

Appendix 8.2

Mosgiel East Structure Plan and Design Assessment Criteria *[Inserted by C17/2008, 12/02/08]*

Site Description

The Mosgiel East Area (East A and North of East A) is located at the eastern edge of Mosgiel. It is bounded by Hagart Alexander Drive/Centre Street to the west, and Wingatui Road to the east. Factory Road bisects the Mosgiel East Area, creating two quite distinct areas. Access into the Mosgiel East Area can be gained from any of these roads. The Silverstream runs along the northern boundary of the Mosgiel East Area.

To the west of Hagart Alexander Drive is the Residential 1 Zone of Mosgiel. To the East of Wingatui Road is land zoned Rural or Rural Residential. The area north of the Silverstream is zoned Industrial 1, and is occupied by the Taieri Aerodrome. The Dukes Road Industrial Area is located to the northwest.

Situated on the Taieri Plain the land of Mosgiel East is generally flat. The total area of the Mosgiel East Area is approximately 59 ha. The Mosgiel East Area occupies a “gateway” location when arriving at Mosgiel from Dunedin via Three Mile Hill and Factory Road.

Purpose

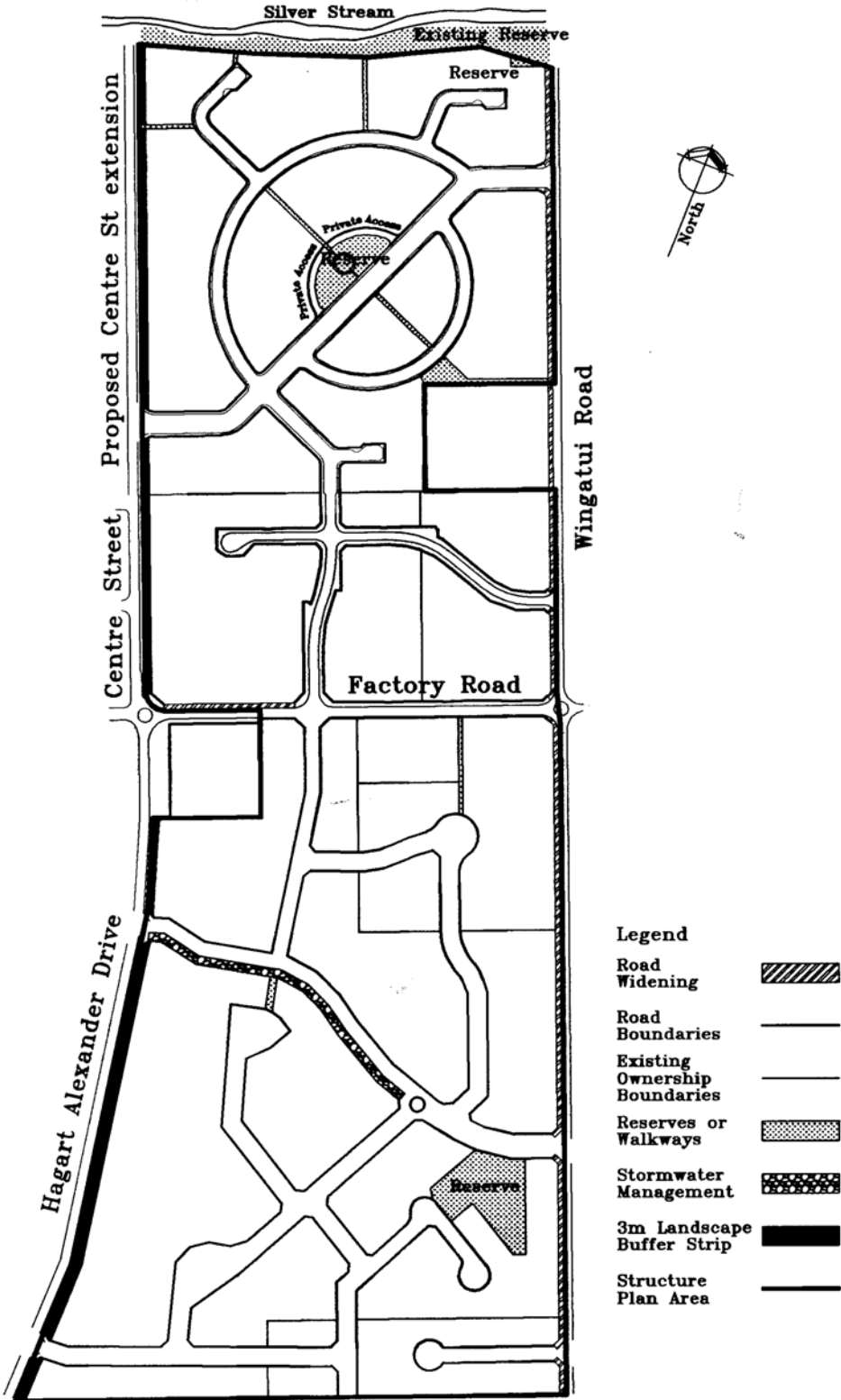
The Structure Plan shows an outline of the key features of future developments in the Mosgiel East Area. Major roads, reserves, areas required for road widening, and landscape buffer strips are all indicated on the Structure Plan, and are required to be incorporated into subdivision and/or development design. In assessing any resource consent application the Council will have regard to the Structure Plan and Design Assessment Criteria, in addition to the assessment matters in Section 18.6.

The Design Assessment Criteria sets out the following ‘Design Elements’:

1. General Subdivision and Development Design
2. Design of Roads and Access Paths
3. Design of Reserves
4. Design and Management of Stormwater
5. Management of Water and Waste Water
6. Landscaping of Public Areas

The Design Elements have been split into two categories. Those that are ‘required’ to be included within a resource consent application and those that are ‘recommended’ to be included. The ‘recommended’ design elements allow for some flexibility in design, while ensuring that subdivision contributes to the efficient development and amenity of the structure plan area. The Design Elements are intended to guide development rather than prescribe exact design and layout.

MOSGIEL EAST STRUCTURE PLAN



Design Element 1: General Subdivision and Development Design

Design Element 1 relates to the general layout of the network of roads, reserves and other access linkages that make up the public space of the subdivision.

Design Requirements

1.1 Subdivision and development design shall achieve an integrated roading, open space and recreation network.

Explanation

Roads, reserves and other access linkages should be considered in an integrated manner together with the neighbourhoods they create. The proposed road network should seek to create an inter-connected network of roads that provide good accessibility to local activities. Roads are one of the important public spaces within residential areas, and can, if appropriately designed and located add considerable amenity value to the subdivision. Reserves and open space can maintain and enhance intrinsic values and habitats, and amenity values, as well as providing recreational opportunities for the community. Council has determined appropriate locations for reserves and these are indicated on the structure plan.

1.2 Subdivision and development is to provide a highly inter-connected roading system so as to reduce trip distances and improve local accessibility

Subdivision design should achieve connectivity within and between neighbourhoods, adjacent areas and to local services such as schools, shops, and recreation areas. Connectivity created through multiple linkages between points should be one of the key aims of any subdivision as it promotes convenience, energy efficiency, safety and social interaction. In general, this means many roads will be through routes, rather than cul-de-sacs, and that accessways will provide pedestrian/cycle linkages to external roads and reserves. Provided that pedestrian and visual connectivity is generally maintained, cul-de-sacs may also be included.

1.3 Pedestrian and cycle routes should be generally integrated within road and reserve design, or provided in the form of 'accessways'. Major roads and some minor roads should provide cycle lanes to facilitate safety and connectivity.

Pedestrian access currently exists along the Silverstream. Creation of an adjoining reserve and bridle path along Wingatui Road will greatly enhance the recreational opportunities in this area. Provision of cycle lanes on major roads and some local roads, and provision of pedestrian/cycle links, combined with reserve areas, will ensure residents in the Mosgiel East Area have adequate recreation and transportation (cycling and walking) opportunities.

Design Element 2: Design of Roads and Access Paths

Design Element 2 outlines the general design of roads and the interface with external areas, and highlights aspects that need to be considered to ensure connectivity and access within, and beyond, the Mosgiel East Area.

Design Requirements

2.1 The following external road connections are appropriate:

- (a) One or two access points onto Centre St extension north of Factory Road**
- (b) One or two access points onto Wingatui Road north of Factory Road**
- (c) Two access points onto Hagart Alexander Drive south of Factory Road**
- (d) One or two access points onto Wingatui Road south of Factory Road**
- (e) One access point from each block (land to the north and land to the south) onto Factory Road**

2.2 Major roads are to be a minimum of 20m wide road reserve, including footpaths of a minimum 2m wide, and cycle lanes 1.5 m wide, within the 20m road reserve.

2.3 Local roads are to be a minimum of 16m wide road reserve, including footpaths of a minimum 1.5m wide, within the 16m road reserve.

Explanation

The access points for the roads will encourage connectivity within and through the Mosgiel East Area while ensuring safety in regards to access onto existing roads. Indicative locations of major access points to connect to existing roads are shown on the structure plan. Remaining roads will generally be considered as local roads. Access to external roads via local roads, additional to the major connections specified, may also be permitted. Local roads should be designed to achieve a high degree of connectivity through the area, allowing for safe and convenient access for both vehicles and pedestrians.

This is the Council's standard requirement for major roads. Wider roads may be permitted where desired to allow additional widths for street tree or amenity planting or to allow for stormwater management areas.

Road design should be appropriate to the function of the road and provide practical widths for vehicular access. Local roads are not required to provide cycle lanes, however this may be desirable. A reduced footpath width shall be permitted for local roads to encourage the reduction of impermeable surfaces, and increased grass areas to enhance permeation of rain water into the soil.

Design Requirements

2.4 Road layout should be designed to maximise safety of all road users, including pedestrians. The installation of traffic calming measures should be considered on local roads to reduce speed and discourage these roads being used as through routes.

2.5 Vehicle crossings on to the Centre St extension will not be permitted. Lots adjacent to Centre St extension will only have legal access from an internal road within the subdivision.

2.6 A “landscape buffer strip” at least 3 m wide shall be constructed:

(a) on all lots adjacent to Hagart Alexander Drive, and Centre Street; or

(b) on, or adjacent to, all lots adjacent to the Centre Street extension.

This could be in the form of a landscaped earth bund and/or planting strip.

2.7 Subdivision and development of Mosgiel East is to allow for Wingatui Road to be widened to create a 17m road reserve. Development over the area proposed for road widening will not be permitted.

Explanation

Safety of all road users is a key consideration in the design of the road network. Design and layout can be used to influence driver behaviour to control speed, reducing the likelihood of vehicles speeding within the subdivision. Many traffic calming methods are available and should be incorporated where appropriate.

The Council’s intention is to extend Centre St, to provide access over the Silverstream and connect to Carncross St. This is subject to a designation process. The Centre St extension, once constructed, will allow access to the northern area of Mosgiel East. Private access from Mosgiel East to the Centre St extension is not permitted as it is appropriate to have these properties accessing off an internal road within the Mosgiel East Area.

Hagart Alexander Drive/Centre Street/Centre Street extension is an arterial route that carries heavy traffic. A bund or planting strip, at least 3m wide, in addition to separation between the edge of the carriageway and residential dwellings, and double-glazing, will help reduce the impacts of traffic noise for residents and may enhance amenity values. Other noise mitigation methods may also be considered.

Planting strips shall include trees, shrubs, and other vegetation.

The widening of Wingatui Road will provide for increased vehicle and pedestrian use resulting from residential development of the Mosgiel East Area. The formation of pedestrian, cycle, and horse bridle path will provide connectivity within the area and to the Silverstream.

Design Requirements

2.8 Subdivision and development of Mosgiel East is to provide for the widening of Factory Road to create road reserve out to 20m from the centre of the intersections (40m diameter), to allow for the installation of roundabouts in the future if required.

2.9 Provision of pedestrian/cycle paths to enhance connectivity is encouraged, provided they meet Council requirements, including:

- (a) being convenient and direct;**
- (b) at least 3.5 m wide; and**
- (c) designed to maximise safety for all users including maximum visibility.**

The design should adhere to “Crime Prevention Through Environmental Design (CPTED)” principles.

Explanation

The Council proposes installing a roundabout at the intersection of Factory and Wingatui Roads. This will promote good traffic movement and reduce traffic speeds as vehicles transition from the rural area to the residential area.

Council wishes to secure sufficient land at the intersections of Factory Road and Hagart Alexander Drive, and Factory Road and the new road through Mosgiel East, to allow for installation of roundabouts by the Council if required in the future.

Pedestrian and cycle paths should generally be integrated with road and reserve design. Paths that are separate from vehicle routes enhance connectivity. These should be designed to allow for multiple use (pedestrian and cycle) and ensure personal security for users. Lighting may be appropriate if the cycle/pedestrian path is long, likely to be well used, or will be located away from main street lighting.

Design Element 3: Design of Reserves

Design Element 3 outlines matters for consideration for locating, and designing recreation reserves within the Mosgiel East Area.

Design Requirements

3.1 Reserves should be distributed within the Mosgiel East Area to meet the spatial requirements specified in the Long Term Council Community Plan (LTCCP) and enhance connectivity with other open space areas and cycle/pedestrian networks.

3.2 Reserves transferred to Council during subdivision of Mosgiel East should have a consistent boundary treatment where they adjoin residential properties eg. low fencing. This work should be undertaken by the developer to give a consistent design, standard, and height of fence (or other boundary definition) on all residential properties adjoining the reserve, and to promote safety of reserve users.

Explanation

The spatial requirements for reserve provision are guided by the LTCCP, with consideration of the proximity to existing reserves and provide reasonable access to reserves for new residents within Mosgiel East. An esplanade reserve along the Silverstream already exists, and recreational use of Wingatui Road will be facilitated with the widening of this road allowing provision of a pedestrian/cycle/ horse bridle path. These two tracks facilitate connectivity and enhance recreational use of the area.

Larger reserves are preferred, and two have been identified, as shown on the structure plan. Larger reserves allow more recreational opportunity and varying uses, and better provision of play equipment where this is to be provided. These reserves will generally meet the spatial requirements of the LTCCP.

It is appropriate for developers to clearly define the boundaries between residential properties and reserves. This ensures a consistent style of fencing or boundary treatment surrounding the reserve, giving a unified look and defining the public/private property interface. Visual clutter and inconsistencies in boundary treatment around reserves is an aspect that communities often comment on after new subdivisions have been developed where a mixture of boundary treatments or fences have been installed. Completion of boundary treatment prior to issue of individual titles also ensures that boundaries are clearly defined. The design should adhere to 'Crime Prevention Through Environmental Design (CPTED)' principles and be discussed with, and agreed to, by Council prior to construction.

Design Requirements

3.3 Personal security and multi-use are a priority in reserve or track design. Clear sight lines into all areas of reserves should be available from public roads, nearby dwellings, and along cycle/pedestrian paths, etc. Reserves should contain entry points with road frontage of at least 20m.

Explanation

Reserves with wide street frontages have a reasonable level of security, because of surveillance from the road and from the houses nearby. Therefore, crime is likely to be discouraged and the reserves are likely to attract the maximum number of users and be more valued by the community.

Design Element 4: Design and Management of Stormwater

Design Element 4 addresses the requirements for stormwater management within Mosgiel East.

Design Requirements

4.1 Local stormwater reticulation systems shall be designed for a 1 in 10 average recurrence interval event.

4.2 On-site stormwater management systems (retention/detention and secondary flowpaths etc.) shall be designed for a 1 in 100 average recurrence interval event. Stormwater retention/detention measures shall be provided on-site as part of the overall development.

Explanation

This is Council's standard requirement for stormwater reticulation systems.

The development of Mosgiel East will increase stormwater runoff. Mosgiel has protection against flooding from the Silverstream, but there is still a residual flood risk. To avoid increasing the frequency and severity of flooding from the Silverstream, developments at Mosgiel East must retain stormwater on-site for later discharge when the Silverstream's capacity permits.

Design Requirements

4.3 The discharge of stormwater shall not degrade the quality of the receiving environment.

Explanation

Stormwater will receive contaminants from a variety of sources. This requirement promotes a reduction in the adverse effects of contaminant discharges into Otago's water bodies by adopting the existing water quality as a minimum acceptable standard. Stormwater is required to meet the Regional Plan: Water for Otago permitted activity discharge requirements.

4.4 The rate of stormwater discharge to the Silverstream shall remain equal to or less than that of pre-development up to the 1 in 100 average recurrence interval event. There shall be no individual discharge of stormwater to the Silverstream or Owhiro Stream.

This is in order to ensure that flood risk is not exacerbated.

4.5 Subdivision and land use applications should include information outlining:

- (a) the techniques to be used to manage stormwater and the extent to which these techniques are accommodated on site; and**
- (b) how the integrity of the stormwater mitigation and management measures will not be compromised during and after subdivision; and**
- (c) actions to be taken to ensure the on-going management and maintenance of on-site mitigation measures and the responsibilities for this; and**
- (d) design details highlighting the adequacy of the proposed measures and identifying areas of greatest risk.**

Subdivision and development should be designed to effectively mitigate and manage stormwater generated. For this reason, the developer is required at subdivision stage, to demonstrate that appropriate stormwater mitigation and management will be undertaken and that adequate provision has been made for their continued operation and maintenance of design capacity.

Design Recommendations

4.6 Stormwater management may be achieved by a combination of publicly or privately owned on-site measures. Where the stormwater devices are proposed by applicants to serve more than one property, these may be vested in Council, if Council's requirements are met.

Explanation

Stormwater management could include the use of techniques such as swales, rain gardens, permeable paving, retention/detention areas.

Design Element 5: Management of Water and Waste Water

Design Element 5 outlines the provision and management of waste water and water to Mosgiel East.

Design Requirements

5.1 Water reticulation pipelines and waste water pipelines should principally be located within road reserves.

Explanation

Service pipelines for water and waste water should generally be located within the road reserve to enable easy access for maintenance. It is less desirable to locate pipes through private properties or reserves. In some cases pipelines servicing a number of properties may be placed over private land. Waste water from Mosgiel East should be reticulated to the Factory Road waste water system.

5.2 Water should be sourced from Mt Grand and connected to the existing services in Hagart Alexander Drive or Wingatui Road.

The Mosgiel/Taieri bores are currently at maximum capacity for servicing properties in Mosgiel. Large subdivisions in the area, such as that of Mosgiel East, will be serviced from the Mt Grand treatment plant.

Design Element 6: Landscaping of Public Areas

Design Element 6 suggests aspects of landscape design that need to be considered when planning any works to be undertaken within Mosgiel East.

Design Requirements

6.1 Tree planting along internal roads is encouraged where it enhances the amenity value of the area and complies with Council requirements for species type, standards and conditions.

6.2 Tree planting along the major external road frontages may be permitted where it enhances the amenity value of the area, is compatible with Council projects or proposals for the area, will not have significant adverse impacts on existing residential properties, and complies with Council requirements for species type and standards.

6.3 Landscaping of public areas (roads and reserves) shall be designed to provide recreation opportunities, an attractive residential environment, and enhance connectivity and integration between roads, reserves, tracks, pedestrian/cycle accessways, and the surrounding areas, whilst not impacting adversely on surface stormwater drainage.

Explanation

Appropriate tree planting can enhance the amenity value of public areas and enhance the area for the community.

Consideration will need to be given to the location of trees in regards to services (pipelines) along the roadway to allow access for maintenance.

Landscape treatment along Factory and Wingatui Roads will enhance the setting for residential development, while at the same time preserving the natural soft edge associated with the lifestyle development to the east. Such an approach would also provide additional separation between residential activities and rural-residential activities to address any likely reverse sensitivity and amenity issues such as odour and spray drift. Consideration will need to be given to existing activities in adjoining areas and landscaping should complement other works or projects Council is undertaking in the area in conjunction with the residential development (e.g. road widening, roundabouts).

Well designed public areas greatly enhance the value of these areas for the community and encourage use. The reserves proposed for Mosgiel East have a prime purpose of recreation. The size of the reserves proposed allows for multiple use and a variety of activities such as space for children's free or structured play, picnicking, exercising etc.

If developers determine it is beneficial to seek Council's permission to undertake landscaping on a reserve ahead of Councils proposed timeframes for work, this will be confirmed through appropriate agreements regarding the design, standards, costs and conditions for such work.