevented from entering the waste/recycling storage area.

Surfaces

- Waste/recycling storage areas must have a smooth, durable floor and must be enclosed with durable walls/fences which extend to the height of any containers which are kept within.

Doors/gates

- Doors/gates to waste/recycling storage areas must be durable. There must be a sign adjacent to the door/gate which indicates that the door/gate is to remain closed when not in use. All doors/gates are to be openable from both inside and outside the storage area and must be wide enough to allow for the easy passage of waste/recycling containers.

Services

- Waste/recycling storage areas must be serviced by hot and cold water provided through a centralised mixing valve. The hose cock must be protected from the waste containers and must be located in a position which is easily accessible when the area is filled with waste containers.
- The floor must be graded so that any water is directed to a sewer authority approved drainage connection located upon the site. In the Sydney Metropolitan area this is Sydney Water.

Signage

- Waste/recycling storage areas must include signage which clearly describes the types of materials which can be deposited into recycling bins and general garbage bins.

Management

- Arrangements must be in place for the regular maintenance and cleaning of waste/recycling storage areas. Waste/recycling containers must only be washed in an area which drains to a sewer authority approved drainage connection. In the Sydney Metropolitan Area this is Sydney Water.
- The Better Practice Guide for Waste Management in Multi-Unit Dwellings gives detailed information about waste recycling/storage rooms and facilities like garbage chute design. The 2008 edition is available on the NSW EPA website (www.environment.nsw.gov.au). Further updates will be published as further information from social research and waste stream audits becomes available.

Appendix H - Economic Analysis of Flood Loss

An indication of flood losses can be obtained by calculating the annual average flood damage costs for a range of flood intensities and summing these to give a total annual average figure which is then converted to a net present worth cost. This Guideline shows how to do this.

Flood losses can be categorised as tangible and intangible costs. Tangible Flood Losses in the Commercial or Industrial Sector result from either direct or indirect damages. Direct damages involves clean up costs, loss or damage to tools, equipment and stock within the building and damage to stock, equipment and vehicles stored in the grounds (if applicable). Indirect damages result from disruption costs e.g. down-time (for clean up and repair), lost wages, loss of profit, Intangible costs may include stress, worry or injury to staff as a consequence of the flood. Intangible costs are difficult to calculate and are not required as part of this analysis.

Example: consider a commercial development which has a floor level just below the 20% AEP (1in 5 year ARI) flood. By knowing what and how the tools, floor coverings, stock and equipment are affected by the different flood heights, various damage costs can be estimated. To make this calculation, it is necessary to know the height of all the assets subject to damage to the same datum as used for the flood levels – i.e. Australian Height Datum (AHD). Similarly, time in working hours resulting from lost production or sales e.g. machines sent off for repairs, staff idle time during clean up, shop closed etc and consequent loss of profit can also be estimated as indirect costs. The various costs in this example are set out in Table 11.

The Annual Average Damages is an annual series and it is necessary to convert these damages into a Net present Value to enable comparison to the cost of any flood proofing measures which would reduce or eliminate these costs. A 7% discount factor has been commonly used in these applications, this results in a conversion factor of 14.3 as shown in Table 11.

These results then allow calculation of the Benefit Cost Ration (BCR) for a given extent of flood proofing works as shown in Table 12. The benefit savings in flood damages compared to the case of taking no precautions against flood loss. Depending on the results, a series of analyses would be undertaken progressively increasing the extent of flood proofing measures. This would allow for the most cost effective level to be determined. Normally flood proofing would be considered in the range whether the BCR is greater than 1, although the optimum extent of flood proofing depends on the decision maker's circumstances.

In many existing developments only limited flood proofing may be practical, however, it should be evaluated ad details provided to assist Council in its assessment. A blank form is available as Table #.3 to facilitate assessment by the applicant. The attached letter must be returned to Council together with the completed tables(s). The letter also contains an acknowledgment and acceptance by the applicant of the risks associated with developing in an area subject to flooding. In particular,

- The calculations are based on the probability of a flood occurring, and the method averages the costs out on an average basis. However, there is also the chance that the 1% AEP flood or higher may occur within the first week or month of operation and the business may need to be prepared for this high loss.
- The applicant acknowledges that all risks associated with occupying the site are with the applicant. Council does not accept any responsibility for flood damages in approving development.

Table 11 - Example of Annual Average Flood Damages (no flood proofing)								
(1) A.R.I FLOOD	(2) A.E.P FLOOD	(3) INDIRECT DAMAGES ($)	(4) INDIRECT DAMAGES ($)	(3)+(4) = (5) TOTAL DAMAGES	(6) AVERAGE DAMAGES ($)	(7) PROBABILITY FACTOR	(8) DIFFERENCE IN PROBABILITY	(7) ANNUAL DAMAGES (6) X (8)
100	1%	35,000	18,000	53,000	41,000	.01	.01	410
50	2%	19,000	10,000	29,000	23,000	.02	.03	690
20	5%	11,000	6,000	17,000	12,500	.05	.05	625
10	10%	5,000	3,000	8,000	5,000	.10	.10	500
5	20%	1,250	750	2,000	1,000	.20	.30	300
2	50%	Nil	nil	nil		.50		
					TOTAL ANNUAL AVERAGE DAMAGES			**$2,525**

NET PRESENT VALUE OF ANNUAL AVERAGE DAMAGES – 14.3 x $2,525 = $36,107

Using a 7% discount factor the net present value of the annual series is

Table 12 - Example of Annual Average Flood Damages (with one flood proofing option)

(1) A.R.I FLOOD	(2) A.E.P FLOOD	(3) INDIRECT DAMAGES ($)	(4) INDIRECT DAMAGES ($)	(3)+(4) = (5) TOTAL DAMAGES	(6) AVERAGE DAMAGES ($)	(7) PROBABILITY FACTOR	(8) DIFFERENCE IN PROBABILITY	(7) ANNUAL DAMAGES (6) X (8)
100	1%	20,000	9,000	29,000	24,000	.01	.01	240
50	2%	12,000	7,000	19,000	15,000	.02	.03	450
20	5%	7,000	4,000	11,000	6,750	.05	.05	337
10	10%	1,600	900	2,500	2,050	.10	.10	205
5	20%	1,000	600	1,600	800	.20	.30	240
2	50%	Nil	nil	nil		.50		
					TOTAL ANNUAL AVERAGE DAMAGES			**$1,472**

Using 7% discount factor, the Net Present Value of Flood Damages = 14.3 x $1,472 = $21,050

Savings in Flood Damages = $36,107 - $21,050 = $15,057

The above example considers the use of special racks that ensure stock is a minimum of 500mm above ground level. These racks cost an additional $11,000 to those which would normally be required.

Consequently BCR = Savings in Flood Damages ÷ cost of Floodproofing = $\frac{\$15,057}{\$11,000}$ = 1.37

Various other options could also be considered, e.g. higher racks, a levee around the property to prevent water entry etc so that a range of tables are prepared.

FLOOD PROOFING OTIN:……
……

PROPERTY ADDS:……
……DA:……/……

Table 13 - Annual Average Flood Damages								
(1) A.R.I FLOOD	(2) A.E.P FLOOD	(3) INDIRECT DAMAGES ($)	(4) INDIRECT DAMAGES ($)	(3)+(4) = (5) TOTAL DAMAGES	(6) AVERAGE DAMAGES ($)	(7) PROBABILITY FACTOR	(8) DIFFERENCE IN PROBABILITY	(7) ANNUAL DAMAGES (6) X (8)
100	1%					.01	.01	
50	2%					.02	.03	
20	5%					.05	.05	
10	10%					.10	.10	
5	20%					.20	.30	
2	50%					.50		
					TOTAL ANNUAL AVERAGE DAMAGES			

Using 7% discount factor, the Net Present Value of Flood Damages = 14.3 x $
= $

Savings in Flood Damages = Losses if nothing is done – losses if this option applied
= $ - $ = $

Cost of Flood Proofing = $ therefore BCR = Savings in flood damages
=

Cost of flood proofing

General Controls

The General Manager
Holroyd City Council
PO Box 42
MERRYLANDS NSW 2160

DA ……/……

Attention: Environmental & Planning Services

Re: Change of Use at ……..

I refer to my application for change of use at the above property to ……

……
……
……

I (will/will not) be undertaking any flood-proofing. Provide details including relevant table(s) if required.

……
……
……
……
……
……

The flood damage calculations enclosed represent an accurate assessment of the damages associated with the proposed business for the various flood levels.

I acknowledge that the property may be flooded at any time including the 1% AEP flood or higher, and that I am prepared to accept the risks associated with this for my development and absolve Holroyd City Council, or any its officers, of any responsibility for any flood damages at this property.

Signature: …… on behalf of ……...

Position: …… Date: ……

Appendix 1 - Telecommunications Terms

Administrative authority
(a) the holder of an office; or
(b) an authority of a State or a Territory; or
(c) a local government body;
performing administrative functions under a law of a State or a Territory.

Applicant
Applies to infrastructure providers and their agents.

Area of environmental significance
If it is registered under a law of a State or a Territory relating to heritage conservation [among other categories]. E.g. State Heritage Register. E.g. heritage item under LEP (protected by NSW Heritage Act, 1977). E.g. Environmentally sensitive area under LEP.

Carrier
The holder of a carrier licence [the owner of a network unit that is used to supply carriage services].
Applies to:
(a) a constitutional corporation; or
(b) an eligible partnership [of corporations]; or
(c) a public body [see public authority].

Commercial area
If its principal designated use is for commercial purposes.

Co-located facilities one or more facilities on or within an original facility or a public utility structure

Community sensitive site
Includes residential areas, child care centres, schools, aged care centres, hospitals, playgrounds and regional icons. Also included are environmentally sensitive lands (Telecommunications Code of Practice 1997, clause 2.17.4)

Co-location
The siting of a number of telecommunication facilities, often owned by different carriers, in one location

Cumulative impact
The impact of radiation from various sources or over time.

Designated overhead line
(a) that is suspended above the surface of:
(i) land (other than submerged land); or
(ii) a river, lake, tidal inlet, bay, estuary, harbour or other body of water; and
(b) the maximum external cross section of any part of which exceeds:
(i) 13 mm; or
(ii) if another distance is specified in the regulations—that other distance.

Electromagnetic radiation (EMR)
The radiation in the microwave and radiofrequency band of the electromagnetic spectrum EME

Electromagnetic energy
Industrial area
An area is an industrial area if its principal designated use is for industrial purposes.

Low impact facility (LIF)
A facility that is exempted from state and council local planning laws under the Telecommunications (Low-impact Facilities) Determination 1997. In particular, see whatever is not listed under "Not a low-impact facility".

Negotiations
(a) the submission of an application for approval; and
(b) pursuing an application for approval.

Not a low-impact facility
By implication, a facility not exempted from state and council local planning laws. See the list of "Not Low Impact Facilities" at the end of this Appendix. They include:

- designated overhead lines (>13mm);
- a tower that is not attached to a building;
- a tower attached to a building and more than 5 metres high;
- an extension to a tower that has previously been extended;
- an extension to a tower, if the extension is more than 5 metres high;
- any extension in a residential or commercial zone;
- any structure proposed in an area of environmental significance;
- any structure proposed in an "area of heritage conservation".

Note: certain Radio Terminal Antennas and Dishes above given sizes in certain zones require Council consent under State legislation, and so effectively are also considered to be 'not a low-impact facility'.

Public authority
(a) a public or local authority constituted by or under an Act, or
(b) a government Department, or
(c) a statutory body representing the Crown, or
(d) a chief executive officer within the meaning of the Public Sector Management Act 1988 (including the Director-General), or
(e) a statutory State owned corporation (and its subsidiaries) within the meaning of the State Owned Corporations Act 1989 [see SOC], or
(f) a chief executive officer of a corporation or subsidiary referred to in paragraph (e), or
(g) a person prescribed by the regulations for the purposes of this definition.

Radiocommunications facility
A base station or radiocommunications link, satellite-based facility or radiocommunications transmitter.

Relevant local government authority
For an activity in a State or Territory, means an authority of the State or Territory responsible for the

local government of the area where the activity happens or is to happen.

Residential area
(1) If its principal designated use is for residential purposes.
(2) A part of a built-up area is a residential area if it cannot otherwise be described as a commercial, industrial or rural area.
RF
Radiofrequency.

State owned corporation
or SOC means a company for the time being specified in Schedule 1[none], or a corporation for the time being specified in Schedule 5 [energy & water corporations].

Subscriber
for a carrier, includes a proposed or potential subscriber [customer].

Subscriber connection
An installation for the sole purpose of connecting premises to a line forming part of a telecommunications network.

Telecommunications facility
Any part of the infrastructure of a Telecommunications Network. It includes any telecommunications line, equipment, apparatus, telecommunications tower, mast, antenna, tunnel, duct, hole, pit, pole or other structure or thing used, or for use in connection with a Telecommunications Network.

Telecommunications Network
A system, or series of systems, that carries, or is capable of carrying, communications.
Tower
a tower, pole or mast. (n.b.: reference to a tower does not include a reference to an antenna)

FACILITIES SUBJECT TO COUNCIL CONSENT:

1. Not Low-impact Facilities:
(as defined by the Telecommunications (Low Impact Facilities) Determination 1997); and

2. Not Exempt or Complying Facilities:
(as defined by the State Environmental Planning Policy (Infrastructure) 2007).

Facility	Conditions under which the facility requires Council Consent.	
	Telecommunications (Low Impact Facilities) Determination 1997	State Environmental Planning Policy (Infrastructure) 2007
Co-location (on electricity poles or underground)		Exempts all
New Tower	Non-industrial zone: * if not attached to a building; or * attached to a building & >5m high. Industrial zone: * >100m from R zone; or * 100-150m from R- >25m high * >150m from R- >30m high	
Replacement Tower	Residential zone: * increase in height; or * >10m from original Non-Residential zone: * increase in height; or * >20m from original; or * closer to R zones.	
Tower extension of any size	If in Residential zones; or If previously extended; or Commercial zones: *>7.5m high; & * not for co-location purposes.	
Overhead lines (designated)	* cabling >13mm	
Array of omnidirectional antennas	* >8.5m high; or * outrigged >500mm from base.	
Panel antenna (especially mobile phone antennas)	* >2.8m long. & * if attached to a structure—protruding by > ~~3~~ 8m & *colour not matching background or approved.	

Facility	Telecommunications (Low Impact Facilities) Determination 1997	Infrastructure SEPP 2007	Exempt & complying SEPP 2007	SEPP4 - Development Without Consent
Radiocommunications dish - Subscriber connection (Residential)	* > 1.2 m diam.; & *colour not matching background or approved.	* >900mm diam.; * not above ridge (or 1.2m above flat roof). * on ground > 1.2m high.	* >900mm diam. on roof; * >1.8m above ridgeline; * on ground > 1.8m high.	
Radiocommunications dish - Subscriber connection (Commercial/Industrial)		* >1.8m diam; * above roof >2.4m. * on ground >2.4m high.		* >1.8m diam.; * >1.8m above ridgeline
Pit, Manhole and/or Underground equipment shelter or housing	Surface area >2m^2.			
Underground conduit or cable, deployed by bore or directional drill hole [not co-located]	* cabling < 600mm below surface; & * >150mm wide.			
Equipment installed inside a structure, including an antenna concealed in an existing structure	Residential zones			
Pillar, Roadside cabinet and/or Pedestal	* > 2m high; & * base area >2m^2.			
External equipment shelter	*> 2.5m high; and * base area >5m^2.			
External equipment shelter, used solely to house equipment used to assist in providing a radio service by means of a panel, terminal, antennae, Microcell installation, tower extension or dish	*> 3m high; and * base area >7.5m^2.			
Microcell installation	* cabinet > 1m^3 in volume; & * separate antenna >1m long.			

Appendix J - Tree Retention Assessment

Visual Tree Assessment (VTA) is used by Arborists worldwide to determine a tree's health and conditions by viewing the different sections of a tree from the ground. Other diagnostic techniques and equipment are also used to provide a more detailed assessment. These include:

- Aerial assessment
- Hazard assessment
- Picus Sonic Tomography (assesses the internal components of a tree)
- Ground Penetrating Radar (GPR - locates live and dead tree roots)

In considering the retention of a tree, several factors require close examination and assessment. These are:

1) Tree Health Assessment
2) Assessmen of Other Factors
3) Landscape Significance

Note:

- Dead trees with nests and/or hollows should be assessed for their significance in providing habitat for native wildlife.

Tree Health Assessment

The assessment of a tree's health and its longevity involves the close examination of many different factors, including:

- Overall vigour (includes canopy cover and new growth)
- Signs of stress (such as epicormic growth, dieback and deadwood)
- Pests & diseases (causing damage to a tree)
- Structural defects (exisitng or signs of defects include cracks, inclusions, wounds, decay, hollows)
- Stability of a tree (check for exposed roots, root damage and lean of a tree and its canopy)

A. Very good health and canopy form

- A tree with a complete live canopy (70-100% foliage cover). Trees with no obvious signs of structural defects, pest and diseases, previous pruning works, minimal deadwood and/ or stress growth.

B. Good health and canopy form

- Trees with a live canopy (up to 70% foliage cover). Trees exhibiting moderate deviations such as crown distortion/ suppression, minor signs of structural defects, pests and diseases, previous pruning works, some deadwood and / or stress growth.

C. Fair health and canopy form

- Trees with a live canopy (up to 50% foliage cover). Trees exhibiting high deviations such as crown

distortion/ suppression, moderate signs of structural defects, pests and diseases, previous poor pruning works, moderate deadwood and stress growth and/ or over maturity.

D. Declining / poor health

- Trees with minimal canopy cover (under 50% foliage cover). Trees declining due to age, pest and disease attack, changed growing conditions / environment, poor pruning practices (e.g. lopping), and excessive deadwood.

2. Assessment of Other Factors

Though a tree many be rated in good growing health and condition, other mitigating factors may be present that could determine that the tree cannot be adequately retained. Some of these factors are:

- Tree's location - the trees location is poor leading to potential property damage and inadequate space to grow.
- Property damage - the tree is causing significant damage to property foundations or house servuices that cannot be adequately repaired while retaining the existing tree.
- Tree species, age and future growth - The of of tree is considered unsuitable because of its vigorous growth habit and / or its current location will not adequately accommodate it future growth.
- Tree parts causing allergic reaction to person/s - if proven be a relevant medical specialist that a person residing at the property has an allergic reaction to a part/s of the tree.
- Potential hazard - the tree is developing a structural defect or has storm damage (e.g. lighting stricke) creating a potential hazard for the future.
- Amenity issues - excessive shading leading to growth of lichens and / or internal mould affecting an occupant's loving conditions.

Note: Dead trees with nests and / or hollows should be assessed for their significance in providing habitat for native wildlife.

Landscape Significance

Significant

- Tree is listed as a heritage item under Holroyd LEP 2013
- A tree forms part of the curtilage of a heritage item
- A tree is a commemorative planting
- Tree comes under the threatened species act of environmental Protection and biodiversity conservation act
- The tree is a remnant tree- in existence prior to the development of the area
- The tree has a very large live crown size (exceeding 300m^2)
- The tree is visually prominent in a view from surrounding areas- could be considered a landmark

Very High

- The tree has a strong association with a heritage item in its vicinity
- Representative of original vegetation in the area.
- The tree has a very large live crown size (exceeding 200m^2)

High

- The tree has a large live crown size (exceeding 100m^2)
- Known or suspected historical association with a heritage item or landscape
- Representative of original vegetation in the area.

Moderate

- The tree has a very large live crown size (exceeding 40m^2)
- Fair representative of its species
- Fair impact on the amenity and visual character of the area
- Not visually prominent
- Known or suspected historical association

Low

- The tree has a small live crown size (less than 40m^2)
- Poor representative of its species
- Not visible from surrounding properties
- Negative impact on the amenity and visual character of the area.

Appendix K- Locations Subject to Road Widenings and Splay Corners

Land subject to road widening, road closures and splay corners in Guildford

Map 1

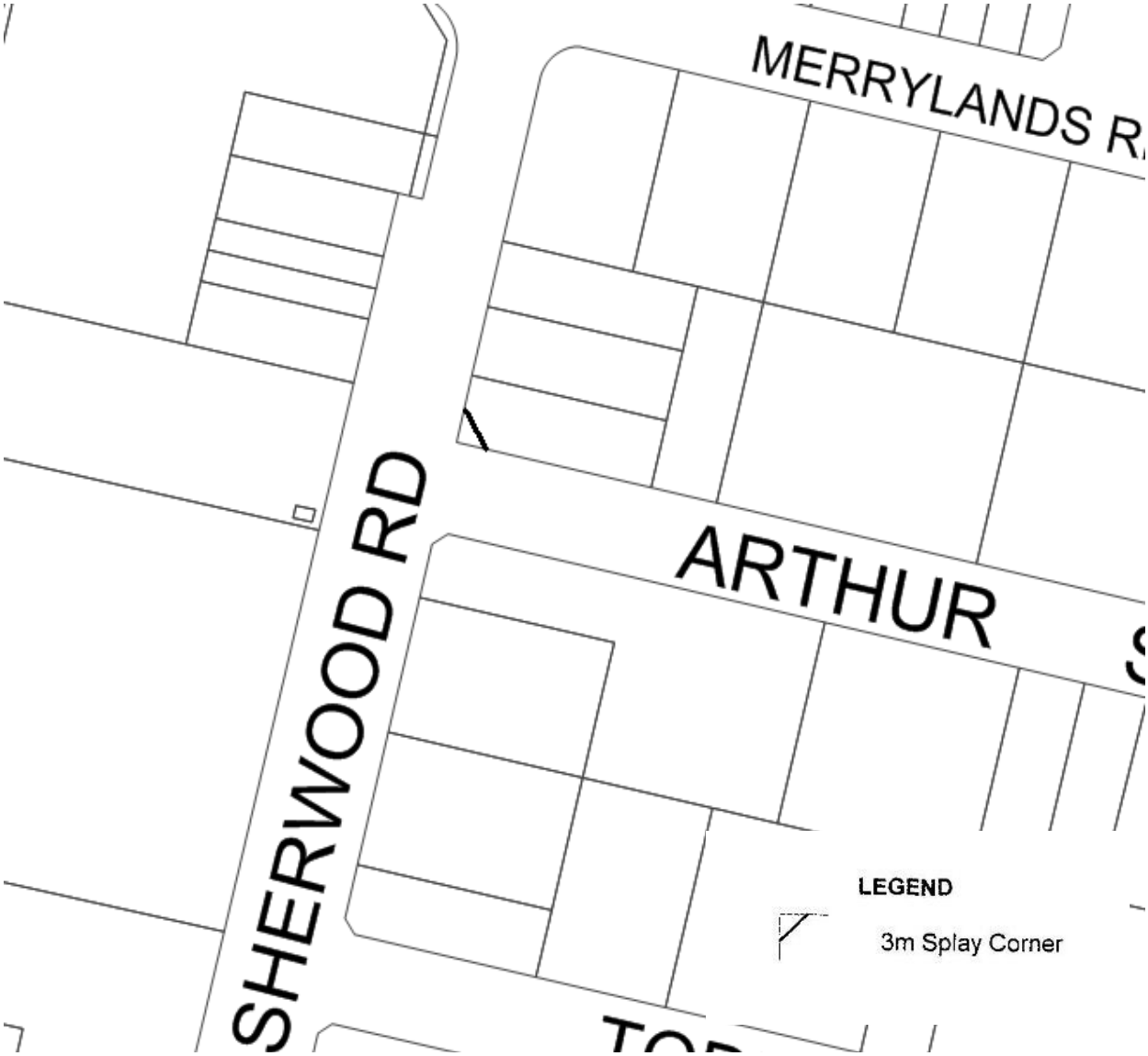
*All locations are indicative only.

Land subject to road widening and splay corners in Merrylands

Map 2

*All locations are indicative only.

Land subject to a splay corner in Merrylands West



Map 3

*All locations are indicative only.

Land subject to road widening, road closures and splay corners in Parramatta

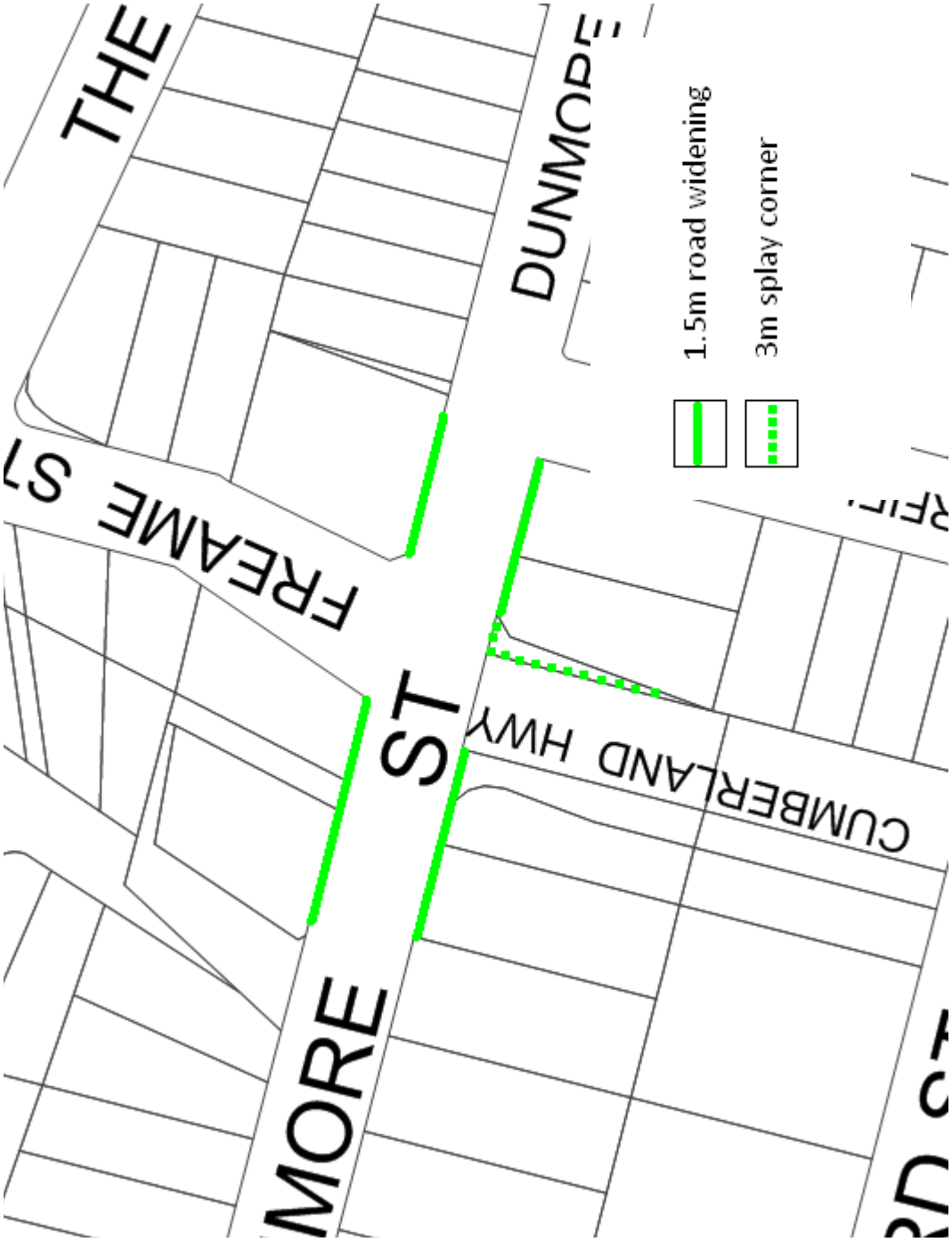
Map 4

*All locations are indicative only.

Land subject to road widening and splay corners in Westmead

Map 5

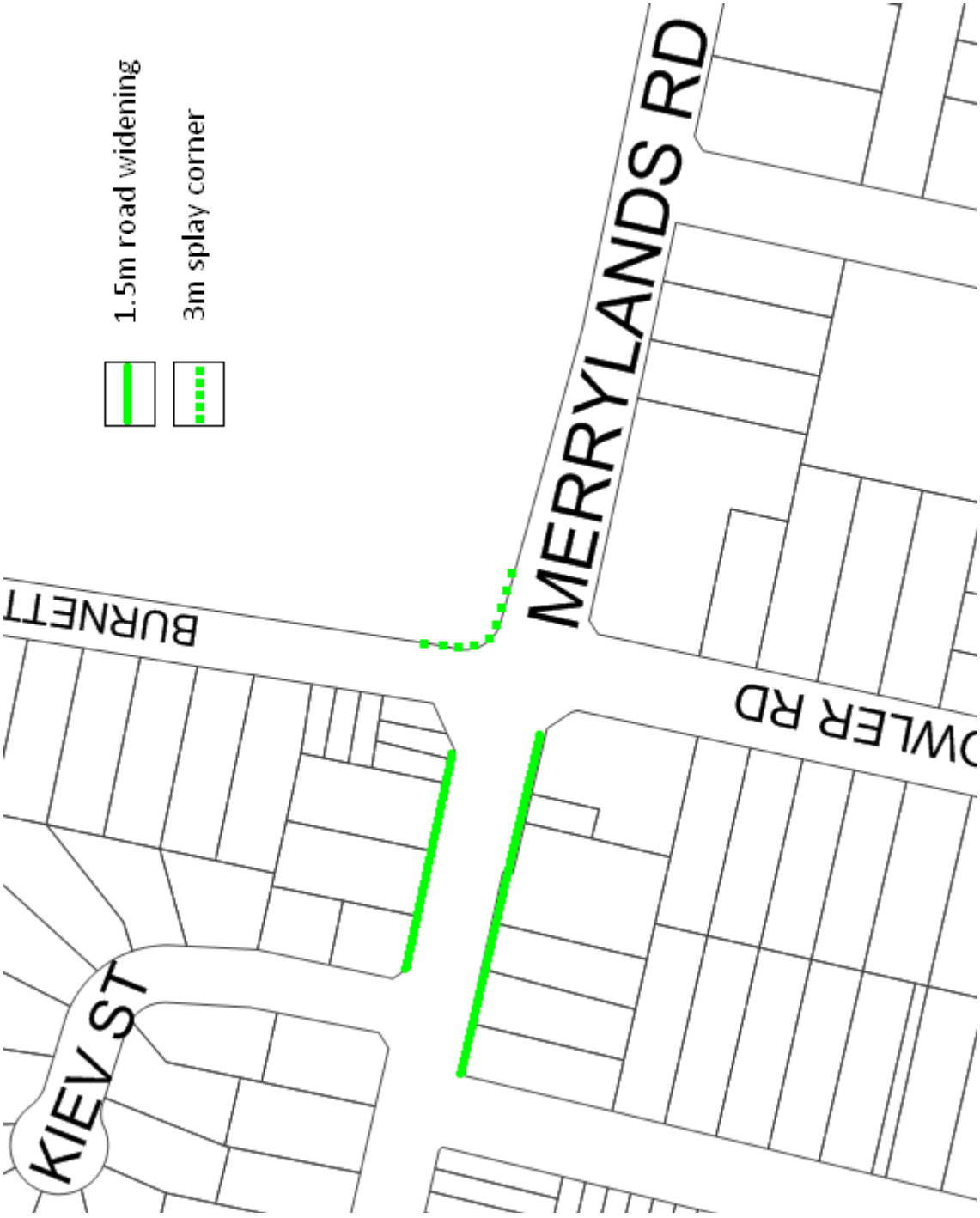
*All locations are indicative only.



Map 6

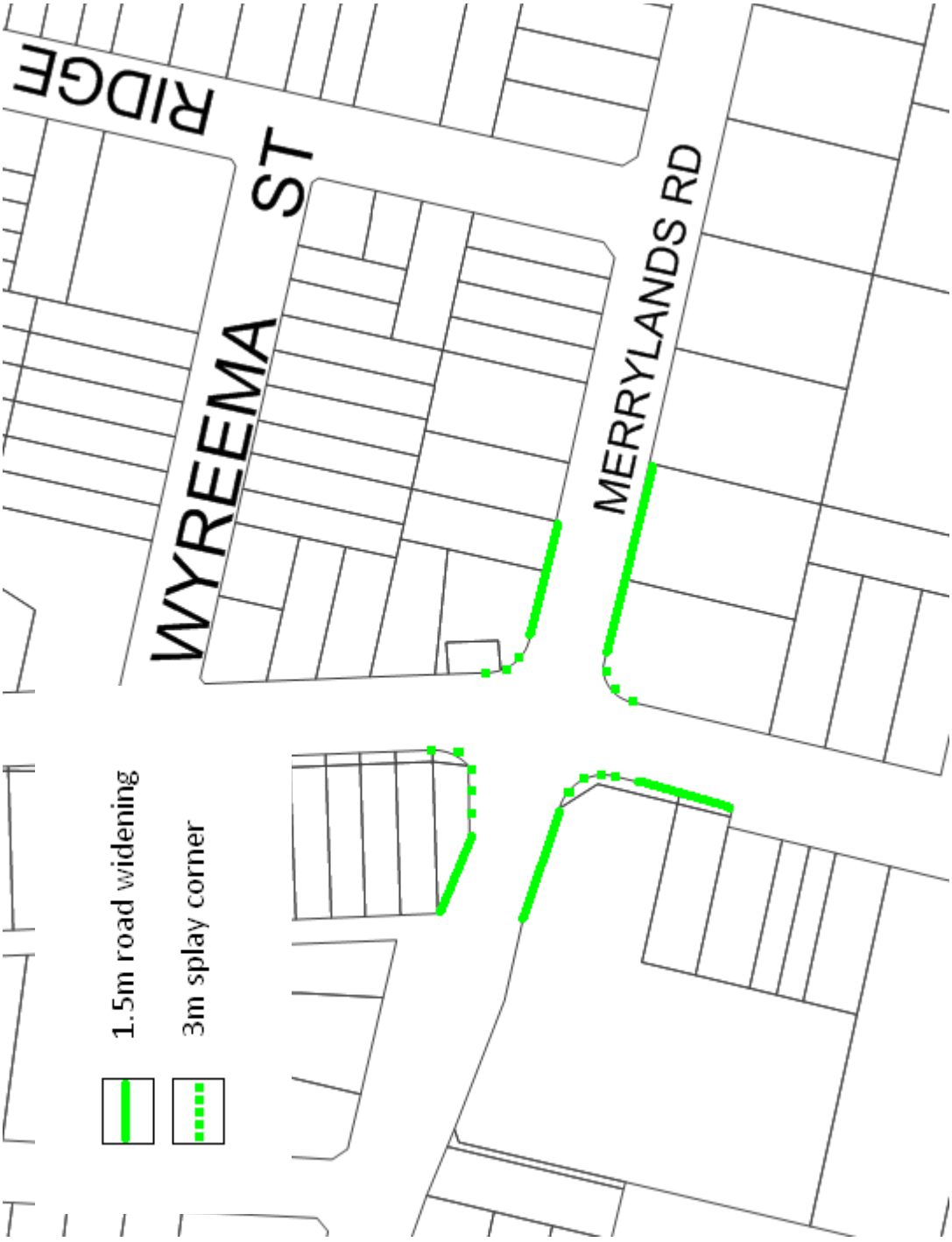
*All locations are indicative only.

General Controls



Map 7

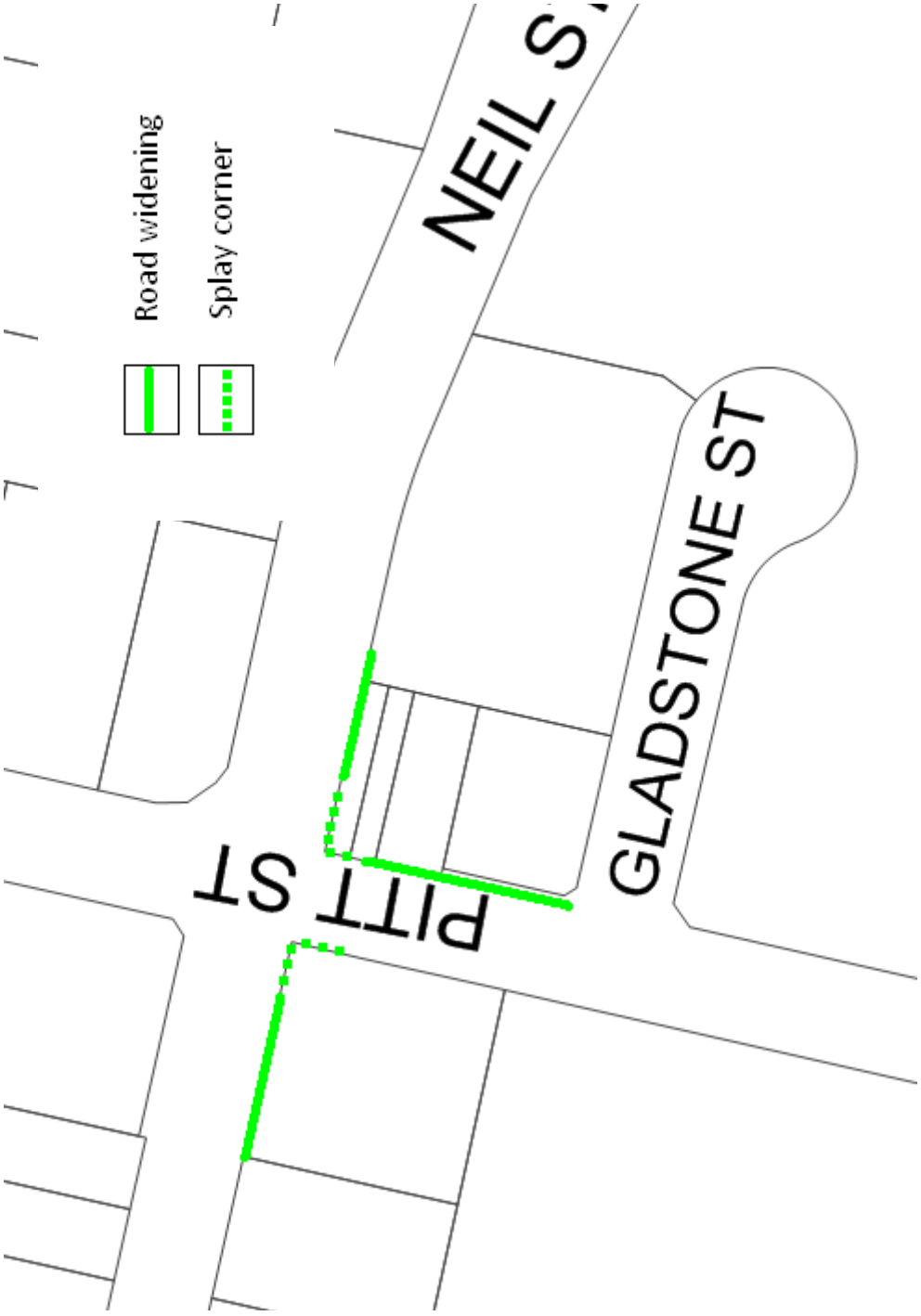
*All locations are indicative only.



Map 8

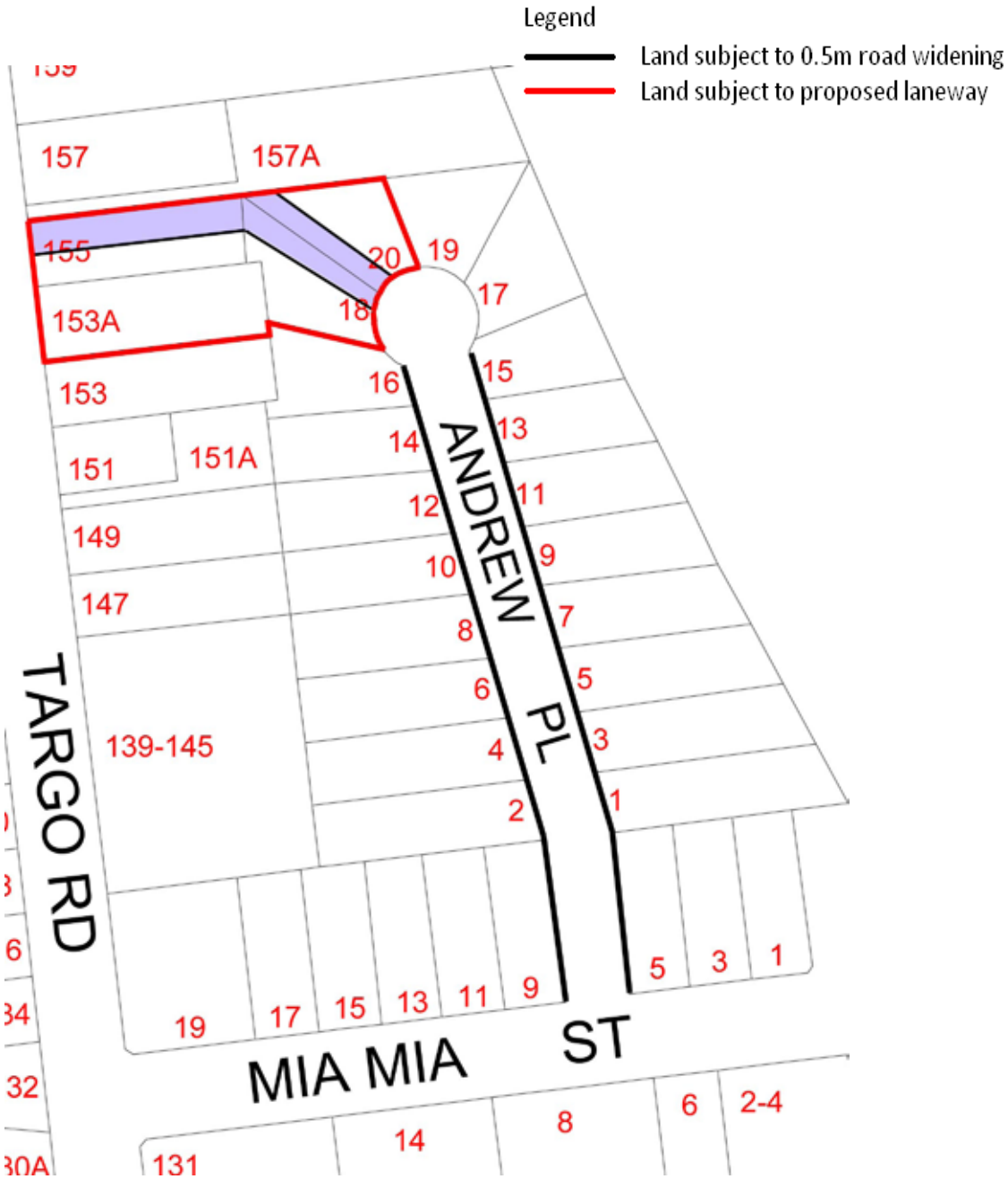
*All locations are indicative only.

General Controls

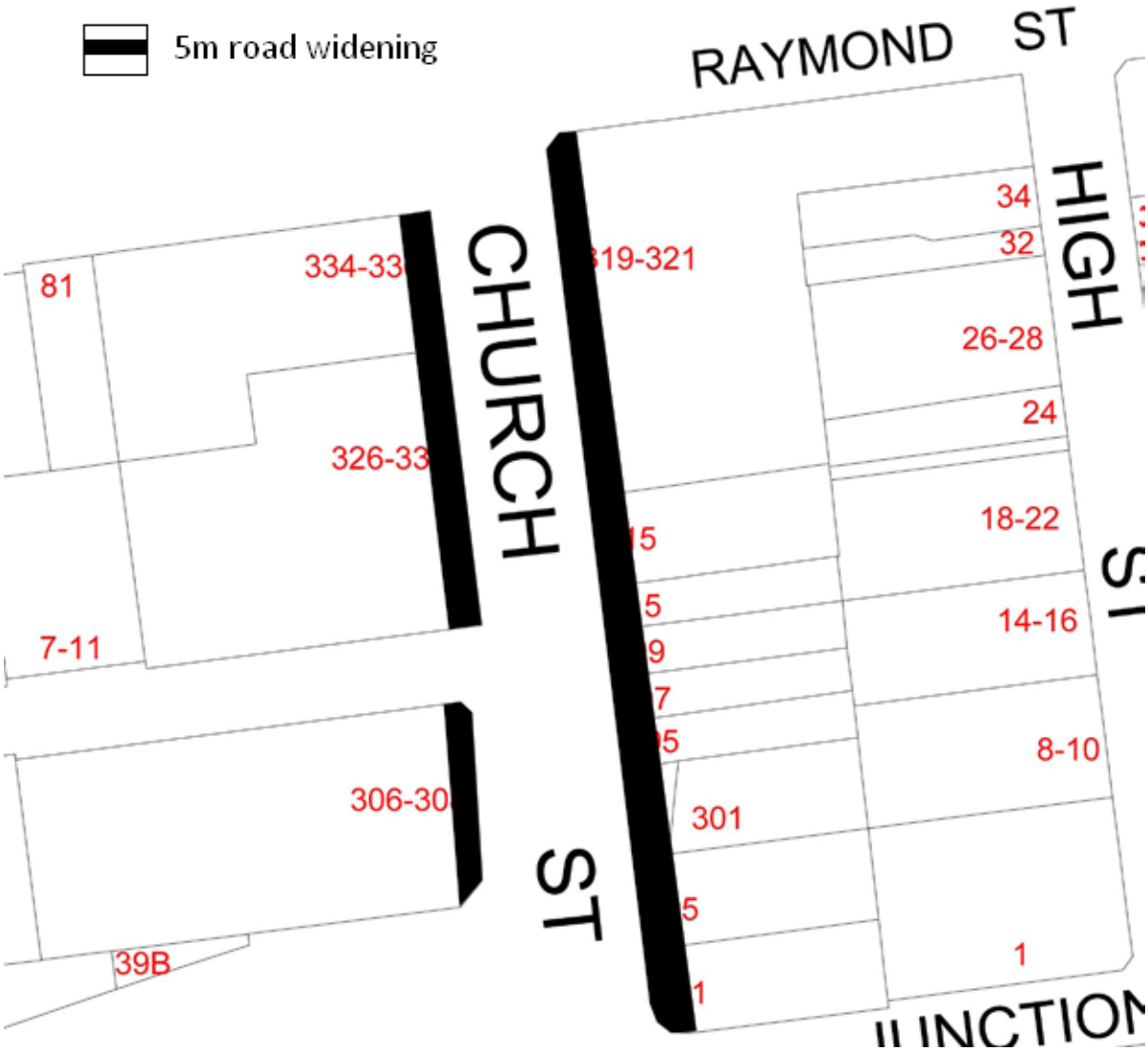


Map 9

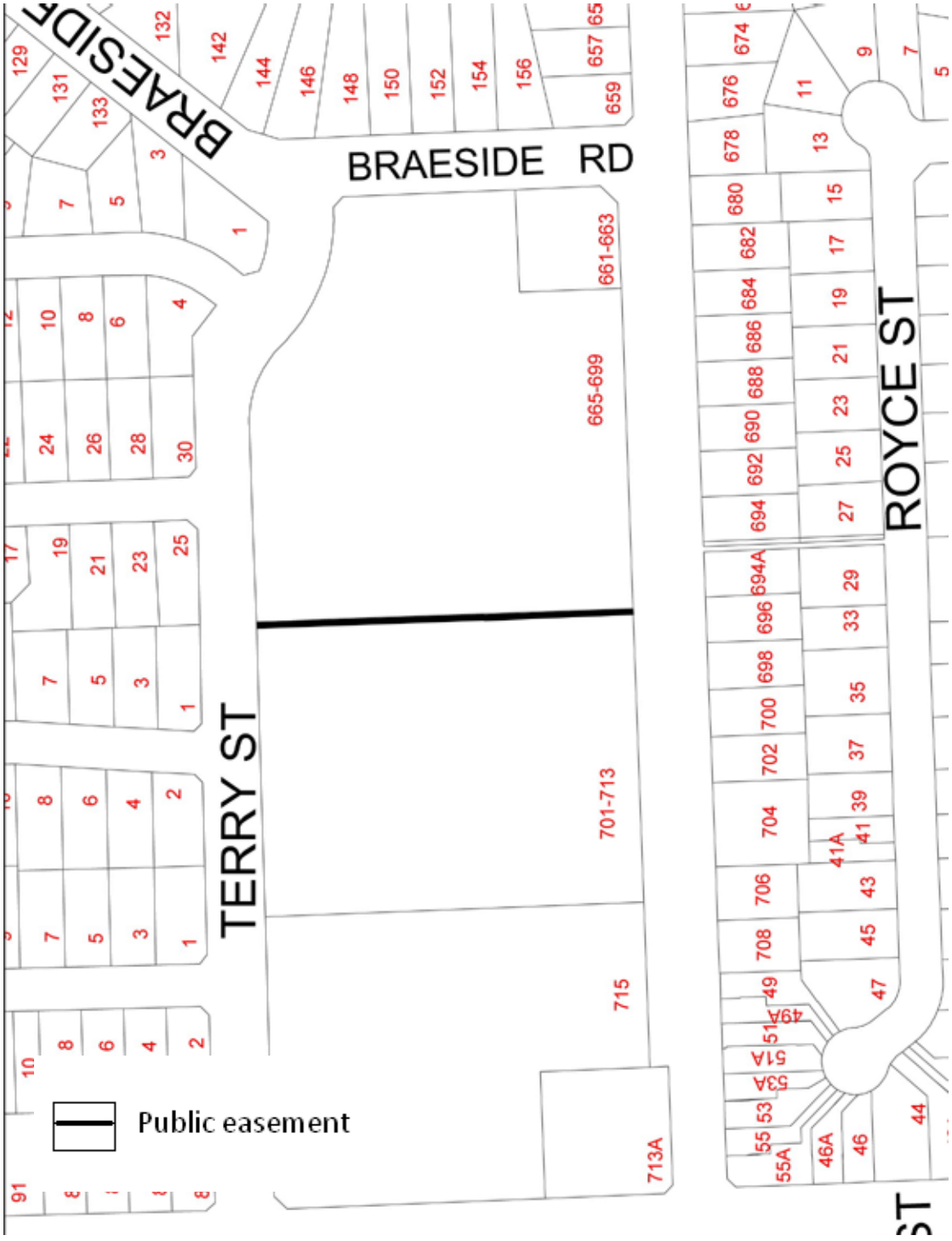
*All locations are indicative only.


Legend
Land subject to 0.5m road widening
Land subject to proposed laneway
157
157A
155
153A
153
151
151A
149
147
139-145
TARGO RD
ANDREW PL
MIA MIA ST
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
19
17
15
13
11
9
5
3
1
14
8
6
2-4
131

Map 10


5m road widening
RAYMOND ST
CHURCH ST
HIGH ST
81
334-33
326-33
7-11
306-30
39B
319-321
15
5
9
7
5
301
5
1
34
32
26-28
24
18-22
14-16
8-10
1
JUNCTION

Map 11


BRAESIDE
BRAESIDE RD
TERRY ST
ROYCE ST
661-663
665-699
701-713
715
713A
Public easement

Map 12

Appendix L- Salinity Management Response Checklists

Level One Salinity Management Response Checklist

Single lot developments in localities with a moderate salinity potential, based on the DIPNR Salinity Potential Map (2002), should address the following management requirements in the development application. To identify the levels of salinity potential in the locality of your site please refer to the salinity maps in Council's LEP.

When completing the following checklist please refer to the guidelines that accompany the salinity potential map and the references in Section 12 of the Western Sydney Salinity Code of Practice, both of which are available on Council's website.

Salinity Potential areas

- Local variations in salinity potential can occur and therefore some sites may experience a greater potential than that identifiable at the regional scale using the Salinity Potential Map. Are you satisfied that there is only a moderate salinity potential on this site? Are you satisfied you do not need to conduct site specific investigations?

Water inputs

- Infiltration of stormwater avoided.
- Permanent water storage (e.g. water features, ponds, dams) lined and regularly maintained to limit infiltration.
- Underground water carrying pipes and any on-site sewerage system properly installed to eliminate leaks, (on established sites existing pipes and systems checked for damage/ leaks).
- Consideration given to salinity when designing and installing swimming pools.

Drainage

- Disturbance of natural drainage patterns minimised.
- Slab, foundations and retaining walls all designed to allow good drainage and minimise water logging.
- Remediation of existing areas of waterlogging and poor drainage.
- Design and layout of retaining walls, driveways and service connections reduces cut, minimises impediment of natural groundwater flows and provides for good drainage.
- Guttering and down pipes properly connected and maintained.

Vegetation

- Areas of established vegetation maintained.
- Landscaping plans apply Waterwise gardening principles.
- Gardens designed so that they are not adjacent to the property.
- Irrigation properly installed to avoid leakage and 'smart' sprinkler systems considered.

Building/ Engineering

- Damp Proof Courses properly installed and maintained throughout construction,
- landscaping and finishing.
- Susceptible construction materials avoided, e.g. Seconds, porous material
- Consideration given to the need for salt resistant bricks and construction materials

Level Two Salinity Management Response Checklist

Single lot developments in localities with a high salinity potential, based on the DIPNR Salinity Potential Map (2002), should address the following management requirements in the development application. To identify the levels of salinity potential in the locality of your site please refer to the salinity maps in Council's LEP.

When completing the following checklist please refer to the guidelines that accompany the salinity potential map and the references in Section 12 of the Western Sydney Salinity Code of Practice, both of which are available on Council's website.

Hazard areas

- Local variations in salinity potential can occur and therefore some sites may experience a greater potential than that identifiable at the regional scale using the Salinity Potential Maps. Are you satisfied that there is only a moderate salinity potential on this site? Are you satisfied you do not need to conduct site specific investigations?
- Areas of existing salinity identified and remediation/ management strategies considered.

Water inputs

- Infiltration of stormwater eliminated.
- Water features and permanent water bodies lined to eliminate infiltration.
- Underground water carrying pipes properly installed to eliminate leaks and on established sites existing pipes checked for damage/ leaks.
- Swimming pools designed to eliminate leakage and an on-going maintenance plan developed.

Drainage

- Disturbance of natural drainage patterns avoided.
- Areas of cut and fill on sites restricted to building envelope.
- Necessary slab, foundations and retaining walls all must be designed for good drainage and to avoid water logging.
- Existing areas of waterlogging and poor drainage avoided or remediated, with consideration of shrink swell hazard.
- Stormwater management eliminates infiltration.
- Retaining walls, driveways and service connections designed to avoid cut, minimises impediment of natural groundwater flows and provides for good drainage.
- Guttering and down pipes properly connected and maintained.

Vegetation

- Areas of established vegetation maintained.
- Landscaping plans - apply Waterwise gardening principles.
- Gardens designed so that they are not adjacent to the property.
- Erosion/disturbance minimised and revegetated with appropriate species.
- Irrigation properly installed to avoid leakage and 'smart' sprinkler systems used.

Building/ Engineering

- Damp Proof Courses properly installed and maintained throughout construction, landscaping and finishing.
- Damp Proof membrane installed under slab.
- Reduce the exposure of materials to corrosive soils, e.g. raised slab or pier and beam designs, with consideration of shrink swell hazard.
- Construction techniques minimise site disturbance and the exposure of sensitive soil material.
- Soil management plan addresses the management of saline and sodic soil
- Susceptible construction materials avoided, e.g. porous material
- Utilise appropriate salt resistant bricks and construction materials
- Design and layout of drives and service connections minimises disturbance and exposure of susceptible soil and uses corrosive resistant material
- Disturbance of soil on the site minimised and properly rehabilitated

Level Three Salinity Management Response Checklist

A comprehensive Salinity Management Plan should be based on site specific investigation and address the following:

- Description of site, including geology, soils, hydrogeology, topography and climate.
- Description of proposed development.
- Summary of investigations undertaken (see DIPNR Site Investigations for Urban Salinity).
- Interpretation of results, including potential for impacts on buildings, not just vegetation and the likely impact of the development on local and regional salinity processes.
- Mapping of site to show salinity potential, areas of existing salinity, recharge/ discharge areas.
- Identification and discussion of salinity processes potentially occurring on the site now and in the future.
- Discuss and model the water cycle processes on the site and including natural drainage systems and groundwater conditions, especially perched or raised watertables.
- Discuss and model potential cumulative impacts and cross-boundary issues.
- Water cycle management strategies (including potable water use, stormwater management techniques, water demand levels, changes to local flow regimes, groundwater interactions and the maintenance of a natural water balance).
- Soil management strategies (including management of sensitive soil materials, corrosivity,

dispersability, pH and Erodibility)

- Groundwater management strategies (including how to decrease the hydrological load and maintain a natural water balance)
- Vegetation management strategies
- Salinity issues addressed in site design and layout, covering the long-term impact on development, recharge/discharge and the mobilisation of salts. Should include location of roads, stormwater management structures, dwellings, community facilities, recreation areas and vegetation reserves.
- Salinity issues addressed in road/ infrastructure planning and design, including impacts on road life, recharge/ discharge and the mobilisation of salts.
- Strategies that address the exposure of building materials to corrosive soils and salinity.
- On-going salinity management options for the site
- On-going monitoring of soil and groundwater salinity, for the impact of the development and success of management strategies, including a plan to realise this.
- Remediation plans for areas of existing salinity, erosion and poor drainage
- Implementation plan for the life of the development, including training and induction of all the teams involved, including sub-contractors.

The Salinity Management Plan should be accompanied by the full salinity investigations undertaken. It may be preferable on some sites to address salinity as part of an integrated planning process, rather than develop a separate salinity plan. However, the same issues would need to be addressed. The strategies developed in the salinity management plan should be reflected in other plans associated with the on-going development, e.g. DCP, master plan, designs, etc. For large developments individual precincts may need specific investigations and plans.