Neighbourhood Character Study

# Residential Design Guidelines 2001

## (Amended 2003)

### By Planisphere and John Curtis Pty Ltd

The Residential Design Guidelines form part of the implementation of the Nillumbik Neighbourhood Character Study. The Study has identified 18 Character Precincts in the Shire, each having a Preferred Future Character statement and Design Guidelines. The Residential Design Guidelines provide further detailed design advice and suggestions for methods to achieve the Preferred Character, Design Objectives and Design Responses contained in the Neighbourhood Character Precinct brochures.

Please refer to the Neighbourhood Character Precinct brochure for your area to determine the Character Area Type in which your site is located (ie. Rural, Settlement, Bush, Bush Garden, Garden Court or Eltham Central). Each Residential Design Guideline element is dealt with separately. The left hand column of each Guideline table lists the Character Area Type to which it refers. The second column repeats the relevant Design Objectives and Design Responses from the Precinct brochures. The third column contains Design Suggestions to achieve the Design Objectives and Responses in that Character Area, with accompanying illustrations on the next page.

# Residential Design Guideline 1

## Vegetation retention and landscaping

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush  Semi Bush  Settlement | **Design Objective**  To maintain the indigenous vegetation including canopy trees and understorey planting and encourage the replanting of indigenous plants (where compatible with other planning requirements including bush fire safety).  **Design Responses**  Retain existing high canopy trees. Retain existing indigenous understorey vegetation wherever possible. Replace any trees or understorey vegetation lost to development with similar size indigenous species. Removal of existing trees or development adjacent to existing indigenous canopy trees may require an arboricultural report on the effects on existing vegetation. | * Leave the area around a tree out as far as its mature size drip-line (the edge of its canopy) clear of building or paving. * Retain trees that form part of a continuous canopy beyond your property, and plant large trees in a position where they will add to a continuous canopy. * Retention of or planting new understorey vegetation to complement the indigenous trees and help maintain their health. * Raise indigenous trees and understorey from local provenance seed or purchase from a local nursery which uses local seed. (see appended list). * Design the development and manage the building operations so that damage to trees and indigenous vegetation is avoided. Refer to Guideline 11: Construction and Site Management. * Refer to Council booklet Live Local Plant Local. * Where cultivated or kitchen gardens are required for the growing of vegetables, herbs or flowers, enclosed gardens, courtyard gardens or gardens attached to the house are preferred. These gardens should not intrude into the bushland character particularly when viewed from the street. Care should be taken to avoid plants escaping into adjacent bushland areas and becoming weeds. * Plan the alignment of drains, pipes and other services so as to avoid damage to existing and proposed trees and their roots, or install root barriers. * Avoid planting all identified weed species which may spread through the bush setting. Weed species in the Shire of Nillumbik are identified in Live Local Plant Local and Environmental Weeds in Nillumbik. * Protect any area which has a particularly good community of plants such as orchids and grasses before any landscaping work is started. * Keep development compact to minimise the amount of disturbance to the indigenous vegetation. * Use landscaping materials such as gravel that blend with the colour, tone and texture of the bush. When designing landscape details, such as steps, retaining walls etc. consider them in relation to the scale of the bush. * Use indigenous plants to screen and soften buildings, driveways and tanks, to define outdoor spaces and reestablish disturbed areas. * To help with the selection of plants (ie. trees, shrubs, ground covers, creepers):   + Look at natural groupings of plants in the bush to get an idea of their spacing and the range of species. These plants in their natural state have an integrity and a quality all of their own.   + Consider the flowering times of the plants so that you get the colour effect you want.   + Take into account the leaf texture of the plants and how they can enhance each other when used together.   All planting works can be protected from rabbits and wallabies by providing wire or plastic guards to each plant.  Avoid introducing visually dominant exotic vegetation, particularly in prominent locations. |

# Residential Design Guideline 2

Footings/Touching the Ground

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush  Semi Bush  Settlement  Bush Garden | Design Objective  To minimise site disturbance and impact on the landform and vegetation.  Design Responses  The footings of buildings should minimise the impact of the building on the landscape setting. Buildings should be designed to sit above the ground amongst the tree canopy or to sit within the topography and understorey vegetation. | * Locate footings beyond the root area of existing trees and remnant bushland. Refer to Guideline 1 : Vegetation Retention and Landscaping. * Support buildings over the site using timber or steel post and beam structural systems OR * Design buildings using solid wall elements in such a way as to appear to ‘grow’ out of the site. * Design the undercrofts of buildings to avoid clutter of structural elements, plumbing and other services. * On sites with substantial existing vegetation, conventional stump footings or post and beam construction are preferred to concrete ‘slab on ground’ to minimise root disturbance and site soil moisture levels. |
| Garden Court  Eltham Central | Design Objective  To minimise site disturbance and impact on the landscape.  Design Response  The footings of buildings should minimise the impact of the building on existing trees. | * Locate footings beyond the root area of existing trees and remnant bushland. Refer to Guideline 1 : Vegetation Retention and Landscaping. * Design buildings using solid wall elements in such a way as to appear to ‘grow’ out of the site. * Design the undercrofts of buildings to avoid clutter of structural elements, plumbing and other services. |

# Residential Design Guideline 3

Building on sloping sites (a)

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
|  | Design Objective  To minimise site erosion, the detrimental effects of excavation and the landscape impact of development.  Design Responses  Buildings and other development should minimise the impact on the natural slope of the site by following the topography of the site.  Retain existing vegetation and plant ground covers and plants with substantial root systems, especially on steeply sloping sites. | Buildings and structures   * Site structures along the contours of the site, OR * Step building down the site, OR * Support building over the site and within the tree canopy. * Follow the slope of the site with the building profile. * Consider using the fall of the land to provide basements or partially underground rooms.   Tennis courts, swimming pools and level outdoor living areas   * Avoid tennis courts on steeply sloping sites or where vegetation removal is required. * Site tennis courts along contours and behind the building line. * Integrate retaining structures for swimming pools and outdoor living terraces into the overall form of the building and landscape. * Use deck areas that follow the natural fall of the land as an alternative to paving. |

Building on sloping sites (b)

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
|  | Design Objective  To minimise the use and visual intrusion of retaining walls and batters.  Design Responses  Minimise the height of retaining walls.  Minimise the use of retaining walls within the side and front setback areas.  Minimise the area and angle of any batter.  Use materials in walls and batters that are compatible with the bushland setting. | Retaining walls   * Use materials such as local stone or sawn timber. Use of masonry similar to the main dwelling may be appropriate in Garden Court areas or in Eltham Central. * Incorporate planting into the wall. * Wet or dry stone walls are both suitable. Dry stone walls allow the wall to be softened by planting more easily. * The maximum height of any retaining wall should be 1.2 metres. * Avoid use of many different materials, instead use earth coloured finishes.   Batters   * Stock pile and spread the topsoil from on-site excavation over the batter. * Use bush litter mulches, wood chip or erosion control matting while vegetation is re-established. * Steeper batters and slopes can use terracing with logs that will help prevent the topsoil from being washed away. * The logs trap leaf litter, encourage humus and moisture to build up and provide suitable habitat for indigenous seedlings to grow. Random stone may also be used to stabilise the slope. * Batters should not exceed a slope of 4 to 1. * Avoid excessive use of rock boulders or exposed rock and subsoil. |

# Residential Design Guideline 4

Position on the site

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush | Design Objective  To minimise the visibility of buildings from the road.  Design Responses  Site buildings well back from the road.  Locate buildings within the landform and vegetation so as to be wholly or partly obscured, wherever possible. | * Ensure that there are sufficient side and front setbacks to allow for the retention of existing, and the planting of new, canopy trees. * Where side driveways are provided ensure that a sufficient side setback is allowed to provide space for landscaping including canopy trees. Houses should be located away from seasonally wet areas eg. natural drainage ways. |
| Semi Bush  Settlement | Design Objective  To maintain the continuity of vegetation and landscape in front of and between dwellings.  Design Responses  Dwellings should be set back from the side and rear boundaries sufficient distance to ensure substantial tree and understorey vegetation can be provided.  Where there is a predominant front and/or side setback in the street, this should be reflected in new development. | * Ensure that there are sufficient side and front setbacks to allow for the retention of existing, and the planting of new, canopy trees. * Use a varied side setback of the dwelling to avoid a ‘gun barrel’ effect and enable tree retention. * Where side driveways are provided ensure that a sufficient side setback is allowed to provide space for landscaping including canopy trees. * Avoid high retaining walls along the side setback. |
| Bush Garden  Garden Court  Eltham Central | Design Objective  To maintain consistency of current front and side setbacks.  Design Responses  The front and side setbacks should match the predominant setback and orientation to the street of dwellings within a 100m radius. | * Use a varied side setback of the dwelling to avoid a ‘gun barrel’ effect and enable tree retention. * Where side driveways are provided ensure that a sufficient side setback is allowed to provide space for landscaping including canopy trees. * Avoid high retaining walls along the side setback. * In locating a dwelling, consider factors such as whether other buildings are angled to the street, whether other buildings are built continuously to a setback line or whether much of the building is set back beyond the the setback line (eg. L-shaped plans). * Ensure that there are sufficient side and front setbacks to allow for the retention of existing, and the planting of new, canopy trees. |

# Residential Design Guideline 5

Height and Building Form

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush  Semi Bush  Settlement  Bush Garden | Design Objective  To ensure that buildings and extensions do not dominate the streetscape and the wider landscape setting.  Design Responses  Design new buildings and extensions so as not to exceed the predominant tree canopy height.  Site buildings away from the ridge tops to avoid them being visible on the skyline. (Move to a more appropriate position on the site.)  Buildings near ridge tops should be positioned and designed so as not to protrude above the ridgeline, when viewed from lower areas.  Use simple elevational treatments which complement rather than dominate the bush setting. | * Building forms should generally be recessive allowing the bushland character to dominate. * On flatter sites low horizontal forms which follow the ground line are preferable to tall imposing building forms. * On sloping sites, building forms and roof shapes which follow the fall of the land are preferred. Refer to Guideline 3 : Building on Sloping Sites. * Use simple articulated building elements to reduce the bulk of the building form. * Use low pitched roofs or single storey construction on sites located along or near ridge lines. * Cluster or integrate outbuildings such as sheds, carports and garages with the main dwelling. |
| Garden Court  Eltham Central | Design Objective  To ensure that new buildings and extensions do not dominate the streetscape.  Design Responses  Design new buildings and extensions so as not to exceed the predominant tree canopy height.  Site buildings away from the ridge tops to avoid them being visible on the skyline. (Move to a more appropriate position on the site).  Buildings near ridge tops should be positioned and designed so as not to protrude above the ridgeline, when viewed from lower areas.  Use simple elevational treatments which complement rather than dominate the bush setting.  In areas with few trees, match the dominant height within the street. Where there is a dominance of single storey the height at the front of the dwelling should match nearby single storey wall heights. | * On sloping sites, building forms and roof shapes which follow the fall of the land are preferred. Refer to Guideline 3 : Building on Sloping Sites. * Use simple articulated building elements to reduce the bulk of the building form. * Use low pitched roofs or single storey construction on sites located along or near ridge lines. |

# Residential Design Guideline 6

Design Details and Building Materials

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush  Semi Bush  Settlement  Bush Garden | Design Objective  To use materials and building details that harmonise with the bushland setting.  Design Responses  Use earthy bush toned building materials and paint colours.  Cross reference to Guideline 10 : Bushfire / Wildfire Protection. | Buildings and structures   * Use verandahs and pergolas to reduce the mass of the building, and give depth to the elevation. * Incorporate post construction, verandahs and pergola posts to reflect the vertical eucalypt trunks of bushland settings. * Suitable materials include mud brick, timber, earth tone clay brick, second hand brick, local stone. * Appropriate paint and finishing colours are earth and bush tones, silver/grey, blue grey and black. * Use timber for exposed structures, cladding and windows with natural finishes. * Use non-reflective materials and finishes for walls, roofs and windows. In particular avoid the use of unpainted Zincalume. * Consider using traditional corrugated galvanised iron which weathers to a soft grey and reflects traditional Australian rural buildings and bushland settings. * Incorporate plain wall areas and simple openings to allow the bush to ‘read’ against the building elevation. * Avoid historic styles and reproduction roof and wall detailing. * Select materials for outbuildings such as carports, sheds and garages which complement the main dwelling. |
| Garden Court  Eltham Central | Design Objective  To use materials and building details that complement the dominant pattern within the streetscape.  Design Response  Use earthy toned finishes and paint colours. | Buildings and structures   * Incorporate mono pitch, split gable or hip roof forms. * Use balconies, verandahs and pergolas to reduce the mass of the building. * Suitable materials include earth toned brick, and roofs of terracotta, brown or grey coloured tiles, Colourbond or painted Zincalume. |

# Residential Design Guideline 7

Vehicle access and storage

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush  Semi Bush  Settlement | Design Objective  To minimise excavation for car access, impact on the visibility of car access driveway and storage facilities.  Design Responses  Integrate the design of carports and garages with the main dwelling.  Use non impervious surfaces for driveways and only seal the driveways in locations where erosion may occur.  Design driveways and access tracks to follow the contours of the site to minimise gradients and the need for retaining walls.  Car parking areas, garages or carports should not dominate the site when viewed from the street. | * The form of the land should determine the alignment of the driveway. * Driveway alignments should avoid steep slopes, gullies and creeks. * Curve driveways to avoid long straight lengths of access drive particularly on rising land. * Design driveways to minimise the impact on existing vegetation. * Avoid long lengths of table drains on sloping land to minimise erosion. * Use grassed or vegetated swale drains where possible. * Disperse run off water to vegetated areas as frequently as possible. * Finish driveways and access tracks with bush toned gravel or crushed rock, or seal in a light asphalt where erosion may occur. * Minimise the number of vehicle crossovers, utilise existing crossover points where possible. * Avoid established roadside vegetation when locating crossover points. * Cut and fill required should be minimised with a maximum gradient of 1:8 where possible. |
| Bush Garden  Garden Court  Eltham Central | Design Objective  To minimise excavation for car access, loss of front garden space and dominance of access driveway and car storage facilities.  Design Responses   * Locate carports and garages behind the line of the dwelling or in the rear yard, unless this would require significant excavation.   Access drives should follow the contours of the site.  Locate cars in front of the dwelling only where excavation would be required otherwise.  Car parking areas, garages or carports should not dominate the site when viewed from the street. | * Establish driveway and access track alignments to follow contours to minimise gradients and the need for retaining walls. * Curve driveways to avoid long straight lengths of access drive particularly on rising land. * Align driveways to avoid trees and remnant bushland. * Avoid long straight lengths of driveway and ‘gun barrel’ effects and exposed side fences. * In multi-unit developments use shorter lengths of access driveway enclosed by building. * In multi-unit developments avoid central symmetrical driveway layouts. * Use earth toned paving materials such as bitumen, stone or gravel (where gradient permits). |

# Residential Design Guideline 8

Front boundary treatment and fencing

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush | Design Objective  To maintain and enhance the continuous flow of the vegetation and existing landscape.  Design Responses  Provide no fencing or post and wire fencing only to the frontage and rear and side boundaries  Provide sufficient space in front for the retention and/or planting of large trees and to retain the existing landscape.   * Gateways should be simple steel and wire or timber farm gates. | * Where fencing is required use single strand wire or ringlock with timber or steel star picket posts. * Gateways should be steel and wire farm gates or simple timber gates. Avoid large, solid feature gateways particularly masonry. * Continue the rural/bushland landscape treatment to the edge of the road. |
| Semi Bush  Settlement | Design Objective  To maintain and enhance the continuous flow of the landscape and vegetation and the bush character of the front garden vegetation.  Design Responses  Provide no fencing or post and wire fencing only to the frontage and rear and side boundaries  Use timber and rock for retaining walls Provide sufficient space in front for the retention and/or planting of large trees and to retain the rural landscape.  Gateways should be simple steel and wire or timber farm gates. | * Where fencing is required use single strand wire or ringlock with timber star picket posts. * Gateways should be steel and wire farm gates or simple timber gates. Avoid large, solid feature gateways particularly masonry. * Continue the bushland landscape treatment to the edge of the road. |
| Bush Garden | Design Objective  To maintain and enhance the continuous flow of the vegetation of the bush garden landscape.  Design Responses   * Provide no front fencing or side fencing visible from the street. * Provide sufficient space in front for the retention and/or planting of large trees and to retain the bush garden. Use timber and rock for retaining walls. * Avoid constructed gateways and high retaining walls. | Where there is no footpath extend the bush garden to the edge of the road.  Refer to Guideline 3 : Building on Sloping Sites (B) for retaining wall details. |
| Garden Court  Eltham Central | Objective  To maintain and enhance the continuous flow of the garden settings and the openness of the front boundary treatment.  Design Response   * Provide no front fencing or side fencing visible from the street. * Provide sufficient space in front for the retention and/or planting of large trees and to retain the garden setting. Use timber and rock for retaining walls. * Avoid constructed gateways and high retaining walls. | Refer to Guideline 3 : Building on Sloping Sites (B) for retaining wall details. |

# Residential Design Guideline 9

Sustainability and Environmental Factors

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| All Character Area Types | Design Objective  To site and design buildings which maximise the potential for energy conservation and on site water collection.  Design Responses  Orientate buildings to the north. Building forms should maximise the potential for solar heating, solar panel installation and rain water harvesting. | Orientate the principal living spaces towards the north for solar efficiency.  Maximise windows to the north with appropriate eaves overhangs to provide winter sun and summer shade.  Avoid large west facing windows.  Locate window and door openings to maximise desirable ventilation.  Maximise the use of building materials with good thermal mass eg. concrete slab floors, mud brick or pise, clay brick, concrete block or stone.  Incorporate appropriate insulation materials in roof structures and light weight walls.  Use landscaping to maximise solar access to the north and shade the western and eastern elevations.  Incorporate north facing pitched roofs suitable for the mounting of solar cell collector panels and solar hot water panels.  Integrate solar collection panels and other devices with the overall architecture of the building.  Install rain water collection tanks and use roofing materials such as galvanised steel suitable for rain water collection.  Avoid large rain water collection tanks on small sites where they may be visually intrusive or difficult to screen with vegetation.  Where transpiration beds are used for on site effluent disposal, use these beds for a cultivated garden area.  Use verandahs, eaves overhangs or pergolas to shade walls and windows. |

# Residential Design Guideline 10

Bushfire/wildfire protection

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Bush  Semi Bush (SB2 Only)  Settlement  Bush Garden (BG3 Only) | Design Objective  To design buildings which minimise the risk of loss in a bushfire and landscaping which minimises the spread and intensity of bushfires.  Design Responses  Bushfire/Wildfire Protection  To design buildings which minimise the risk of loss in a bushfire and landscaping which minimises the spread and intensity of bushfires.  Development within the Wildfire Management Overlay is required to conform to prescribed vegetation management, access and water supply standards or be subject to an approved Fire Risk Management Plan.  Develop designs and layouts that increase the necessity for vegetation management.  Buildings with a designated Bushfire Prone Area are required to be built in accordance with Australian Standard 3959.Complicated roof lines and other design details where burning embers could lodge.  New properties should have a permanent built-in and easily maintained fire protection system, linked to an independent water and power supply.Sole reliance on reticulated water and/or electric powered pumps.  Landscaping and bush retention should maintain an area of defendable space around the dwelling. Dense dry vegetation and bush litter in close proximity to the house should be minimised. | **Building design and materials**  Where landscape and tree retention permits, slab onground construction is preferable to elevated floors with exposed timber frames, as this prevents underfloor spark entry.  Low profile building forms are preferred, with simple pitched roofs. Profile the roof with the shape of the terrain.  Avoid breaks of slope in the roof line, and roof valleys, where leaves could accumulate and, if ignited, burn rafters or barge boards.  Avoid design details which enable sparks to enter the roof space or lodge in crevices.  Avoid building materials which catch sparks, such as rough sawn timber, or materials which warp or melt under radiant heat such as aluminium or vinyl cladding.  **Landscaping and choice of plant material**  Design the landscape around the house to enable annual fuel reduction and clear up before the fire season.  Consider locating cultivated or kitchen gardens adjacent to the house to the north or north west.  Avoid vegetation which touches the house or overhangs the roof.  Scattered trees and shrubs can be of benefit as a heat shield, can considerably lower wind speed and turbulence and form a fire screen to catch much of the burning debris.  Select least flammable species to plant closest to houses and outbuildings.  **Bushland and Site Management**  Management and annual fuel reduction is as important in fire protection as building design. Site design should accommodate simple annual fuel reduction.  Fuel must be managed to:   * Prevent ignitions; * Stop the spread of fire; * Facilitate suppression; and * Protect people and assets.   **Siting a dwelling and lot layout**  Avoid north or north west facing slopes, particularly the steeper ones and the ridges above them.  Locate houses at the base of, or on, gentle south or south east facing slopes. These slopes are damper and usually on the lower side of a fire.  If building on a ridge, located on the southerly or easterly side. The location may, however, still be in danger from ‘fire storms’ and turbulence from fires in high winds.  Spot fires over the ridge may also approach after a southerly wind change.  If building on ridge sites in bushland, ensure that bush to the north or west will be regularly ‘fuel reduced’ by, for example, prescribed burning (permit required during declared fire season) or slashing.  If building on a slope it is safer to build the house on a ‘cut-in’ bench rather than have it perched on stilts. There are several reasons for this:  The profile of the slope is less broken, resulting in less turbulence.  A protruding house is endangered by a progressing fire, while a fire may jump one which is set in.  The house on a cut can have a slab floor, thereby blocking sparks from entering the underfloor area.  Flat or gently sloping sites are safer, and make it easier to implement fire protection measures.  Provide access to water supplies for fire-fighting vehicles.  Approximately 15,000 litres should be available for firefighting defence of the house. An accessible dam or pool may hold a portion of this reserve.  A wide gravel driveway to the north or west of the house will help protect a house from fire. |

# Residential Design Guideline 11

Construction and site management

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| All Character Area Types | Design Objective  To minimise site disturbance and contain building material, construction waste and dust.  Design Responses  Prepare site works plan showing areas of disturbance, storage of materials and the proposed construction zone.  Contain all building materials and site waste.  Minimise disturbance to existing vegetation and topsoil with construction, storage of materials and overburden.  Protect trees by fencing to the drip line. Work vehicles and materials should not be placed on nature strips. | Show all areas of existing remnant vegetation on the site works plan.  Use wire mesh or similar enclosures for containing building waste areas.  Avoid accumulation of large quantities of building waste on site.  Fence out with marker ribbon, plastic mesh or similar, all remnant bush areas.  Avoid stockpiling overburden, soil, or building materials in remnant bush areas.  Retain all top soil when excavating for use in future landscaping and bush restoration.  Avoid stock piling of materials adjacent to or up against existing trees.  Avoid excavation for underground services through remnant bush areas or within the drip line of mature trees.  Avoid compaction of the soil within remnant bush areas and within the drip line of canopy trees by earth moving equipment and other construction activities.  Undertake dust suppression measure in areas adjacent to existing residential development by damping down material or avoiding excavation on high wind days during dry periods.  Avoid storing building materials or rubbish within the road reserve.  Avoid damage to or compaction around all roadside vegetation. All above vegetation guidelines apply equally to roadside vegetation and vegetation on neighbouring properties. |

# Residential Design Guideline 12

Street Tree Planting

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush  Semi Bush  Settlement | Design Objective  To continue the indigenous tree canopy as part of a flowing bushland landscape.  Design Response  Retain and replant indigenous canopy trees within the street space in an informal layout. | Replant with the dominant tree species of the area.  Incorporate indigenous understorey species where appropriate.  Refer to Guideline 1 : Vegetation Retention and Landscaping. |
| Bush Garden | Design Objective  To continue the native tree canopy as part of a flowing bush garden landscape.  Design Response  Retain and replant native and indigenous canopy trees within the street space.  (BG4 only - Introduce consistent bush avenue with single theme species along all streets). | Retain and enhance the street tree planting with both native Australian and indigenous street trees.  Incorporate understorey species where appropriate.  Integrate the street plantings with the garden landscape.  In BG4 introduce consistent bush avenue with single theme species along all streets.  Refer to Guideline 1 : Vegetation Retention and Landscaping. |
| Garden Court  Eltham Central | Design Objective  To continue the native tree canopy as part of a flowing tree dominated landscape.  Design Response  Retain and replant Australian native canopy trees within the street space in informal avenue layouts. | Where new plantings are required plant with the dominant tree species of the area  Integrate the street tree plantings with the garden landscape.  In Eltham Central continuous avenue plantings are appropriate.  Refer to Guideline 1 : Vegetation Retention and Landscaping. |

# Residential Design Guideline 13

Footpaths/verges

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush | Design Objective  To retain the bushland landscape to the edge of the roadway.  Design Responses  Retain and enhance the bush landscape to the road edge.  In bush areas ensure the retention of understorey indigenous shrubs and grasses. | Ensure a continuous flow of the landscape from the private domain of the lots into road space.  Use verge for vegetated swale drains to drain the roadway.  Incorporate silt traps in the verge to avoid pollution of adjoining waterways.  Use local provenance plant material when revegetating the verges.  Avoid clearing of verge for parking and paving. |
| Semi Bush  Settlement | Design Objective  To retain the bushland landscape to the edge of the roadway.  To provide separate informal pedestrian footpaths where space and topography permits.  Design Responses  Retain and enhance the bush landscape to the road edge.  Ensure the retention of remnant understorey indigenous shrubs and grasses.  Meander unsurfaced footpaths away from the roadway to follow the contours and avoid existing stands of trees. | Ensure a continuous flow of the landscape from the private domain of the lots into road space.  Use verge for vegetated swale drains to drain the roadway.  Incorporate silt traps in the verge to avoid pollution of adjoining waterways.  Use local provenance plant material when revegetating the verges.  Avoid clearing of verge for parking and paving. |
| Bush Garden | Design Objective  To retain the bush garden landscape to the edge of the roadway.  To provide separate sealed pedestrian footpaths along key routes.  Design Responses  Retain and enhance the bush garden landscape to the road edge.  Continue footpaths with an informal layout away from the roadway. | Meander footpaths.  Reflect the dominant garden design pattern in the verge area. |
| Bush Garden | Design Objectives  To retain the garden landscape to the edge of the roadway.  To provide separate sealed pedestrian footpaths along key routes.  Design Responses  Retain and enhance the garden landscape to the road or footpath edge.  Continue paved footpaths on all key routes.  In new areas encourage informal layouts of footpaths to follow contours and respect existing stands of trees. | Meander footpaths.  Reflect the dominant garden design pattern in the verge area. |
| Eltham Central | Design Objective  To provide separate sealed pedestrian footpaths along key routes.  Design Response  Retain the traditional arrangement of sealed footpaths on both sides of the street. | Introduce gravel, native grasses or other groundcover plantings to reduce the need for mown turf in nature strips.  Develop a consistent theme for each street. |

# Residential Design Guideline 14

Roadway Treatments

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| Character Area Type(S) | Design Objective(S) & Design Response(S) | Design Suggestion(S) |
| Rural  Bush  Semi Bush  Settlement | Design Objective  To retain existing unsealed and sealed roads with no kerbs.  Design Responses  Only seal roads where they are causing environmental problems of excessive erosion, dust or pollution of watercourses.  On sealed roads continue the use of minimal bitumen kerbs to avoid erosion points. | Keep areas of bitumen to a minimum.  Minimise regrading and excavation when constructing roads to avoid damage to existing tree roots.  Use water permeable paving adjacent to significant trees when constructing roads. |
| Bush Garden | Design Objective  To retain the sealed roadways with roll over kerb or no kerb.  Design Response  On sealed roads with no kerbs use minimal bitumen kerbs if erosion problems occur. | Introduce less formal and asymmetrical arrangements if street reconstruction is required. |
| Garden Court | Design Objective  To retain the sealed roadways with roll over kerb or upstand kerb.  To reduce traffic speed on some collector roads.  Design Response  Some traffic calming may be appropriate in some locations. | Introduce traffic calming devices to collector roads where traffic speed is an issue. |
| Eltham Central | Design Objective  To retain the sealed roadways with roll over kerb or upstand kerb.  To reduce traffic speed on some through roads.  Design Responses  Some traffic calming may be appropriate in some locations.  Some road pavement narrowing may be appropriate.  Retain the formal symmetrical arrangement. | Retain the symmetrical arrangement of the street if street reconstruction is required.  Include additional space for avenue street tree planting with street reconstruction. |