

TABLE OF CONTENTS:

1	INTRODUCTION.....	2
1.1	LAND TO WHICH THIS PLAN APPLIES	2
1.2	CHARACTER STATEMENT	2
1.3	STRUCTURE PLAN.....	3
1.4	DEVELOPER CONTRIBUTIONS.....	3
1.5	SUBDIVISION DESIGN AND LAYOUT	4
1.6	STREET LAYOUT.....	5
1.7	FRONTAGE TO EXISTING STREETS	6
1.8	VEGETATION MANAGEMENT.....	6
1.9	TRAFFIC AND TRANSPORT.....	7
1.10	WATER QUALITY MANAGEMENT.....	7
1.11	BUSHFIRE MANAGEMENT	8
1.12	NATIVE VEGETATION REHABILITATION AND MANAGEMENT	8
1.13	LANDSCAPE MASTERPLAN	9
1.14	GEOTECHNICAL.....	10

LIST OF FIGURES:

Figure 1 -	Land to which this plan applies.....	2
Figure 2 -	Site Analysis and Local Structure Plan.....	3
Figure 3 -	Indicative Staging and Subdivision Plan.....	4
Figure 4 -	Road Cross Sections	5
Figure 5 -	Road Number Identifiers	6
Figure 6 -	Asset Protection Zones (APZ's)	8
Figure 7 -	Landscape Plan	9

1 INTRODUCTION

The Edgeworth Area 1 Precinct Area Plan supplements the Lake Macquarie Development Control Plan 2014 for future development requiring consent within the Edgeworth 1 Residential Estate. This Estate will be developed to allow approximately 117 residential lots and the conservation of the environmentally significant land buffering the 4th Order watercourse of Brush Creek.

1.1 LAND TO WHICH THIS PLAN APPLIES

This Precinct Area Plan applies to the land outlined in heavy red edging as shown within Figure 1 – Edgeworth Area 1 Precinct Area Plan Boundary (below).



Figure 1 - Land to which this plan applies

1.2 CHARACTER STATEMENT

It is envisaged that the Edgeworth Area 1 Precinct Area Plan will facilitate residential development including a range of housing types and lot sizes. This Plan will facilitate a well-designed urban environment that provides for ease of movement and accessibility to a range of transport options all within a walkable catchment of local services and facilities.

All roads will be provided with footpaths to create an environment that fosters walking and cycling. These roads have been designed to provide future connectivity to the northern urban release area known as Edgeworth Area 2. The stormwater management infrastructure (i.e. detention basin) will be buffered from the 4th Order Water Course of Brush Creek. A riparian corridor will be re-established and planted with species indigenous to the site. The riparian and land zoned C2 – Environmental Conservation will be reserved for conservation and drainage purposes only. The utilisation of the split-zone clause under the LEP will allow for the active management of this land.

1.3 STRUCTURE PLAN

The Edgeworth Area 1 Structure Plan (below) provides a concise schematic plan showing the appropriate design outcomes from the site and how the development is likely to occur in the future.

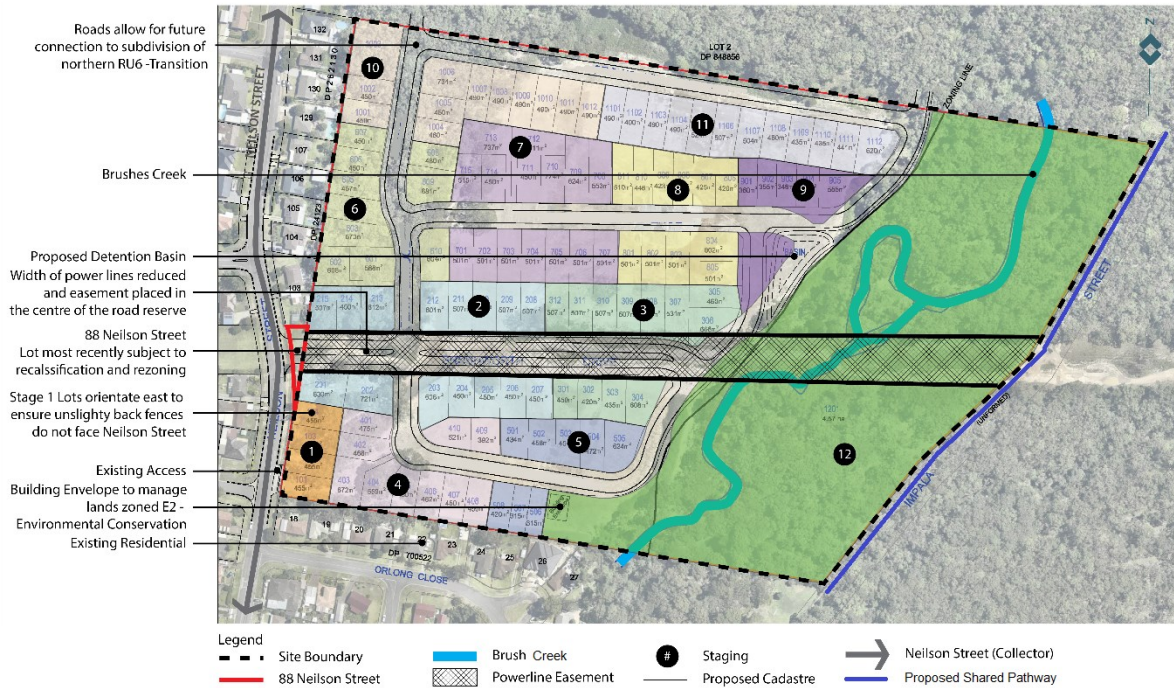


Figure 2 - Site Analysis and Local Structure Plan

1.4 DEVELOPER CONTRIBUTIONS

Several items need to be provided to achieve the environmental and development objectives of the site. These include:

- Road and traffic infrastructure;
- Stormwater management infrastructure;
- Vegetation rehabilitation in C2 – Environmental Conservation zoned land;

There are several options available to deliver these items, including:

- Conditions of consent;
- Dedication of land;
- Voluntary Planning Agreements (VPA's);
- Section 7.11 Contribution Plans; and
- Works in kind.

1.5 SUBDIVISION DESIGN AND LAYOUT

Objectives

- a. To ensure the subdivision and development of Edgeworth Area 1 Residential Estate is undertaken in a coordinated manner.
- b. To provide housing diversity.
- c. To ensure the Edgeworth Area 1 Residential Estate will be developed to reflect the availability of services.

Controls

- 1. The subdivision layout should generally be consistent with Figure 2 – Edgeworth Area 1 Structure Plan.
- 2. Between 10 per cent and 50 per cent of lots must be between 300m² and 450m² in area.
- 3. Staging the development should be generally consistent with Figure 3 – Indicative Development Staging and Subdivision Plan, however stages may be constructed simultaneously.



Figure 3 - Indicative Staging and Subdivision Plan

1.6 STREET LAYOUT

Objectives

- a. To ensure the subdivision and development of Edgeworth Area 1 is undertaken in a coordinated manner and is well designed.

Controls

1. Street layout must reflect the principles illustrated in Figure 2 – Edgeworth Area 1 Structure Plan.
2. Road design must be consistent with Figure 4 - Road Cross Sections, which details:
 - i. The main access road is a split load with a 5.5m carriageway in both directions and a 4m wide central median (Road 1);
 - ii. Secondary roads are 16m wide with a 8m wide carriageway (Road 2, 3 & 4); and
 - iii. All roads have a 20m centre line radius; and
 - iv. Only the south to north roads are designed to be intersections for future development to the north.

Note: Roads are identified in Figure 5 – Road Number Identifiers.

3. The intersection treatment with Neilson Street is a basic right turn and basic left turn (BAR/BAL) intersection.

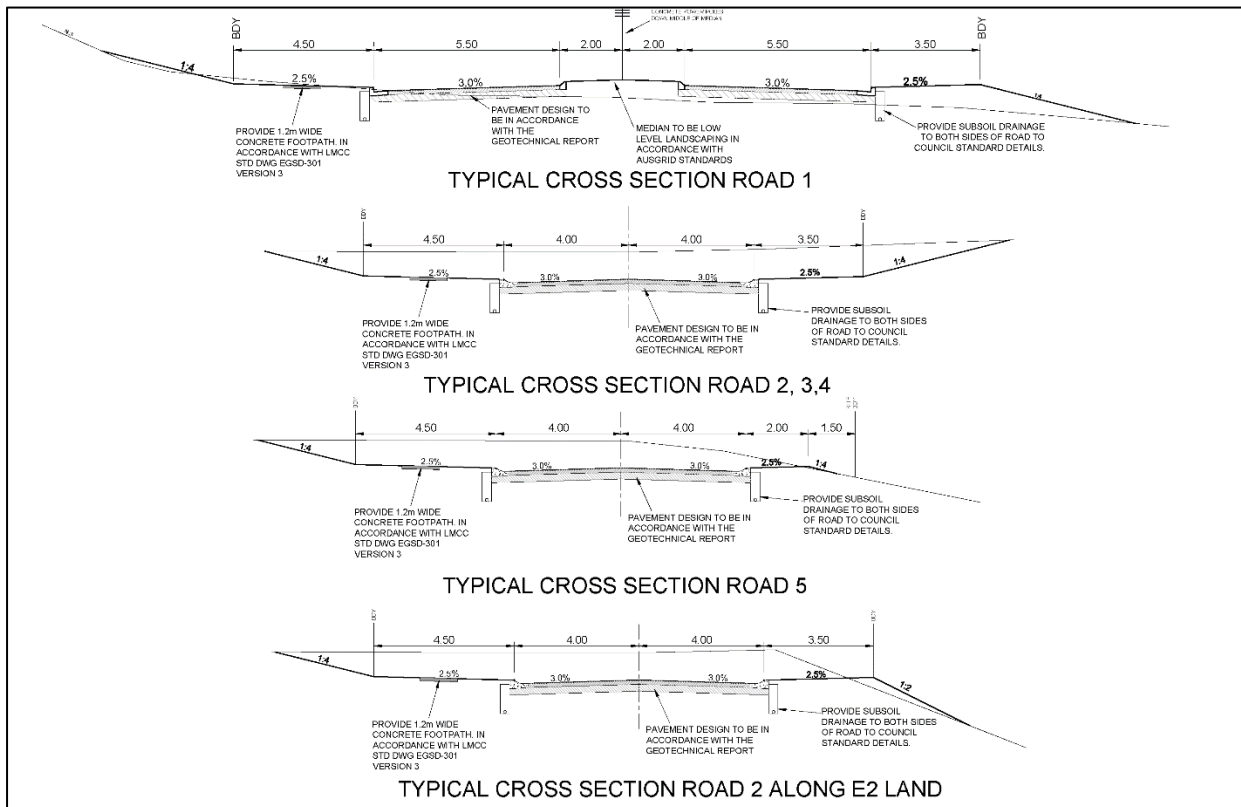


Figure 4 - Road Cross Sections

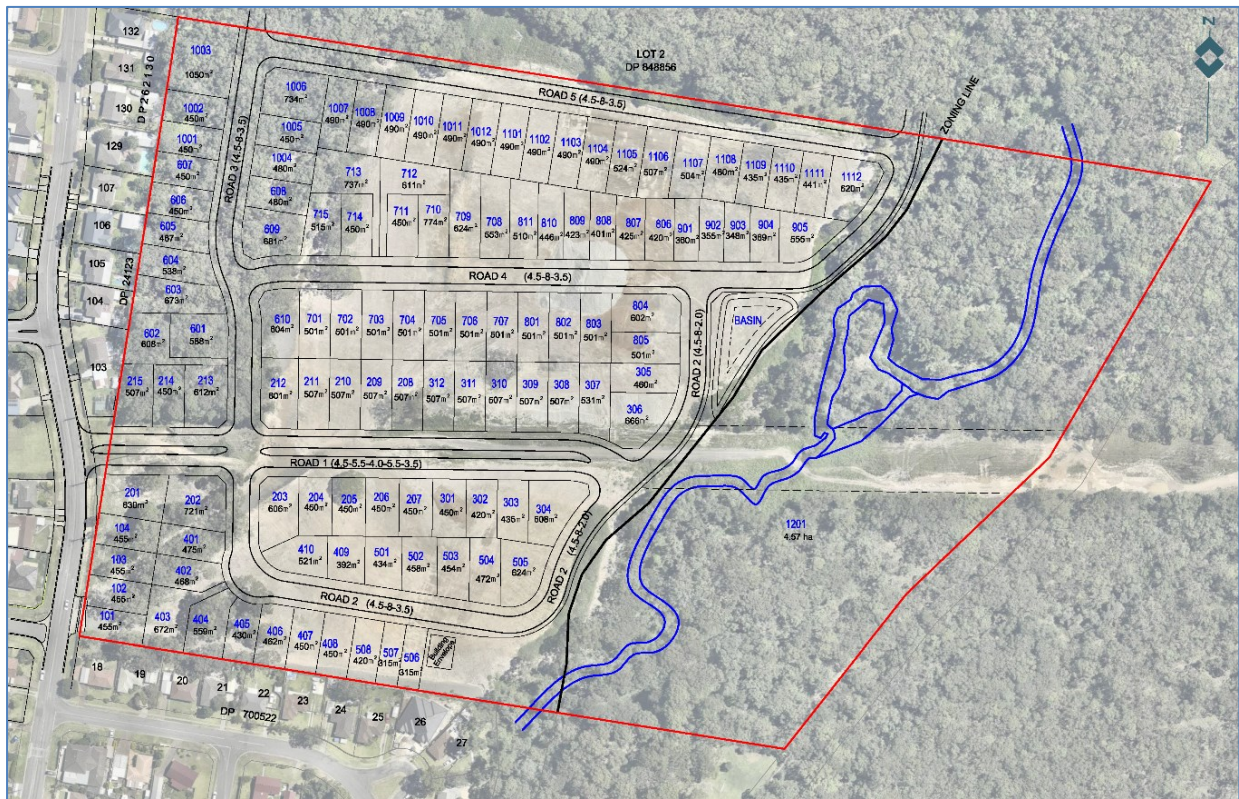


Figure 5 - Road Number Identifiers

1.7 FRONTAGE TO EXISTING STREETS

Objectives

- To ensure new dwellings are orientated to existing residential streets where feasible.
- To avoid inconsistent and unsightly rear fences presenting to Neilson Street.

Controls

- Lots along Neilson Street must be configured so that new dwellings face the existing street. Rear fences on the street boundary of Neilson Street are not acceptable.
- For lots with a primary and secondary frontage to a street, dwellings are to be appropriately designed and oriented to achieve passive surveillance and appropriate visual amenity in accordance with the Lake Macquarie Development Control Plan 2014.

1.8 VEGETATION MANAGEMENT

Objectives

- To protect and re-vegetate riparian corridors within the site.
- To reinforce the role of riparian corridors within the site as buffers to Edgeworth Area 1.

Controls

- Core riparian zones on watercourses must be revegetated with appropriate, locally occurring, native species.

2. A Vegetation Management Plan prepared in accordance with Council's Guidelines for Vegetation Management Plans must accompany the application for the subdivision of the land that is zoned C2 – Environmental Conservation. The Plan is to outline the following:
 - i. Location of the riparian buffer areas
 - ii. Hydrological characteristics and flood probability for riparian areas and downstream wetlands
 - iii. Location of stormwater detention structures or water –sensitive urban design works
 - iv. Full list of existing plant species for revegetation work
 - v. Extent and nature of revegetation works
 - vi. Future management arrangements for conservation areas
3. Stormwater detention structures or water sensitive urban design works located in the C2 – Environmental Conservation zone must be integrated with the revegetation works and have a minimal impact on the hydrological cycle.

1.9 TRAFFIC AND TRANSPORT

Objectives

- a. To provide an efficient and effective road network that facilitates increased usage of public transport and other non-motorised forms of transport.

Controls

1. The road network must be established generally in accordance with Figure 2 – Local Structure Plan.
2. The road network must facilitate efficient bus routes and safe pedestrian access to bus stops.
3. The road network must facilitate safe bicycle access to the surrounding cycling network (existing and proposed) identified in the Lake Macquarie Cycling Strategy.

1.10 WATER QUALITY MANAGEMENT

Objectives

- a. To ensure ecologically valuable land and associated watercourses are protected.
- b. To ensure the stormwater drainage system is designed to maintain the natural watercourse and to minimise environmental impacts.

Controls

1. If any stormwater and water quality structures are positioned within the land zoned C2 – Environmental Conservation, these facilities must be of a water sensitive design, integrated within any revegetation works and have minimal impact on water flows of the stream.
2. The design of drainage systems must provide both retention and water quality controls on stormwater flows prior to discharge into the riparian corridor and provided in accordance with Figure 2 – Structure Plan.
3. A suitable riparian corridor must be maintained along each side of the existing watercourse in accordance with State Government Guidelines.
4. Each lot must provide stormwater retention and water quality facilities to comply with maximum site discharge requirements and minimise environmental impacts.

1.11 BUSHFIRE MANAGEMENT

Objectives

- a. Subdivision design in bushfire prone areas must include measures to manage the threat of bushfires without impact on land zoned for C2 – Environmental Conservation.

Controls

1. Asset Protection Zones (APZ's) must be incorporated in perimeter roads and where necessary the front property setbacks.
2. APZ's must not be located in any land zone for conservation.
3. Stormwater Detention basins may form part of an APZ.
4. APZ's are provided in accordance with Figure 6 – Asset Protection Zones.



Figure 6 - Asset Protection Zones (APZ's)

1.12 NATIVE VEGETATION REHABILITATION AND MANAGEMENT

Objectives

- a. To rehabilitate and enhance the ecological functions of the land zoned C2 – Environmental Conservation that adjoins Brushes Creek.

Controls

1. Land zoned C2 Environmental Conservation along Brushes Creek must be rehabilitated with locally indigenous native vegetation and will be maintained in accordance with a Vegetation Management Plan (VMP) that will be attached to the Land Title of the Residual Lot.
2. The Vegetation Management Plan must be submitted with the application for subdivision.

1.13 LANDSCAPE MASTERPLAN

Objectives

- a. Subdivision within the study area adheres to an overall landscape plan for each precinct.

Controls

- 1. Street trees are consistent with Figure 7 – Landscape Plan and with reference to the following schedule:

Street Tree Species			
Code	Botanical Names	Common Names	Pot Sizes
BAC cit	<i>Backhousia citriodora</i>	Lemon Scented Myrtle	75 Litre
TRI lau	<i>Tristaniopsis laurina</i>	Water Gum	75 Litre
WAT flo	<i>Waterhousia floribunda</i>	Weeping Lilly Pilly	75 Litre
ELA ret	<i>Elaeocarpus reticulatus</i>	Blueberry Ash	75 Litre

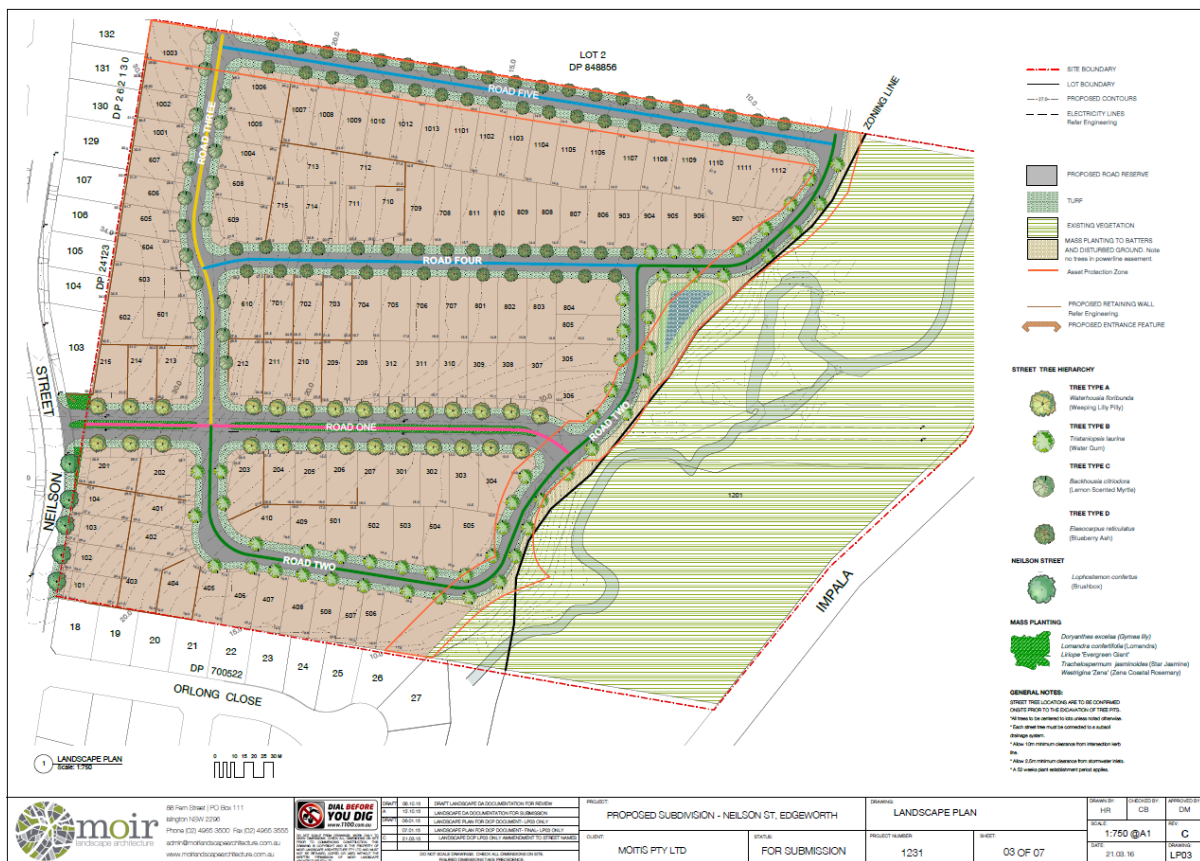


Figure 7 - Landscape Plan

1.14 GEOTECHNICAL

Objectives

- a. To ensure that the land is suitable and stable for the proposed development.

Controls

1. Development is consistent with the guidelines and recommendations of the Geotechnical Report to ensure stability and safety;

- i. which in relation to slope states:

- Lots along the western boundary (those west of Road 3 and along the southern boundary until Lot 403) be founded on rock as it appears shallow and will minimise the risk and potential damage of landslip failure.
- Lots south of Road 2 (and east of Lot 403) should have a development restriction zone from the southern boundary of a minimum of 5m.
- Development along the eastern side of Road 2 should be restricted to a minimum 7m from the top of the slope or remedial works must be undertaken to ensure the stability of the slope post construction.
- Lots 305 to 312 north of Road 1 should have a development restriction zone from the southern boundary of a minimum of 5m.

Note: A Geotechnical Engineer should be consulted during construction to confirm new cut and fill slopes will have an acceptably low risk of slope failure.

Note: Roads are identified in Figure 5 – Road Number Identifiers.

- ii. which in relation to footing systems states:

- Any proposed footing system be designed in accordance with AS2870 'Residential Slabs and Footings'. Consideration will need to be given to the required extent of excavation and filling of the site when selecting and designing the footing system.

- iii. which in relation to vegetation states:

- Landscaping is provided in accordance with the Landscape Master Plan in order to maintain the integrity of site slopes.

- iv. which in relation to drainage states:

- The property should be developed and maintained in accordance with the guidelines set out in Section 3 of the BCA and Appendix B of AS2870 – 2011
- In particular, the following measures are recommended:
 - Catch/dish drains formed at the top of all batters.
 - Dish and rubble drains installed at the toe of all batters.
 - Subsoil drains installed behind new retaining walls.
 - Cut areas sloped to fall away from buildings and water not allowed to pond around buildings.
 - The site is graded to prevent water from ponding on any compacted fills.
 - Surface stormwater and subsoils water collected and disposed of to Council's requirements.
 - Erosion control measures to be undertaken during construction to Council's requirements.
 - That subsoil drain be constructed immediately upslope of any proposed residence to intercept and dispose of any groundwater seepage.
 - Infiltration of collected stormwater is not recommended on the site.
 - Fill Vegetating exposed permanent batters.

- v. which in relation to excavations states:

- Excavations in excess of 1m depth are supported by an engineered designed retaining wall.
 - Unretained cuts in soils must be battered in accordance with the requirements of the Building Code of Australia, but in no case should be steeper than 2H:1V and must be protected from erosion. Unretained cuts in competent rock must be battered in accordance with the requirements of the Building Code of Australia, but in no case should be steeper than 1H:4V and must be protected from erosion.
 - Where applicable, the excavation design should incorporate surcharge loads from slopes, retaining walls, structures and other improvements within the vicinity of the excavation.
 - Drainage measures should be implemented above and behind all excavations to intercept both surface and subsurface movement.
 - Tiered batter slopes must be separated by a minimum distance of 1.5m. Separation distances must not contain a slope in excess of 20H:1V.
 - Maximum excavation height is not to exceed 3m without further geotechnical investigation and approval.
 - Excavations should be undertaken as per AS3798-2007 'Guidelines on Earthworks for Commercial and Residential Development'.
- vi. which in relation to filling states:
- Fill in excess of 1m must be retained by an engineer designed retaining wall.
 - Unretained fill less than 1m in depth should be battered in accordance with the requirements of the Building Code of Australia, but in no case should be steeper than 2H:1V and must be protected from erosion.
 - Fill should be placed in maximum 200mm deep layers and be compacted to 100 per cent maximum dry relative density for cohesive material or 70 per cent relative density for non-cohesive (sand) material.
 - Where fill is placed on slopes greater than 8H:1V, the natural surface should be benched prior to the placement of fill material.
 - Tiered batter slopes must be separated by a minimum distance of 1.5m. Separation distances must not contain a slope in excess of 20H:1V.
 - Maximum filling height is not to exceed 3m without further geotechnical investigation and approval.
- vii. which in relation to retaining walls states:
- Engineer designed retaining walls should be designed in accordance with the requirements of AS4678 'Earth-retaining Structures' to support, where appropriate, surcharge loading due to the upslope battered surface level above the retaining walls and the depth of cut or fill material. Retaining walls should be constructed with adequate surface and subsurface drainage to the Engineer's and Council's requirements.