

LIFFEY DOMAIN, LINCOLN

RESERVE MANAGEMENT PLAN



Prepared for Selwyn District Council

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1.0 INTRODUCTION

1.1 Purpose and Scope

The Liffey Domain is classified a Recreation Reserve under the Reserves Act 1977 but does not have a management plan in place. Liffey Domain is considered a highly valued open space among the community, having heritage values associated with it and designated features within it. Many mature trees within the site are becoming aged and so there is some urgency for a replacement programme. The management plan also responds to the increase in usage of the domain since Lincoln is experiencing much growth and therefore the changes from development could potentially affect the amenity values.

The aim of the project is to produce a Reserve Management Plan which responds to the visions and concerns of the Lincoln community and which protects the intrinsic values of the domain for future enjoyment. The final plan will take into account the various issues concerned with the domain and will address how the vegetation and other elements on the site should be managed in the future.

1.2 Management Planning

A management plan provides the overall direction for ongoing management. Under The Reserves Act 1977 the Selwyn District Council is required to follow a set procedure for the preparation of management plans.

A summary for the preparation of management plan under Section 41 of the Reserves Act 1977 is outlined below:

<u>Stage</u>	<u>Statutory Procedure</u>
I.	The Council gives public notice of the intention to prepare a management plan calling for suggestions.
II.	Submissions are received for a specific period after the date of public notification.

- III. The Council prepares the draft management plan, then gives public notices that the plan is available for inspection and invites persons and interested organisations to make written suggestions and/or objections.
- IV. Objections and suggestions to the draft management plan are received for a two-month period after the date of public notification.
- V. The Council may have a hearing to consider the objections and suggestion.
- VI. Preparation of the final management plan.

To be used effectively, a management plan needs to be definitive and concise. It should be the prime source of information and reference on the management of the reserve it covers. It should draw together all relevant and descriptive information as well as outlining the policies and objectives.

This management plan for the Liffey Domain contains a brief description of the site and a set of clearly defined objectives and policies which are intended to guide the future use and development of the reserve. A concept plan for future development has also been included in the document to show how it is intended to put the objectives and policies into effect. This is a very general concept plan with the purpose of suggesting its elements on a broad level and should be used as a general guide only for further detailed survey, analysis, and future concepts.

1.3 Legal Status

Liffey Domain is owned by the Department of Conservation and it is administered by the Selwyn District Council. All of the reserve is classified a Recreation Reserve under the Reserves Act 1977. The Act states that management plans should provide for and ensure *“all currently classified reserves are classified ‘Recreation Reserve’”*.

The purpose of Recreation Reserves is described in section 17 of the Reserves Act 1977 as ... *“providing areas for the recreation and sporting activities and the physical welfare and enjoyment of the public and for the protection of the natural environment and beauty of the countryside, with emphasis on the retention of open spaces and on outdoor recreational activities including recreational tracks in the countryside.”*

Legal Description: M36105, PT RES 3761, RURAL SEC 39900 Lincoln Township

Gazette Reference no. 19-3135

Valuation Reference: no. 2404150700.

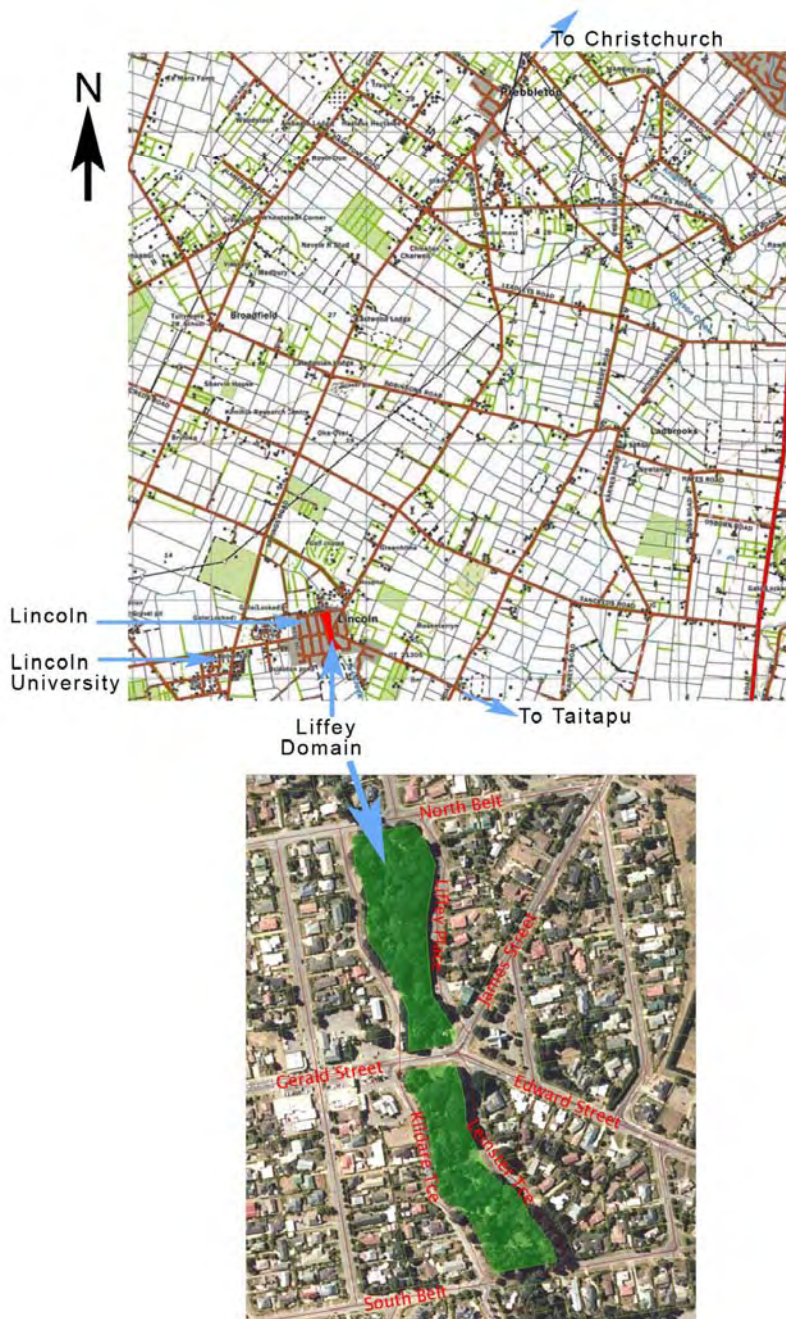
Currently there is no New Zealand Historic Places Trust registration number for the Pioneer Hall and the Coronation Library, but these buildings are recognised as heritage items in the Selwyn Proposed District Plan 2000/2001. Refs H24 and H25, Gaz 1919-3135, Pt RS 3761, RS 39900, Val Ref 2404150700

Heritage trees: Ref T56 and T57, Gaz 19-3135 Pt Res 3761 RS 39900

Designations: Water Supply Well – Des No. D101, Res 3761 (PSDP, 2001).

1.4 Location

The Liffey Domain is located in the central part of Lincoln township, approximately 11km south of Christchurch (16km by road). The domain has a total area of approximately 2.9ha and is divided in two by Gerald Street, the main street of Lincoln, that crosses the Liffey Stream (see location map).



2.0 RESOURCE INFORMATION

2.1 Landscape character

The Liffey Domain has been described as “the jewel in the crown” which reflects how the Lincoln community greatly treasure this resource. It has a character that could be associated with a European exotic woodland, and the historic buildings within the site also enhance a well established sense of place for Lincoln township (SDC & LU, 2001).

Its main axis spans about 500m along a north-south aspect which follows the water course of Liffey Stream (L1 River). The narrowness of the domain, along its west-east axis, limits its impact when travelling across the bridge on the main street, though the canopy of the larger trees can be seen on the skyline well above the rooftops of houses from further back. On both sides of the main street, (Gerald Street) these trees help to form a gateway to which a somewhat underdeveloped commercial strip is seen immediately after.

Informal tracks which meander through it are much valued by walkers as they experience a mix of vegetation types, rambling undergrowth, bridges and the Liffey Stream running along the continual length of the domain.

The domain’s visual character contrasts greatly with the elements along the busy main street nearby and the surrounding rural area of Lincoln. Despite this contrast, the residential lots that surround the domain have an appealing viewpoint with the domain’s large trees seen along the more curvilinear nature of the streets that border the west and east sides of the domain (i.e. Liffey Place, Kildare Terrace, and Leinster Terrace).

It is noted in the public document “Lincoln – A Vision For Our Future” (2001) that one of the broad objectives is “*to recognise and build upon the special natural and cultural features and landscape character of Lincoln.*” It is therefore the underlying philosophy of this management plan to support that vision of the Lincoln community.

There are some character differences between the northern and southern parts of Liffey Domain. The north end of the domain has more foot and vehicle traffic largely due to the schools situated nearby. This end of the domain has a more open appearance under the canopy of the large trees where tracks, bridges and undergrowth (natives and exotic) exist. Toilets are provided in the north part nearer the main street with a formal car park in front. The southern part of the domain is by far more diverse in nature with denser undergrowth and a more variety of plant species. The stream becomes wider at the far south of the domain and there are areas of ponding where it has provided a habitat for wildlife such as swan and trout etc. The southern part of Liffey has a much quieter sense of place and the track system through it is less used, though school pupils still venture down to this part as well.

Generally, the rambling nature and condition of the domain's vegetation does accentuate the character of a mature exotic woodland. Seedlings, old stumps, dead branches and weeds are all present in the domain and give the sense that it is a well-established and overgrown reserve, and this raises a concern for public safety.

2.2 History

Though there is very little historical record of Maori associations with the Liffey Stream in the domain, Maori activities before European settlement were prevalent on the shores of Lake Ellesmere/Waihora where there are remains of Maori ovens and middens near Taumutu. The earliest Maoris living in the Taumutu area were thought to be of the Ngati-mamoe tribe which later were overcome by the Ngai Tahu (Graham & Chapple, 1965). It is important that Maori history is recognised as well as early European history.

The Liffey Domain serves to provide Lincoln with a link to its pioneering days and is a great opportunity to enhance the town's identity. The site has an Irish connection, that being from the village's founder James Edward FitzGerald (1818-1896) who had an Irish background. This is reflected in some of Lincoln's street names surrounding the Liffey Domain such as Leinster, Kildare, Gerald and Edward. "Liffey" was named after the Liffey River which runs through Fitzgerald's home town

of Kildare. Other Irish settlers also lived in Lincoln from the early 1860's (SDC & LU 2001).

A railway link once existed from Lincoln to the city of Christchurch. This serviced the township and was also linked to Southbridge in 1875 and Little River in 1886. The abutments of the railway are still seen today in Liffey Terrace and a footbridge at the southern end of Liffey Domain utilises the old railway route (SDC & LU, 2001).

2.3 Buildings

The Lincoln and Districts Historical Society have under their care a historical building within the domain called the Pioneer Hall. This was built in 1874 and was Lincoln's first library. In 1900 it was moved from James Street to its present site and was used as a meeting place for local organisations until 1935. It was then used as a Sunday school run by the St Stephens Church. The Pioneer Hall is currently used for exhibiting historical photos and is open to the public once a month (LCC, 2006 & LDHS, 2006).

The Coronation Library near the main bridge on Gerald Street is also a heritage building and was built and officially opened in 1912. It was built by R A Forbes of Tai Tapu and the foundation stone was laid by Mr R H Rhodes an MP. It was used as a library and is still used today by the public for a toy library (LDHS 2006).

Both buildings have significant historical value, are owned by the SDC (Selwyn District Council) and are designated features on the Selwyn Proposed District Plan 2000/2001. They have been maintained to a good condition and are important for Lincoln's identity and character (SDC & LU, 2001).

2.4 Topography and Soils

The Liffey Domain (as is Lincoln) is sited within a reasonably flat postglacial alluvial fan of greywacke gravels in the basin of the Halswell and Selwyn Rivers and sits at an elevation of approximately 10-12m above sea level. The Liffey Stream in the domain is a few metres lower than the level of the township/Gerald Street itself and

flows southward draining into Lake Ellesmere. (SDC&LU, 2001. Lincoln - A Vision for Our Future, Vol1. pp-36,37).

There are four main soil types identified in the Lincoln area. The types more common to the Liffey Domain are the Templeton and Eyre soils. Templeton soils are deep to moderately deep, silt loam and fine sandy loam. Eyre soils are shallow, stony, silt loam and sandy loam (Webb, 1999. in SDC & LU, 2001).

2.5 Water quality

The water of the Liffey Stream (L1 River) is considered to be of good quality due to it being spring fed from the north of the site (Lincoln Townscape Project – Visions for the Future, 1999). However, the stream is susceptible to dry periods that do affect the water level and quality, to the extent that various aquatic species die. Normally, the stream supports much valued wildlife such as swan, ducks, trout and eel etc. Edge treatment may improve the water quality with riparian planting of native species as well as controls on aquatic weeds, litter and stormwater discharge into the stream.

2.6 Vegetation

The original vegetation in the Lincoln area was thought to contain the native species relative to the different soil types. Today the landscape is highly modified through farming and other developments over the past 150 years. River margins were thought to most likely contain flax, rush, tussock, sedge, toetoe, koromiko, mikimiki, cabbage tree and karamu plant communities (Meurk, 1996 in SDC & LU 2001).

Currently the Liffey Domain is a mix of exotic and native trees with the large exotic trees being the more predominant and of a “parkland” nature (SDC & LU, 2001). The vegetation has been left to self-seed over the years and planting of native species has occurred and succeeded in parts of the domain (see Appendix 5.2 for tree management issues).

There are protected trees (heritage trees) within the domain, *Eucalyptus* on Leinster Tce, four oak trees (*Quercus robur*) and a willow in the southern part of the domain. Other exotic species include: wattle, yew, sycamore (maple), ash, elderberry, weeping willow, elm, plane trees, silver birch and some conifers. Native species within the site include: kowhai, cabbage trees, lemonwood, lacebark, akeake, tree fern, and flax.

2.7 Track System

A basic walking track exists within the Liffey Domain, though its condition is not yet suitable for wheelchair access and bridges over the Liffey Stream will need some maintenance and/or modification. There is a potential for this track to be linked to the Millstream Stream Reserve to the south and the local community has discussed the option to have a multi-use track within the Liffey Domain (SDC & LU, 2001). Cycling throughout the domain though may not be compatible with walkers.

3.0 ISSUES

3.1 Present Use

The present use of the domain encompasses the following activities:

Walking – the site contains an informal track but is not well maintained. Much of the foot traffic through the domain comes from the pupils of the high school near the north end. Some traffic control is necessary for the safety of the users, while the track also requires upgrading to withstand increased use.

Children's playground – there is a playground at the north and south end of the site which is used by children living in the locality. An opportunity exists to upgrade the existing playgrounds within the reserve but any additional playgrounds may diminish the parks character due to the limited space for this activity.

Recreation – the domain has the potential to accommodate other areas for recreation such as an exercise station and picnic areas etc. Much of the attraction to the site is attributed to its historical buildings and its tranquil

setting along the walkway and therefore too many activities may adversely affect this quality.

Education – students from Lincoln High School and Lincoln University have used the domain for various projects. For example, as part of landscape architecture, engineering, sociology, ecology, horticulture, English, biology, environmental education, and science.

3.2 Vegetation

The condition of many of the existing mature trees is a major concern and there is a need to provide a programme of evaluation and remedial works to ensure they are effectively managed in the future. Some of the mature trees are damaged, aged, or diseased and may need to be replaced. The other issue is that the number of mature trees far outweigh the younger middle-aged trees which should be available to replace the older ones when they die (see Appendix 5.2 for specific tree management issues and recommendations).

There are a number of options which have been considered. Options considered for future management include:

- Use of 'plant signatures' as with Millstream Reserve
- Maintain the dominant exotic woodland character (maintains Lincolns heritage)
- Balance of native and exotic (corridor for bellbirds etc).
- Managed undergrowth and/or left to naturalise/selfseed.

3.3 Future Options

There are various options / concepts that could affect the values and character of Liffey Domain such as traffic circulation, species of trees, multi-use track system, bridges etc. It is the objective of this management plan to enhance its character and amenities and for future enjoyment which suggests a concept that does not adversely affect these values. It is also envisaged by the community that the domain may be extended to the north and south in the future, and a walkway that extends from the Liffey Domain to the Millstream Reserve. A linkage to the 'Rail Trail', which cyclists use, has also been suggested since the southern end of the

Liffey Domain once had the railway across the stream. This would increase the traffic through the domain which may adversely affect its character and would conflict with foot traffic.

3.4 Car parking

Minimal areas for formal car parking on the site could be provided and be located at different parts of the domain to facilitate the playgrounds, entry and exit points along the walkway and picnic areas. Currently, cars park on the side of the road or on the grass berms which flank both west and east sides of the domain. The size of each car park and the security of these areas at night also need to be considered. The issue of providing additional car parking is that it may diminish the existing character of the domain because there is limited space available.

3.5 Walkways

The management plan seeks to carry out the vision of the community to tidy and upgrade the existing track system to a standard where the track can be utilised by different user groups, such as runners and people with disabilities. Signage could be proposed to direct and inform the users of location, features and history within the domain. Any bridge across the stream should be wide enough, safe and of a recessive design suited to the character of the domain.

It has been suggested that it be more appropriate to have a single-track system on one side of the stream to reduce its impact. This however, could limit the domain's access from certain residential areas along the length of both sides.

3.6 Water Quality

The current water quality of the Liffey Stream is high since it is largely spring fed. Controls on its quality from future demands is important and issues such as stormwater discharge, litter, and aquatic weeds should be addressed as well as possible edge treatment.

3.7 Submissions

A meeting was held on 13th November 2006, at Lincoln with the Lincoln Community Committee. There was good feed back from the members and several locals shared their concerns as well. Key issues discussed included; vegetation types for future planting, foot traffic management and wildlife enhancement.

The public have had an opportunity to submit on the draft management plan. Seven submissions were received before the closing date of 30th April 2007. Issues raised in response to the submissions centred around; track maintenance, traffic control, car parking, lighting, fencing, signage, wheelchair access, bridges, education, public involvement, planting theme, camping, and wildlife enhancement. An effort to accommodate public concerns have been made and a summary of these issues are listed in the Appendices 5.4.

4.0 MANAGEMENT OBJECTIVES AND POLICES

The management plan **objectives** are designed to enable a desired result to be achieved. They set out the general purpose for the Liffey Domain, as well as uses considered appropriate. They are derived from the Reserves Act 1977, current Council policy (Proposed Selwyn District Plan) and the overall vision developed for the reserve by the local Lincoln Community Committee.

Policies are of a more specific nature. They are intended to show how the management objectives can be implemented. They are derived from the Selwyn District Council (SDC) objectives and policies, submissions from the public and the various domain users, Department of Conservation guidelines, and consultations with an arborist.

4.1 Main Management Objectives

- (i) To provide and develop Liffey Domain as an area of both exotic and native vegetation with amenities and a track system for the use and enjoyment of the general public for recreational purposes.

- (ii) To achieve maximum community benefit from the provision of Liffey Domain by actively encouraging this resource to be utilised more fully.
- (iii) To maintain and improve the quality of the domain, and its facilities and to consider the benefits of enhancing the domains biodiversity without adversely affecting the existing character values.
- (iv) To endeavour to anticipate any adverse effects on the environment and the local community that could result from the use of the domain and put appropriate processes in place to avoid or remedy these where feasible.

4.2 Control and Management / Administration

Objective One:

To manage Liffey Domain as a Recreation Reserve for recreational purposes in accordance with the principles set out in the Reserves Act 1997 and this management plan.

Explanation

Liffey Domain is not yet designated under the District Plan but is classified Recreation Reserve under the Reserves Act 1977. The domain is vested in the Selwyn District Council and the Council should retain ownership of all reserve improvements so that control over future development is not lost.

Polices

- I. The management of Liffey Domain will continue to be vested in the Selwyn District Council.
- II. Management of the Liffey Domain picnic areas, playgrounds, car parks, structures (bridges) and walking tracks will be the responsibility of the Selwyn District Council.

- III. The Liffey Domain will be administered by the Selwyn District Council in accordance with the requirements of the Reserves Act 1977, the objectives and policies outlined in this management plan and other relevant Council policy and bylaws.

Objective Two:

To allow for community input for the management of Liffey Domain.

Explanation

In the past the development of Liffey Domain has been greatly assisted by the efforts of local people and committees concerned about bringing a sense of ownership to the domain. The Liffey Domain would benefit significantly by an appointed Reserve Committee to help manage its future development, to raise issues, ideas and assist to produce funds for further improvements.

Policy

- I. A consultant or committee maybe be appointed to assist with the management of the Liffey Domain in accordance with the Reserves Act 1977, DOC plan guidelines and Selwyn District Council.

4.3 Environment and Landscape / Landscape Character

Objective

To protect and enhance the intrinsic values and historic features of the Liffey Domain such as buildings, valued eco-systems, and recreational use.

Explanation

The mature parkland sense of place is a major attraction to Liffey Domain. The two historic buildings on site (Coronation Library and Pioneer Hall) add high historical value and character to the domain and this enhances Lincoln's identity.

Policies

- I. The qualities and features contributing to the character, sustainability, recreational value, cultural values, and pleasantness of the domain shall be given full consideration in all developments.
- II. Any significant development including buildings, planting, vehicle parking and walkways, shall be planned to protect and enhance the valued character, visual and aesthetic appeal of the domain.
- III. Any significant development including buildings, planting, vehicle parking and walkways, shall be implemented in conjunction with an approved landscape design plan.
- IV. Significant landscape and historic features shall be conserved where possible.
- V. The wildlife habitat potential of the domain shall be enhanced wherever appropriate in accordance with the Council's biodiversity strategy. This should not diminish the heritage values and existing parkland character of the domain,

4.4 Cultural Heritage

Objective

To preserve the cultural values associated with the Liffey Domain.

Explanation

Because the site is highly valued for its pioneering heritage among the local community, it is important that any future development does not adversely affect the cultural and heritage values.

Policies

- I. If anything of an archaeological nature is encountered (e.g. shells, charcoal stained soil, fire-cracked stones, artefacts or human remains) during any

work programmes, the NZ Historic Places Trust and the local Maori Iwi are to be contacted immediately.

- II. Cultural heritage values shall be preserved and maintained according to the objectives and policies set out in the Selwyn District Plan (S3.3).

4.5 Use of the Domain

Objective One - Recreational Uses

To promote, develop and utilise Liffey Domain as an area for public use and recreational pursuits that are compatible with the environment.

Explanation

The domain's environment lends itself to informal recreational pursuits such as walking, picnicking, and playgrounds. These activities have a potential to adversely affect the intrinsic qualities of the domain if its users are not responsible or are careless in their activity.

Policies

- I. Liffey Domain will be actively promoted as an area where the public can go to relax, exercise and enjoy its values, atmosphere and natural environment.
- II. Activities considered to be most suitable to the overall objectives of the domain are those of a predominantly informal nature.
- III. Activities which cause damage or have the potential to cause damage to the domain, or which will significantly detract from the intrinsic qualities of the domain are considered to be unacceptable.

Objective Two – Camping

No camping or over night parking of motor caravans shall be permitted in the domain.

Explanation

It is not considered appropriate that casual or formal camping be allowed in the domain as this can have detrimental effects on the environment due to a lack of facilities, sanitation and fire risks being a major concern. Camping is not considered complementary in any way to the character and quality of the domain. The use of motor caravans on the site would increase heavy traffic near school routes, require formal parking areas with associated facilities, and would not fit with the existing character of the site.

Policy

- I. No camping or overnight parking of motor caravans shall be permitted in the domain and the public will be made aware of this through signage.

Objective Three – Special Events

To permit occasional use of the domain as a venue for special events, festivals and similar recreational activities, providing this does not significantly detract from the primary use of the domain for informal recreation.

Explanation

As the domain is significant to Lincoln's character and the wider community, it is appropriate that it be available as a venue for community and social events. It provides an environment for people to meet and enjoy themselves and obtain a sense of community spirit and pride.

These types of events will also help raise the profile of the domain outside of the area and may be an avenue for raising funds for the domain's future improvements.

Policy

- I. Staging of special events on a temporary basis will be permitted to take place at the domain provided such events do not unduly interfere with the

primary use of the domain for informal recreation, vegetation is not damaged or destroyed and approval is obtained from the Selwyn District Council.

Objective Four – Educational Uses

To encourage the use of the domain for educational purposes which are compatible with the reserves natural environment and intrinsic values.

Explanation

Attracting a wider range of activity to Liffey Domain will enable it to be more fully utilised and therefore this is to be encouraged. In the past it has been a valued resource for students from the Lincoln University, since it offers a range of natural and cultural elements for educational purposes.

Policies

- I. The Selwyn District Council will encourage the use of the domain for educational purposes.
- II. The Council will ensure that information is available which will assist users in obtaining an understanding of the nature of the domain.
- III. Some interpretive signs may be located in the domain as appropriate.

4.6 Commercial Activities

Objective

To limit commercial activities at the Liffey Domain to those that do not adversely affect its use for informal recreation and the natural environment of the domain, and those which are desirable for public enjoyment.

Explanation

The commercial activities referred to here are those activities that provide a financial return to individuals, business or organisations of the locality. Such a criteria could included markets, fairs, festivals, concerts etc.

Policies

- I. The only commercial activities considered to be acceptable at Liffey Domain are those that satisfy the following criteria:
 - the commercial activity does not adversely affect the informal recreational usage of the domain and its natural environment
 - the commercial activity encourages the use of the reserve
 - the commercial activity enhances the public enjoyment of the domain
 - the commercial activity is compatible with the provisions made in the Reserves Act 1977 for this type of activity
 - the commercial activity will be of limited duration only
- II. Approval will need to be obtained from the Selwyn District Council for all commercial activities taking place on the reserve.
- III. The committee reserves the right to apply conditions to each application granted.
- IV. The effects of commercial activities on the reserve will be monitored by the committee to ensure all conditions are being met.
- V. No permanent structures associated with commercial activities shall be permitted.

4.7 Publicity and Promotion

Objective

To promote the Liffey Domain to Lincoln, the Selwyn District and tourists as a significant heritage and recreation resource.

Explanation

Promotion is seen as important to encourage the use of the domain as it helps to create:

- an awareness of Lincoln's identity as a township

- a sense of ownership
- a value for its recreation, heritage and character.

Policies

- I. The communities concerned with Liffey Domain and the Selwyn District Council will liaise closely regarding the promotion of the domain.
- II. Promotional information about the reserve will be prepared and distributed by the Council and other committees concerned, such as the Lincoln and Districts Historical Society and the Lincoln Community Committee.
- III. Publicity will be given to the activities taking place on the reserve as thought to be necessary, particularly in holiday periods.

4.8 Boundaries

Objective

To avoid any form of fencing around the domain unless it is required for temporary safety and security measures.

To allow for a possible extension of the Liffey Domain boundary in the future to the south and north.

Explanation

The only fences that maybe required for temporary use could be for the protection of historic buildings or for safety reasons around hazardous areas such as damaged trees, structures, paths and stream edge. Fences that surround an area in a township are generally required for public safety, park security and for defining residential properties from public areas. A fence around Liffey Domain's boundary would adversely affect the visual character of the domain and may not be seen to be inviting to visitors.

An opportunity for the extension of the domain has been considered by the public and Lincoln Community Committee. The advantages of this are that it will help to connect a walkway system to the other reserves to the south, and also help to provide a corridor for which wildlife can flow more readily.

Policy

- I. There shall be no fences surrounding the boundary of Liffey Domain other than those used for the safety of the public on bridges and any steep parts of the walkway system.
- II. Any future development to extend the existing boundary shall be in consultation with the public, local committees, and the Selwyn District Council.
- III. Any future development to extend the existing boundary shall be planned and designed appropriately without adversely affecting the domains character, heritage, ecological and cultural values.

4.9 Public Access

Objective

To ensure the domain is available to the public for casual recreation, taking into account the domain's capacity for use and other restrictions which may be necessary for its protection and management.

Explanation

As picnic areas and walkways in reserves are a valued public resource, public accessibility should be promoted and maintained.

Policies

- I. Members of the public shall have foot and wheelchair access to, and be able to use on a casual basis, all domain facilities at all reasonable hours.

- II. When necessary for certain major maintenance works or essential protection of the reserve, part or all of the reserve will be closed to the public.

4.10 Traffic Access

Objective

To provide safe and controlled pedestrian and wheelchair access but no cycle access through the domain. This excludes all bicycles, motor vehicles such as motorbikes, cars and four-wheel-drives. Motorised mobility scooters are also excluded from the Domain.

Explanation

Driving of all vehicles and motorbikes within the domain would be a danger to informal recreational users. The tracks, bridges and the land gradients on the domain are not considered safe for the use of motorised mobility scooters. All motor vehicles should not be permitted unless they are for the servicing/maintenance purposes of the domain. Mountain bikers would conflict with the increase of pedestrian use.

Policies

- I. The use of bicycles, vehicles and motorbikes within the domain in areas other than the roadside and car park areas, is considered unacceptable.
- II. Access to the domain should utilise the car parks and entrances provided.
- III. Maintain access ways and tracks to a safe and suitable condition for pedestrian, and where appropriate, wheelchair traffic.

4.11 Car Parking

Objective

To provide and maintain car parks to a level which is adequate for facilitating the general activities carried out within the domain.

Explanation

It may be necessary to provide off-road parking for users so as to discourage parking on the roadside berms of the domain. Car parking in the domain could be restricted to only those areas designated for car parks other than those vehicles needed to maintain the domain's trees, tracks and other amenities.

Policies

- I. Informal parking will be made available near playground areas, track entrances and picnic areas where appropriate.
- II. There shall be no additional formal car parking provided for the domain unless increased traffic volumes adversely affect the environment or character of the domain.
- III. Any future development of formal car parks shall be in accordance with local committees and Selwyn District Plan policies, and be designed so as not to adversely affect the character and other intrinsic values of the domain.

4.12 Buildings, Structures, Facilities and Furniture

Objective One

To provide appropriate structures, facilities and domain furniture which will encourage the desired uses of the domain while restricting these to those necessary for public enjoyment and for its efficient management (i.e. keep to a minimum the number of new structures in the reserve).

Explanation

To avoid any future conflict between the maintenance of a natural environment and facility development, the amount of reserve land required to provide structures (such as walk bridges and playgrounds), facilities and furniture (such as picnic tables, seating, and rubbish bins) needs to be

minimised. These elements must be maintained to a safe standard (see also the assessment report on existing bridges in Appendix 5.3)

This can be achieved by the careful assessment of the requirement for additional facilities, and the promotion of multi-purpose facilities where appropriate.

Policies

- I. The bridges across the Liffey Stream (L1 Stream) shall be constructed and maintained to NZ safety standards and should be repaired or replaced if structural damage is evident.
- II. The design of any proposed bridge shall be harmoniously designed with the historic buildings in the domain.
- III. Seating should be placed in key locations, and the orientation of these will give due regard to the sun, and shelter from the wind.
- IV. Any new structures or facilities, or alternations to existing ones, must relate to the prescribed uses of the domain and be shown to be necessary to the proper functioning of the amenity.
- V. Any new structures or facilities, or alternations to existing ones, must have the approval of the Selwyn District Council after public consultation has been carried out.
- VI. The safety of structures, facilities and furniture are to be in accordance with current New Zealand safety standards.

Objective Two

To protect and maintain the designated heritage buildings within the Liffey Domain.

Explanation

The two heritage buildings within the domain, the Coronation (Toy) Library and the Pioneer Hall, have a high historical value. They are owned by the Selwyn District Council and are under the care of the Lincoln and Districts Historical Society. These buildings also add significant visual character to Liffey Domain and are much valued by the Lincoln community.

Policies

- I. The heritage buildings in the Liffey Domain shall be protected and maintained in accordance with the objectives and policies set out by the Lincoln and Districts Historical Society and the Selwyn District Plan.
- II. Any development or maintenance within the domain that may be seen to be a danger to the heritage buildings nearby shall be assessed by the Lincoln and Districts Historical Society and the Selwyn District Council and measures taken to protect the building while any development or maintenance is taking place.

4.13 Education and Interpretation

Objective

To implement the minimum amount of signage of an appropriate design within the domain, necessary to inform the users of acceptable uses, to interpret features and provide other information.

Explanation

Users of the domain need to be informed of the uses considered appropriate to the domain otherwise they cannot be expected to be held liable for any inappropriate use.

It may be necessary to provide information for the understanding of the resource and to assist users in their orientation.

Carefully designed and located signs can enhance rather than detract from the visual environment.

Policies

- I. Provide limited signage to cater for different user types who wish to study the resources and obtain a better understanding of the domain.
- II. Signage shall be appropriately located in the domain for displaying the historical, cultural and botanical features, and for outlining the regulations pertaining to the domain's use.
- III. All signs and symbols used in the reserve will be designated to be compatible with the domain environment.
- IV. Signs should be constructed in a manner and of materials that will minimise opportunities for vandalism.
- V. The domain will be identified by signs easily seen from the domain's car parks and track entrances.

4.14 Walking Tracks

Objective

To establish and maintain a network of pathways in the reserve to facilitate appropriate use and enjoyment of the area.

Explanation

A track system allows people to wander through the domain and enjoy its intrinsic values. These tracks should be of a good quality and well maintained in order to achieve maximum public benefit.

An opportunity exists to design and implement other tracks that may be extended to link to other reserves in the future (such as the Millstream Reserve and the proposed David Hobbs subdivision and reserve) as the community and the SDC sees fit.

It may be appropriate to have a single-track system on only one side of the stream to reduce impact. This however, would limit the access to both sides of the domain.

Policies

- I. Walking tracks will be provided and upgraded and maintained within the domain for the use of wheelchairs, walking and jogging.
- II. Cycling will be prohibited within the domain.
- III. Tracks will be located at points where there are views of the water and be made from well-drained materials or boardwalks rather than concrete or asphalt.
- IV. Public safety and significant features, such as designated heritage trees and buildings, will be considered when determining the location of any new walking tracks.
- V. A disabled access track will be provided where appropriate through the domain.

4.15 Children's Play Areas

Objective

To provide safe, creative play opportunities for children that are compatible with the domain's environment and character.

Explanation

As a general principle the domain should aim to cater for a wide range of ages. Children are a significant user group at the domain therefore it is appropriate that play facilities are provided.

An opportunity exists to upgrade the existing playgrounds within the reserve but any additional playgrounds may diminish the parks character due to the limited space for this activity. Play equipment should be made of natural materials and of a type that is most compatible with the character of the domain.

Policies

- I. No additional or enlargement of existing areas for children's play will be created within the domain given the limited space and the domain's vulnerability to increased activities which would diminish the existing character.
- II. Upgraded playground equipment will be designed to accommodate children of various ages, provide for diverse play opportunities and meet current New Zealand safety standards.
- III. The design of play equipment and materials used should be compatible as far as possible with the domain's environment and character.
- IV. Play equipment shall be sited in safe locations and that are in clear view of other domain users.
- V. The Selwyn District Council will be responsible for ensuring all playground equipment is inspected and maintained in accordance with a schedule and the New Zealand Standards 5828:2004.

4.16 Amenity Vegetation

Objective One

To manage the domain's woodland on a sustainable basis and to ensure that the valued woodland character is conserved.

Explanation

The majority of the large trees within the domain are aged approximately 50-100+ years. Some of these are suffering from the effects of disease and wind damage. There is a lack of intermediate aged trees to replace the aged and damaged trees. As a consequence the existing character of the reserve is threatened unless timely action is taken to remedy this situation.

Such action will necessitate the removal of the diseased trees to provide space and therefore a 'light gap' for the replacement trees. These changes, will be minimal in comparison to the scenario of no immediate action (see Appendix 5.2 for specific tree management issues and recommendations).

There are a number of options that have been considered for the future planting throughout the domain such as:

- (i) Perpetuate the predominant character with more exotic planting and manage the undergrowth.
- (ii) Retain exotic woodland and have the native undergrowth evolve naturally in certain areas for more diverse wildlife habitats.
- (iii) Replace dead and declining trees with only natives. This would eventually change the whole exotic, deciduous, broadleaf treed character with the associated loss of existing heritage values but may increase biodiversity.
- (iv) Select specific suitable areas for each of the above treatments.

Policies

- I. A detailed survey of the domain trees should be prepared comprising location, species, age, relative health and life expectancy.

- II. A tree replacement programme is to be developed based on the above survey and implemented for the gradual removal and replacement of the ageing tree population and any trees with a severe disease.
- III. In situations where any tree is in a condition that poses an immediate hazard, the Council will exercise its legal duty of care to have the tree removed as soon as possible.
- IV. The removal of diseased trees and the replacement planting shall be at a rate to minimise the long-term disruption of the existing parkland character.
- V. Trees and other plants will be selected according to their suitability to the environmental conditions, use of the site, and shall be managed with primary aims of enhancing or maintaining the predominant exotic woodland character and amenity value of the domain.
- VI. Replacement trees shall be of good health, form and size, and be closely related to the species being replaced, unless that species is prone to a rampant plant disease, in which case there should be another more hardy species chosen but with a similar character.
- VII. A less formal planting layout of the woodland shall be adopted so as to maintain the domains naturalised character.
- VIII. Consideration shall be given as to the suitability of the plants in relation to the location and proximity of roads, private property, structures and recreation facilities.
- IX. Planting shall conform to approved landscape plans specifically prepared for the domain.

Objective Two

To develop and implement a planting programme which will achieve the desired values and appearance thereby enhancing the general environment of the domain.

Explanation

The planting at Liffey Domain is well established but further planting is needed to generally maintain the same character for future enjoyment.

The emphasis for future planting is on maintaining the exotic species for the larger woodland trees, and natives for undergrowth and other intermediate spaces for wildlife.

Heritage trees exist within the domain (Eucalyptus, 1x willow and 4x Oaks). Their location is not yet currently obvious to the public and so their recognition and location would be important to clarify for their future protection.

Policies

- I. The protected trees shall be located and identified with a plaque giving details of the tree and reasons for protection.
- II. A mix exotic and native tree species shall be adopted where appropriate but in a manner which maintains the predominant exotic woodland character.
- III. Limited areas of unplanted open space shall be maintained within the domain to permit access, views, sunlight, wildlife habitat, recreational use and enable visual appreciation of the water and plantings.
- IV. Planting for shelter, amenity, aesthetic and environment purposes and diversity will be carried out in accordance with an approved amenity planting development plan.

- V. No trees will be removed or trimmed except in the following circumstances:
- where it is a threat to safety
 - where planned public and/or service access is restricted in an undesirable way
 - where it is needed to prevent the spread of a rampant plant disease
 - where it is necessary for the general health and appearance of the plant
 - where seedlings occur in inappropriate positions
 - to enhance opportunities for the development of other desirable species (eg, creating light gaps for younger trees and therefore sustaining the character of the domain in the future)
 - where it is necessary to maintain or create desirable views
 - the need to replace over-mature trees in a declining condition
- VI. The pattern of planting and the choice of species shall respect the landscape character of the domain.
- VII. Tree planting shall be integrated wherever possible with recreational activities.
- VIII. Encourage community involvement in amenity planting.
- IX. Public safety will be taken into account when removing trees and planning the density, scale and type of planting in the areas close to residential areas, public buildings and roads.
- X. Locate and label all designated/heritage trees within the domain and ensure the health and protection of these trees as much as is possible.

4.17 Utilities

Objectives

To provide the utility services necessary to ensure public enjoyment, safety, health and the efficient management of the domain, while at the same time endeavouring to minimise the impact of these on the visual and physical environment.

Discourage the installation of utility services across the Domain where they are not intended for reserve purposes alone.

Explanation

Utility services such as water, stormwater, electricity, telephone and sewage are commonly required to meet the demands of the public and aids in the efficient management of a public space.

Lighting from the existing streets around the Liffey Domain currently provide sufficient light at night, but extra lighting may be required around proposed car parks, entrances and children's play areas to increase the security of the domain at night.

The installation of utility services across reserve land can have a drastic impact on visual and general amenity values and place a long-term use restriction on affected areas.

Policies

- I. Provide a limited amount of lighting for areas such as car parks, playgrounds and entrances where the increase in the security of these facilities at night is required.
- II. Where the provision of additional utility services is considered to be necessary, these shall be designed and located in ways that ensure the impacts on the domain's environment, character and recreation values are minimised.

- III. Existing and future utility services will be suitably maintained to ensure the efficient functioning of the domain and associated facilities.
- IV. The Selwyn District Council shall be responsible for the installation, extension and maintenance of utility services which cater for the basic needs and safety of the general public.
- V. Any additional utility services seen to be required by the public for the domain shall be negotiated between the committees concerned and the Selwyn District Council.
- VI. All future electrical and telephone services shall be laid underground.

4.18 Maintenance

Objective

To ensure that the conditions of the grounds and other recreation facilities at the domain are of a sufficient standard to promote high levels of user satisfaction.

Explanation

Well prepared and maintained grounds and facilities increase the level of enjoyment for users of the domain as well as lessening the risk of injury or accidents associated with activities.

Policies

- I. The Selwyn District Council and community committees will generally fund the development and maintenance of Liffey Domain to a standard appropriate to the members of the public using it, in accordance with current Council policies and Department of Conservation guidelines.

- II. The Selwyn District Council will prepare a maintenance contract for the domain in accordance with current Council standards and oversee the implementation of this contract to ensure a high standard is maintained.
- III. Activities or uses that are likely to significantly damage or adversely affect grounds, trees, water quality, structures and other facilities at the domain are not considered to be acceptable.
- IV. The use of the domain or facilities may be limited or prohibited when adverse conditions warrant a damage control programme to be implemented.

4.19 Wildlife

Objective

To protect and promote both exotic and native wildlife in the domain through the provision of suitable wildlife habitats. This includes habitat for the aquatic fauna of the Liffey Stream (L1 Stream).

Explanation

Currently a range of wildlife exists throughout the domain and in particular there are bellbirds, swan, and increasing numbers of trout and eel which are valued by the community. The quality and depth of the stream may fluctuate throughout the year and therefore could affect what aquatic and bird life can be sustained.

Considerable thought has gone into various proposals to enhance the biodiversity of the domain. Student work carried out through Lincoln University has also aided in the awareness of how wildlife throughout the domain can live and breed in greater numbers through suitable habitats such as green corridors, ponds, and shelter.

The southern part of the domain is currently more varied in wildlife largely due to the more diverse vegetation, wider water body, less traffic and closer proximity to the other reserves to the south. It is appropriate that the southern part of the domain be made available for some areas of wildlife habitat, rather than in the northern part where there is less habitat, heavier traffic volumes, and the character relates more to the township environment.

Policies

- I. Native and some naturalised wildlife (other than invasive species) shall be encouraged to breed in the domain and the stream. Nesting and spawning sites shall be left undisturbed during breeding season.
- II. Organic debris such as leaf litter (an important source of nutrients) shall be left on the ground in certain woodland areas, where practicable, to provide habitat for insects and other fauna.
- III. The Liffey Stream water quality shall be maintained through controls on aquatic weeds, debris, litter and stormwater discharge.
- IV. Some old tree trunks will be left in appropriate locations to assist the wildlife habitat.
- V. Major wildlife habitats shall be kept free from development or long-term activities that may hinder the habitats primary function to sustain its wildlife.
- VI. Proposed wildlife habitats shall be in accordance with the Selwyn District Plan policies for ecosystems (pt2 s1.3), the local committees and in accordance with an approved landscape plan.
- VII. Proposed wildlife habitats shall be designed and located in ways that ensure the impacts on the domain's environment, character, heritage and recreation values are minimised.

4.20 Rubbish Disposal

Objective

To provide for the disposal of rubbish in areas such as picnic spots, car parks and playgrounds so as to maintain tidy domain grounds and reduce pollution.

Explanation

The domain currently has picnic areas where rubbish bins are provided and these are located in close proximity to picnic tables. An opportunity exists to provide rubbish bins where appropriate near car parks, playgrounds and other public areas that may be proposed. The public are encouraged to take rubbish home for disposal and recycling.

Removal of rubbish from the bins should to be carried out regularly so as to avoid overflow onto the domain grounds and to deter domestic animals and wasps gathering.

Policies

- I. Maintain rubbish bins in public areas such as formal car parks, picnic areas and play grounds in accordance with the Selwyn District Plan policies for waste disposal.
- II. Limit the number of rubbish bins throughout the domain to encourage people to take rubbish home for disposal and recycling.
- III. Design and location of proposed rubbish bins shall have consideration for the visual character of the domain.

- IV. Involve the public, local committees and institutions in the collection and disposal of rubbish throughout the domain (this will include the stream edge and bed).

4.21 Objectionable Elements and Activities

Objective

To minimise and control objectionable elements in the domain.

Explanation

Vandalism and offences committed in the domain can disrupt the use of the domain and be a financial cost to the Council, its ratepayers and domain committee.

Activities carried out at the domain also have the potential to detract from the quality of life of nearby residents, therefore consideration needs to be given to minimise the impact of these.

Policies

- I. The Selwyn District Council will control where practicable through the Reserves Act 1977 and appropriate bylaws, the following activities and any other objectionable element or activity.
 - (a) Any person caught or committing any offence on the domain shall, upon request of the Council, or any authorised officer, immediately leave the domain. The offender may be prohibited from the reserve for any period of time as the Council deems fit, and may also be liable for prosecution
 - (b) The banning of alcohol in the public domain areas may be imposed at the discretion of the Lincoln Community Committee.
- II. Improvements will be designed, located and made of materials that will minimise opportunities for vandalism.

- III. The emission of noise from public address systems, cars or other form shall not exceed a reasonable level.
- IV. No open fires will be permitted within the Liffey Domain.
- V. No cycling is to be permitted in the domain.
- VI. Domain lighting shall not be unduly intrusive to adjacent properties.

4.22 Pest Control – Weeds and Animals

Objective

To undertake undesirable plant (including noxious plants) and pest control when the need arises for the protection and general appearance of the domain, the safety of the reserve users and the protection of desirable wildlife.

Explanation

Undesirable plant and pest control is necessary to ensure the protection of the desirable domain water quality, vegetation and wildlife, and to achieve a high standard of appearance and safety.

An example of a plant which could become invasive in the domain are the sycamore seedlings. These tend to smother a lot of the undergrowth throughout the domain and removal of these seedlings has been suggested. Any future planting of this species is therefore cause for concern and it is worth considering that another species be chosen in place of it over time (see Appendices 5.2 for further information regarding weedy plants).

Policies

- I. Plant species and pests considered to be detrimental to the appreciation and function of Liffey Domain will be removed as necessary in accordance with a

control programme, prepared by the Council in consultation with the public committee where appropriate.

- II. The Council will monitor the need for wasp and possum control at the domain.
- III. Mechanical methods for the control of undesirable plants should be used in preference to chemical control where feasible.
- IV. Any use of chemicals will comply with the Council's Reserves Maintenance Contract and "Code of Practice for the Management of Agricultural Chemicals".
- V. The Liffey Stream water quality shall be maintained through controls on aquatic weeds, debris, litter and stormwater discharge.

4.23 Access for Disabled Persons

Objective

- I. To design, where the terrain will permit, tracks to allow access for those using walking aids or confined to wheel chairs.
- II. To provide access from the car park to toilet facilities and where feasible, to provide other facilities for those of limited mobility.

Explanation

The public has expressed the opportunity for wheelchair tracks within the domain but care needs to be taken when it comes to designing a suitable gradient.

Policy

- I. Design facilities which allow for disabled persons and provides suitable wheelchair access through parts, or the full length of the domain.

4.24 Public Health and Safety

Objectives

To provide and maintain public toilet facilities and ensure that they are of a system where effluent is drained in a manner so to prevent any health hazard to people, plants and wildlife.

To make visitors aware of the nature of the domain with regards to steep banks, hidden features and areas where there is a high risk of injury.

To provide safety barriers only in areas where high public pressure is likely.

To ensure that essential management operations such as weed and pest control are carried out with high regard for public safety.

Explanation

A high standard of safety and hygiene within the park is essential to minimise health risk and ensure public confidence in the area. Some structures such as footbridges may need repair or replacement after years of heavy traffic, especially where there are high traffic volumes of school pupils going through the northern part of the domain. Other facilities such as toilets and rubbish bins require continual maintenance to ensure that are hygienic and functioning properly.

Policies

- I. Ensure that all management has regard for public safety, and where necessary, close off all or part of the domain until the hazard is remedied.
- II. Any proposed water reticulation shall meet current health department standards and water requirements.
- III. Establish facilities in accordance with the policies of this plan and the Selwyn District Plan.

4.25 Domestic animals

Objective

To allow members of the public to walk their dog/s in specific parts of the domain while minimising any public nuisance, health hazards or impact on wildlife resulting from this type of use.

Explanation

It is considered appropriate that dogs be allowed in parts of the domain for the reasons that it encourages the use of the domain by a wide range of users.

An option worth considering is that areas for exercising dogs be restricted to the northern end of the domain, since the southern end has more diverse wildlife habitats and therefore need protection from predators.

All dogs will be required to be on a leash within the reserve

Policies

- I. Dogs owned by the public will be permitted within parts of the domain, but must be on a leash.
- II. Dog owners will be required to have their dogs under control at all times.
- III. Dog owners will be required to remove their dog's faeces from the domain.

4.26 Research, Records and Interpretation

Objectives

To encourage appropriate research at domain especially with regards to the natural and historical features.

To provide interpretive signs and, in conjunction with other interested groups, prepare interpretive leaflets covering the flora and fauna, history, and other areas of interest.

Explanation

A resource inventory of the area would be of much value to locals and students who wish to get a better appreciation for the various landscape features and cultural values associated with the domain. This can be complied by the academic departments at Lincoln University, local iwi, and committees such as the Lincoln and Districts Historical Society and Lincoln Community Committee.

Policy

- I. To contact appropriate people and organisations to carry out research essential to the future management of the domain, to establish a resource inventory and photographic record for the domain, and to prepare interpretive signs, plaques and leaflets.

4.27 Fire Control

Objective

To prohibit all fires within the domain.

Explanation

Open fires are not permitted within the domain due to the value and density of the plantation and its close proximity to residential properties.

Gas fuelled barbeques located in open areas could be seen as a future element within the domain. These would have to be well designed or locked so that children or irresponsible users would not be able to ignite them.

Policies

- I. No open fires will be permitted within the domain.

- II. Any proposal to have a barbeque facility within the domain must be approved by the community, local committees and the Council.
- III. Any proposed barbeque facility must be designed and located so that it will not adversely affect the character of the domain, minimise the risk of open fires being lit, be safe to use and be unable to be used or activated by unauthorised persons such as children.

4.28 Plan Review and Changes to Management Objectives and Policies

Objective

To allow the management objectives and policies to change in response to changing circumstances and public needs/desires.

Explanation

As circumstances change, situations may arise which have not been anticipated by this management plan. While the overall nature of the plan should not be able to be changed without a review process as outlined in the Reserves Act 1977, a degree of flexibility will be required to allow the plan to continue to be relevant over a period of time.

It is essential that members of the public, user groups and other interested parties are fully consulted prior to any decisions being made about matters which fall outside those considered by this management plan.

Policies

- I. A complete review of the Liffey Domain Management Plan will need to be carried out before any major changes to the plan's objectives and policies can be made.
- II. Any other activity or development not catered for under the provisions contained within this management plan will require a policy decision to be made by the Council and the Lincoln Community Committee.

- III. When considering any proposals for the development of the reserve the Council will examine under the District Plan whether they:
- conform with the principles contained within the management objectives and policies for the domain
 - are compatible with existing uses
 - are compatible with domain facilities
 - serve the interests of the community
- IV. The Council will consult with members of the community when reviewing this document and/or considering any matters not covered by the management plan.
- V. This document will be reviewed after ten years of operation in accordance with the review process set out in the Reserves Act 1977.

5.0 APPENDICES

5.1 References

5.2 Issues with Existing Plants

5.3 Assessment Report on Liffey Domain Bridges

5.4 Submissions Summary

5.5 Liffey Domain Landscape Plan (indicative elements) and Photos

5.1 References

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5.2 Issues with Existing Plants

Tree Management Issues and Operational Proposals

5.2.1 Introduction

With the population of Lincoln continuing to rise, there will be a corresponding increase in the public use of the Liffey Domain and interest in preserving the essential arboreal qualities which makes this particular reserve somewhat unique in the district. To ensure that the tree-scape of the domain will not be eroded over time it is vital that an effective system of tree maintenance and progressive renewal is put in place. The manner in which construction works in and around the domain also needs to be controlled to avoid any unnecessary detrimental impacts on the trees.

A major consideration is that the older trees in the domain are estimated as being over one hundred years old. At this age, safety and the need to provide an effective management programme schedule for replacement of the existing tree stock over the next fifty years is vital, if the existing high landscape and general amenity values of the domain are to be maintained in the future. Furthermore, as trees increase in age, so does the potential for trees to fail in some way with the consequential risks to public safety.

The following discusses the management issues and provides operational standards and programme schedules for inclusion in the proposed management plan.

5.2.2 Safety considerations:

Tree Hazard Evaluation

With regard to tree safety in the reserve, the following needs to be considered for the safe management of the domain:

Tree hazard evaluation involves three components:

a tree with the obvious potential to fail or drop parts.

(2) an environment that may contribute to that failure

(3) a person or object that would be injured or damaged (a hazard target).

A tree cannot be considered a hazard in the total absence of component no.(3)

Examples are:

A structurally defective tree growing in an exposed situation close to a public road, house or well used play area or pathway would be given a high hazard rating.

A similarly defective tree also growing in an exposed situation but clear of any person or object that could be injured or damaged should any part of it fail, would be given a low hazard rating.

In the case of the domain however, while most pedestrian traffic may be confined to the pathways, it must always be assumed that there will be some pedestrian movement off the

paths and through the wooded areas. With a school nearby, pedestrian occupancy of the domain will increase with school pupil arrival and leaving times.

5.2.3 Dead, Dying and Dangerous trees

From an initial cursory survey of the trees on the site, there are 10 trees that are dead, dying or show sufficient signs of serious structural defects, disease or top die-back that require them to be removed to eliminate the hazard A.S.A.P. These trees are:

Photo No.	Species	Approx location
13	<i>Salix fragilis</i> Crack willow	North Domain
14	<i>Fraxinus excelsior</i> Ash	North Domain
16	<i>Prunus lusitanica</i> Portuguese laurel	North Domain
29	<i>Racosperma-dealbata</i> Wattle	South Domain
35	<i>H. populnea lanceolata</i> Lacebark	South Domain
36	<i>H. populnea lanceolata</i> Lacebark	South Domain
32	<i>H. populnea lanceolata</i> Lacebark	South Domain
38	<i>Salix fragilis</i> Crack willow	South Domain
42	<i>Psuedotsuga menziesii</i> (2) Douglas fir	South Domain
44	<i>Salix babylonica</i> Weeping willow	South Domain

Those trees that comprise the greatest risk to the safety of the public and property are the large crack willow situated on the Kildare Terrace roadside edge of the domain and the large wattle at the bottom of the slope off Kildare Terrace. Both of these trees have a high potential for structural failure and could fall wholly or partially on the road. Although the willow has healthy foliage and an attractive crown form it has large cavities around the trunk and internal decay. This willow is a dominant tree in the landscape of the Terrace and stands clear of the other trees in the domain. However, there is a need to eliminate the risk presented by the tree due to its close proximity to a roadway, which is considered a high “hazard target”.

The trunk of the large wattle has the fruiting bodies of the butt rot fungus, Ganoderma, growing near ground level. Any sign of this fungus on the trunks of trees is usually an indication that the cross section of the trunk is badly affected by decay and could fail at any time.

The two Douglas firs on Kildare Terrace are dying back from the tops. Top die-back could be caused by root disease that may have affected the trees’ anchorage. The die-back has occurred to the extent that recovery is not possible. A third Douglas fir nearby is also showing signs of needle loss but not to the same degree.

The other trees listed above figure less prominently in the landscape and are situated mostly in areas of the reserve less frequented by the public, but still need to be removed A.S.A.P.

There is no practicable remedial work that would ensure the safety of the trees, return them to good health or restore them as a visual asset to the domain.

5.2.4 Unsafe Branches

The other threat to the public presented by the reserve's trees is that of falling branches. There are broken, hanging and dead branches on the trees throughout the reserve. While there are good environmental reasons to retain some dead branches in low public use areas to sustain insect and bird life, every effort needs to be made to eliminate hazards over high public use areas such as footpaths, seating areas, play areas and roadways.

In places branches are growing low over road footpaths and the carriageway where they may cause injury to persons or damage vehicles. Pruning is required to lift the branches to a minimum height of 2.5 metres over the footpaths and 4.5 metres above the carriageway.

5.2.5 Tree Safety Inspection Frequency

The trees in the domain will be evaluated visually for safety and condition at six month intervals by general maintenance staff and annually by a qualified arborist. The trees will also be inspected following extreme climatic events within those periods.

5.2.6 Undesirable Invasive Tree Growth

There are several tree species in the domain that because of their prolific, viable, seeding habit, or tendency to produce rampant sucker growth, present a risk that the under-storey of the reserve will eventually become choked with wilding saplings and suckers of these species to the exclusion or detriment of other more desirable specimens. The species concerned are:

Sycamore - *Acer psuedoplatanus*
Wattle - *Racospernum dealbata*
Cherry - *Prunus sp.*

Other trees in the reserve that have the potential to cause problems in this respect but are not a particular problem at present are:

Elm - *Ulmus sp.*
False Acacia - *Robinia psuedoacacia*
Manna Ash - *Fraxinus ornus*

5.2.7 Tree Nuisance to Neighbouring Properties

From Council records and personal communication, there appears to be few complaints about the trees in the reserve in terms of any affect they may have on neighbouring properties. Complaints have been received as to adjacent properties being shaded on the south end of the reserve and some felling has taken place to alleviate the problem. Some consideration should be given to this when new or renewal

planting is being planned. Other than this there does not appear to be any major issues relating to the trees on the domain as far as the adjacent residents are concerned.

5.2.8 Footpaths and Paved Surfaces – Effect on Trees

There are a number of examples in the domain where the ground in footpaths and seating areas situated near trees has become very compacted. Compacted soil around tree root systems will prevent direct rain water from reaching the roots and the vital air/gaseous exchange for roots and essential soil organisms. There is a high risk that trees (particularly oaks) will decline in health as a result. The construction of car-parks, play areas, footpaths and other areas where there will be vehicular or high pedestrian movement should be constructed and surfaced with materials that are permeable to air and water (yet still able to adequately support the loads and forces required of them). In this respect, the use of “structural soils” both as a sub-grade for sealing/paving, or left unsealed and covered in metal chip, would satisfy the needs of trees and domain users alike.

5.2.9 Tree Disease

There are several tree diseases present in the reserve that have a bearing on the management of the existing trees and selection of suitable tree species for future plantings in the domain. These diseases are:

(i) *Ganoderma australis* – native butt rot fungus commonly found on hardwood native and exotic hardwood trees particularly when they are mature/over-mature. Finding fruiting bodies on base of trees is usually a sign that the wood in the trunk is rotten to the degree that tree is structurally unsound and could fail at any time.

(ii) *Armillaria* sp. (possibly *A. novae zealandiae* or *A. limonea*).

A disease that infects trees mainly through producing fungal strands called rhizomorphs that grow through the soil making contact with and invading root tissue. The roots rot, often quite rapidly, the lower trunks of infected trees also becoming affected and the bark and underlying phloem around the whole base killed. When this happens the whole tree dies. Large scale root decay can take place before the whole tree dies with the high risk that with the loss of anchorage the tree can fall over even though the crown may still be looking reasonably healthy. Most trees (and other plants) are susceptible in varying degrees to *Armillaria*, willows and poplars being highly susceptible, native red beech and European beech being highly resistant.

(iii) Silver Leaf Disease – *Chondrostereum purpureum*

A disease that will infect a wide range of trees particularly those that are under stress for some reason, silver leaf can be a major problem to trees in the family Rosaceae e.g. ornamental cherries, plums, crabapples etc. also other species such as birch. Leaves turn a silvery/leaden colour, branch die – back occurs eventually spreading to the trunk of the tree where the whole tree is girdled and killed. The planting of susceptible trees should be avoided.

(iv) Anthracnose

Anthrachnose is a leaf and twig blight of plane trees causing new leaves to shrivel, turn brown and fall in the spring and early summer. Twigs are girdled by lesions and witches broom type shooting occurs. Foliage turns brown along the leaf veins, becoming sparse on branches which eventually die. Infected trees can survive for years but their unhealthy appearance is no visual asset to the reserve. London planes (*Platanus x acerifolia*) are most susceptible to the disease, while the Oriental plane (and varieties) will contract the disease but are usually much more resistant, showing little of the above symptoms.

Eucalyptus diseases

Most of the Eucalypt trees in the reserve consist of the Tasmanian Blue Gum (*Eucalyptus globulus*). This species of gum, which has been widely planted around Canterbury, suffers from several serious insect pests, principally *Paropsis dilatata*, *Rhynopeltella eucalypti* and *Ericoccus coriaceus*. These pests are responsible for the branch die-back and typical unsightly stag headed appearance of most older Tasmanian blue gums seen in the Canterbury landscape.

Erwinia sp.

An agro-bacterial disease, *Erwinia* causes the progressive top die- back of crack willows (*Salix fragilis*) commonly seen throughout Canterbury. Affected trees are unsightly and dangerous and therefore this species cannot be recommended for retention or as a new planting in the reserve.

Dutch Elm Disease Risk

A rapid killer of elm trees, Dutch Elm Disease (*Ophiostoma novo- ulmi*) is currently being contained in the Auckland area where it has caused the death of many elm trees since the outbreak first occurred 16 years ago. Despite years of concentrated efforts to eradicate and more latterly contain the outbreak, newly infected trees are still being discovered, so long term control remains doubtful. If eradication or containment does fail, it is estimated the disease could spread throughout the South Island within the following four years. If the disease were to infect the elms in the domain, most of them would be dead within two years.

5.2.10 Tree Maintenance Policies/Standards

Two different tree maintenance regimes could be employed in the domain these are:

(i) Allow trees to exist in a more natural way with minimal maintenance (except where required for obvious safety reasons only). This would avoid formal crown shaping, pruning of dead branches and selective removal of all poorer, malformed trees etc. usually performed in highly maintained parks. With a more natural woodland/bush environment the existence of wildlife would be enhanced . Safety considerations would override this particular treatment wherever a high “hazard target” situation existed.

(ii) Maintain and prune all trees to a high arboricultural standard and selectively remove those trees with a poor form retaining only those trees of a good form and condition. Closely grown trees would be thinned to allow the development of well balanced, broad crown forms in remaining trees. This would create a more open parkland effect such as the wooded areas of Hagley Park.

The domain is of a sufficient size that certain areas could be specified for the different treatments according to the intensity of use or purpose of the area and the trees or vegetation present.

In general, all tree maintenance works where they are required (or any other works that may affect trees) should be implemented in accordance with the following minimum standards:

British Standard 3998 "Recommendations for Tree Work" 1989.

British Standard 5837 – 1991 "Guide to Trees in relation to Construction Sites" – 1991.

Australian Standard A.S. 4373- 1996 "Pruning Amenity Trees".

5.2.11 Aging Tree Renewal

Although they are generally in a good condition for their age, many of the dominant trees in the reserve are mature or over mature and provision needs to be made as to their eventual removal and replacement. Other domain trees, regardless of age, are disease susceptible and may die, become unsafe, or be rendered unsightly within the short term.

Many of the domain's older dominant trees, such as the oaks, are of a similar age and therefore likely to decline in condition within a relative short time from each other. From the condition of old plantings elsewhere in Canterbury, this is estimated as being over the next 20 to 50 years. To avoid the need for large scale felling within a short time frame and the detrimental impact that this would have on the visual and general amenity values of the Domain, it is necessary to plan for the renewal and commence new plantings as soon as possible. It may even be necessary to select certain trees for phased removal and replacement even though the decline in their condition may not be advanced or critical. This ensures that sufficient new tree stock of a wide age range, with some reasonably mature trees, can be well established in advance of the time that the remaining older trees have to be removed as a matter of urgency.

(i) Operational Strategy and Recommended Time Frames:

Immediate - remove all dead, dying and dangerous trees listed in this report as soon as possible.

(ii) Immediate - remove all hanging, dead, structurally suspect and low branches over roadways, pathways, play areas and any facilities where the public tend to congregate.

(iii) A.S.A.P. - conduct a survey of all the significant trees in the reserve to determine their position and all the attributes necessary for effective management.

(iv) Next financial year - provide an operational budget for the works required.

(v) Within a 10 year period –

(a) remove all those trees that have a serious, invasive seeding or suckering habit or are recognized weed trees.

(b) remove all trees with major wounds or structural defects that are likely to render the trees unsafe within the term.

(c) within 10 years remove all trees with disease symptoms that are making trees unsafe, unthrifty or unsightly.

10 to 20 years - remove all trees that are poorer specimens where their removal will create space for renewal plantings.

20 to 30 years – remove all trees, regardless of condition, that are considered unsuitable in terms of the landscape and heritage values of the domain.

30 to 50 years - remove the older original domain trees as they begin to decline.

5.2.12 Replacement Planting

The removal of trees in the domain, where sufficient space is created, will be followed in the next planting season with replacement planting.

The selection of species for any replacement planting in the domain will have regard to the following:

5.2.13 The intrinsic heritage values associated with the Domain.

Diseases such as those mentioned in this report.

Potential to suffer unduly from wind damage or other extreme climatic conditions.

Any undue injurious affect they may have on neighbouring properties/residents or other members of the public.

The need to enhance bio-diversity in the area.

Functional values such as a windbreak affect.

The need for tall trees in the domain to give a sense of vertical scale on a flat landscape.

The biological educational needs of the community.

The soils of the area are Templeton deep silt loam on sand and therefore are suitable for most commonly planted tree species.

5.2.14 Protected Heritage Trees

There are protected heritage trees in the domain, four oaks a gum and a willow, (their exact location and identification is yet to be defined by the SDC) that are subject to the tree protection provisions of the District Plan. Any specified works that affect these trees will require resource consent.

The protected trees will be identified with a plaque giving details of the tree and reasons for protection.

(Fielding Cotterell, 2006.)

Appendix 5.3 - Assessment Report on Liffey Domain Bridges

File No: 19871

25 January 2007

Chris Glasson Landscape Architecture Ltd
PO BOX 13162
Christchurch

Attention: Chris Glasson

Dear Chris

RE: WALK-OVER INSPECTION AND REVIEW OF EXISTING FOOT BRIDGES, LIFFEY DOMAIN, LINCOLN TOWNSHIP

Further to your request, a 'walk-over' inspection of the existing foot bridges at the abovementioned address has been completed.

1. INTRODUCTION

Davis Ogilvie & Partners Ltd has been commissioned by Chris Glasson to inspect and review the existing foot bridges in the Liffey Domain, Lincoln township, for the purposes of commenting on the compliance with the NZ Building Code (NZBC) and any maintenance that may be required.

The inspection consisted of a 'walk-over' of each bridge, with a visual inspection of the decking, barriers (handrails), and the bridge structure. No testing of any kind has been performed.

No calculations have been done as part of this report. Therefore any comment on the structural adequacy of the bridges is based on their performance as walked over (ie: if they were 'bouncy') and engineering judgement.

This report has been prepared solely for the purposes of Chris Glasson and the Selwyn District Council. The information contained herein is confidential, and shall not be passed on to any third party without prior written permission of Davis Ogilvie & Partners Ltd. No responsibility is accepted for any use outside the scope of this report.

2. COMMENTS

The following comments on the condition, structure, and barriers for all bridges in general. Specific items for specific bridges are mentioned as required. The following is summarised in Table 1 below. The bridges are labelled 1 – 6. Bridge No. 1 is the upstream most bridge (near North Belt) with numbering increasing downstream.

Structure

All bridges have two joists spanning the width of the stream on the outside edge of the bridge. These joists range from ex railway sleepers (Bridge No. 1) to 180x100 timber joists (Bridges No. 2 & 4) to timber poles. These joists appear to be adequate for the span except for Bridges No. 2 & 4.

These two bridges have the longest spans with the smallest joists and felt bouncy as walked over. It is recommended that the joists for these two bridges are replaced with larger members.

The new joists shall be sized to comply with the NZBC. In the case of Bridge No. 4, the bridge shall be lifted, as currently there is only a 10-20mm gap between the underside of the joists and the water level (at time of inspection). This has resulted in a debris raft upstream of the bridge.

Barriers

All bridges have been provided with a handrail. Typically these are constructed from 70x70mm timber member, with the vertical posts propped back to an extended decking member (refer photos). This 70x70 size complies with NZBC/D1 for a grip-able handrail.

A barrier is required if the fall height from the bridge is greater 1.0m. The fall height has been measured to the water surface (which at the time of inspection appeared to be average water level). The barrier heights for all bridges are approx 900mm high. This is acceptable for all bridges having a fall height 1.0m or less (Bridges No. 1, 3, 4, & 6). It is recommended that the barrier height is increased to 1.0m (as required by the NZBC) for Bridges No. 2 (and approach ramp) & Bridge No. 5 as these have a fall heights over 1.0m.

The barriers typically have crossed members between the top & bottom rails and the vertical posts. While this does not comply with NZBC/F4 they do provide some level of protection against falling through the barrier. These crosses are missing off Bridges No. 2 & 6, and it is recommended that these shall be installed.

Bridge No. 5 has 100x100 square mesh added to the barrier. Although this prevents falling through the barrier; it is climbable and does not comply with the NZBC. It is recommended that all bridges with a fall height greater than 1.0m (Bridges No. 2 & 5) the barriers are provided with 50x50 square mesh to comply with the NZBC.

The strength/stability requirements of the barriers have not been checked by calculations; however these felt sturdy when gripped.

Slip Resistance

All bridges have been provided with square galvanised mesh fixed to the decking. This complies with the requirements of NZBC/D1 for slip resistance.

Durability

No comment can be made on the durability of the bridge members as the level of treatment of the timber (if any) is not know. However, no excessive decay of the timber was noted during the inspection.

Maintenance Required

No major items requiring maintenance were observed during the inspection. It is recommended that normal, routine maintenance on the bridges and barriers is carried out.

Pump Station

Although not part of the original brief, it was noted that the partly buried pump station has a fall height of approx 2.6m. This has been provided with a 600mm high barrier consisting of a top-rail only. Due to the fall height and easy access to the top of the pump station, we recommend a barrier, complying with the NZBC is provided across the top of the pump station.







BRIDGE NO.:	PHOTO:	BRIDGE CONSTRUCTION	BARRIERS	DAMAGE/REPAIRS REQUIRED:	NOTES/COMMENTS:
1		Span: 2.7m Joists: 2/ Ex railway sleepers Decking: Hit & miss 100x40 Slip Resistance: Square galv. mesh	Fall Height: < 1.0m Height: 930mm		- Some barrier members appear to have been replaced recently
2		Span: 6.5m Joists: 2/ 180x100 each edge Decking: Hit & miss 125x40 Slip Resistance: Square galv. mesh	Fall Height: ~1.4m Height: 860mm	- Barrier 'cross' members missing from upstream side. These to be installed. - Barrier height to be increased to 1.0m and 50x50 sq mesh added.	- The joists appear too small for the span and the bridge was bouncy. - The concrete approach ramp has a fall height more than 1.0m without a barrier.
3		Span: 3.9m Joists: 2/~Ø175 poles each edge Decking: Hit & miss 100x40 Slip Resistance: Square galv. mesh	Fall Height: < 1.0m Height: 900mm		
4		Span: 5.7m Joists: 2/ 180x100 each edge Decking: Hit & miss 100x40 Slip Resistance: Square galv. mesh	Fall Height: < 1.0m Height: 900mm		- The joists appear too small for the span and the bridge was bouncy. - Barriers start approx. 1.0m from each end of the bridge. - The underside of the joists are approx. 10-20mm from the water level, resulting in a debris raft upstream of the bridge.
5 (old rail bridge)		Span: 4.0m Joists: 2/~Ø175 poles each edge Decking: Hit & miss 150x40 Slip Resistance: Square galv. mesh	Fall Height: 4.7m Height: 930mm	- Barrier height to be increased to 1.0m and 50x50 sq mesh added.	- 100x100 sq mesh fencing has been added to the barrier.
6		Span: 4.6m Joists: 2/Ø200 (treated) poles each edge Decking: Hit & miss 100x40 Slip Resistance: Square galv. mesh	Fall Height: < 1.0m Height: ~900mm	- Barrier 'cross' members missing. These to be installed.	

Table 1: Summary of Foot Bridge Review

3. CONCLUSIONS

We believe that if the above recommendations are completed, the existing foot bridges will comply with the NZ Building Code, as far as is reasonably practicable.

If you have any queries or wish to discuss the above further then please feel free to contact the undersigned.

Yours faithfully

DAVIS OGILVIE & PARTNERS LTD


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Appendix 5.4 Summary of Submissions:

Submitter 1.

- Playgrounds upgraded but no more playgrounds needed (due to the limited space and desire to keep the domain quiet)
- Paths upgraded and extended to the north
- Underpass suggested for the main Gerald Street Bridge
- Weeds removed
- Limit replanting
- Paths get too muddy and unusable after heavy rain events in the south part
- No views to houses or traffic to keep the parkland character within the domain
- No formal carparks wanted as this detracts from the park setting
- Wheelchair access through domain ok but cycling not desirable
- Barriers needed on bridges to avoid access to cyclists
- Security lights not needed as there is sufficient light from street lighting
- Avoid too much signage – signage unnecessary
- No fencing

Submitter 2.

- Increase in native plants for the increase in native bird population through the use of eco-sourced plant material
- Overgrown areas to be left for animal habitat
- Weedy species removed and controlled
- Native plants also part of our heritage. Some of these may need protection
- Regarding education, clearing reduces the investigation of layers by students
- Stream pollution and drought conditions dry up the stream killing organisms
- Leave vegetation to overhang for the increase in biodiversity value
- Get community involved in Liffey cleanups etc to promote a sense of ownership or employ local person to manage litter
- Enhancement of biodiversity
- Avoid fencing
- No increase in playground size
- Minimum lighting

Submitter 3.

- Liffey valued as an educational tool for science, biology, English, horticulture and environmental education.
- Request that the public be involved in its development (like the cleanups) for a sense of ownership.
- The increase of students cycling to high school having adverse impacts. Increase in walkers as well.
- Shared pathways are an issue and recommends there be a ban on all cycling through the domain

Submitter 4.

- Pleased with and supports the majority of plan
- Plan should include the linking of Liffey Domain with the Millstream Reserve
- Include a linkage to Rail Trail in domain and Ryelands
- Provide mix of native and exotic trees

Submitter 5.

- Oaks are “emblematic” of Liffey Domain and must be kept and replaced with oaks and not other species.
- Stream must be cleared of debris
- Natives not wanted as this will spoil the oak environment
- Domain should remain a quiet place and so there should be limited activities and functions
- Bicycles should not be permitted
- Bridges aesthetically pleasing and architecturally harmonious with old buildings
- Gerald Street bridge should stand out as feature (heritage value)
- Walkways should be boardwalks, not asphalt. Suggest using a chip surface with boxing
- Not to include formal car parks as this spoils the natural look
- No need for more play areas but to maintain the existing ones (eg. with sprung matting)
- Existing toilets replaced and new ones to provide wheelchair access
- Signage kept to a minimum
- Only some areas will be suitable for wheelchair access

Submitter 6.

- Requests amending sections 4.5 (ii) – regarding camping, and 4.11 – regarding car parking
- Wants designated sites for independent overnight parking of motor homes
- With an increase of motor caravans on the road they should be catered for
- Motor caravans are self-contained and so environmentally sound compared to normal camping

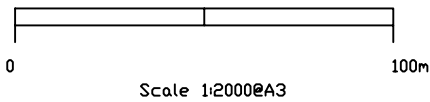
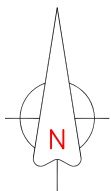
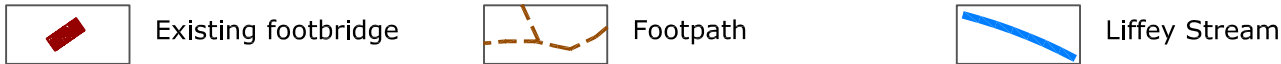
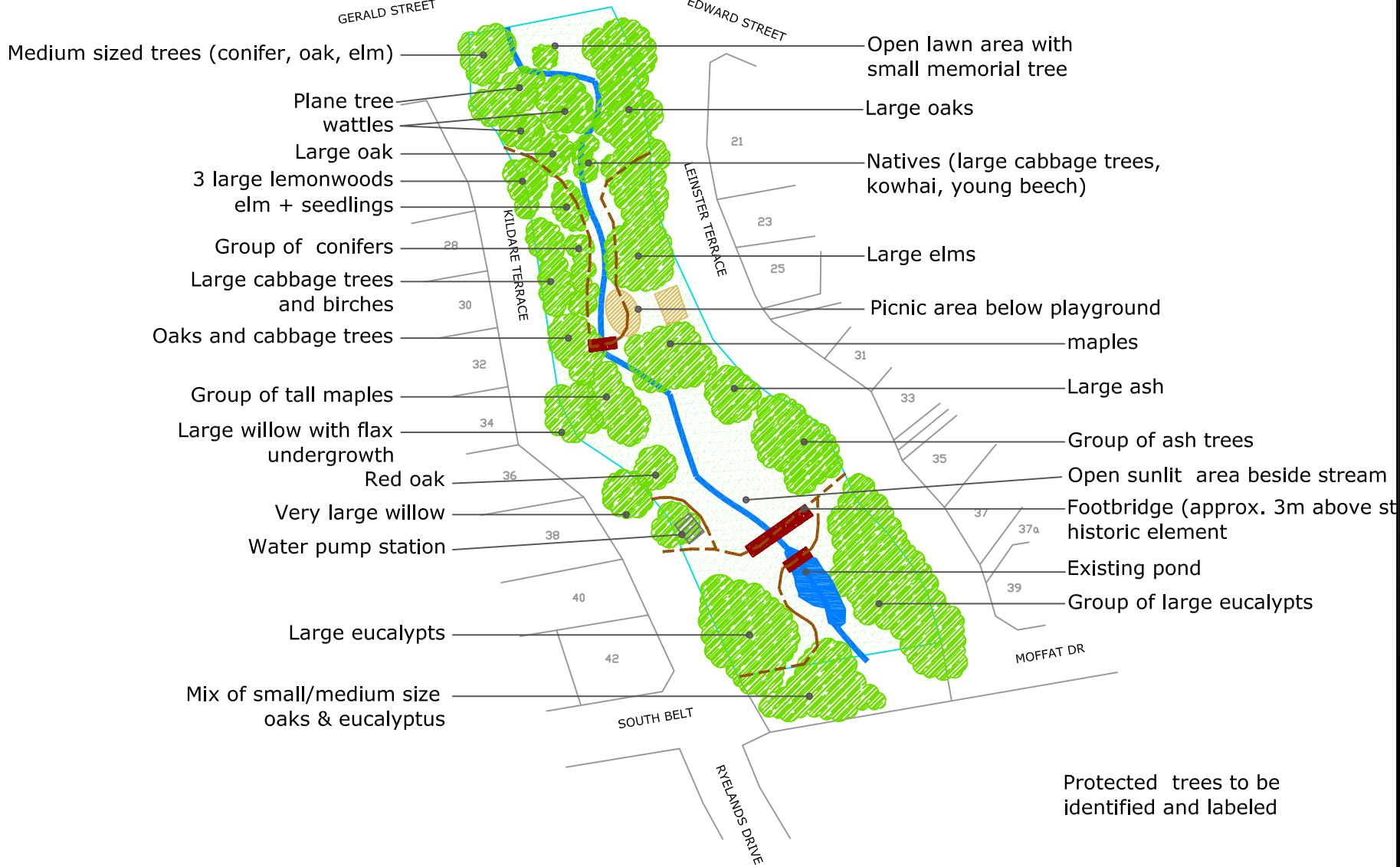
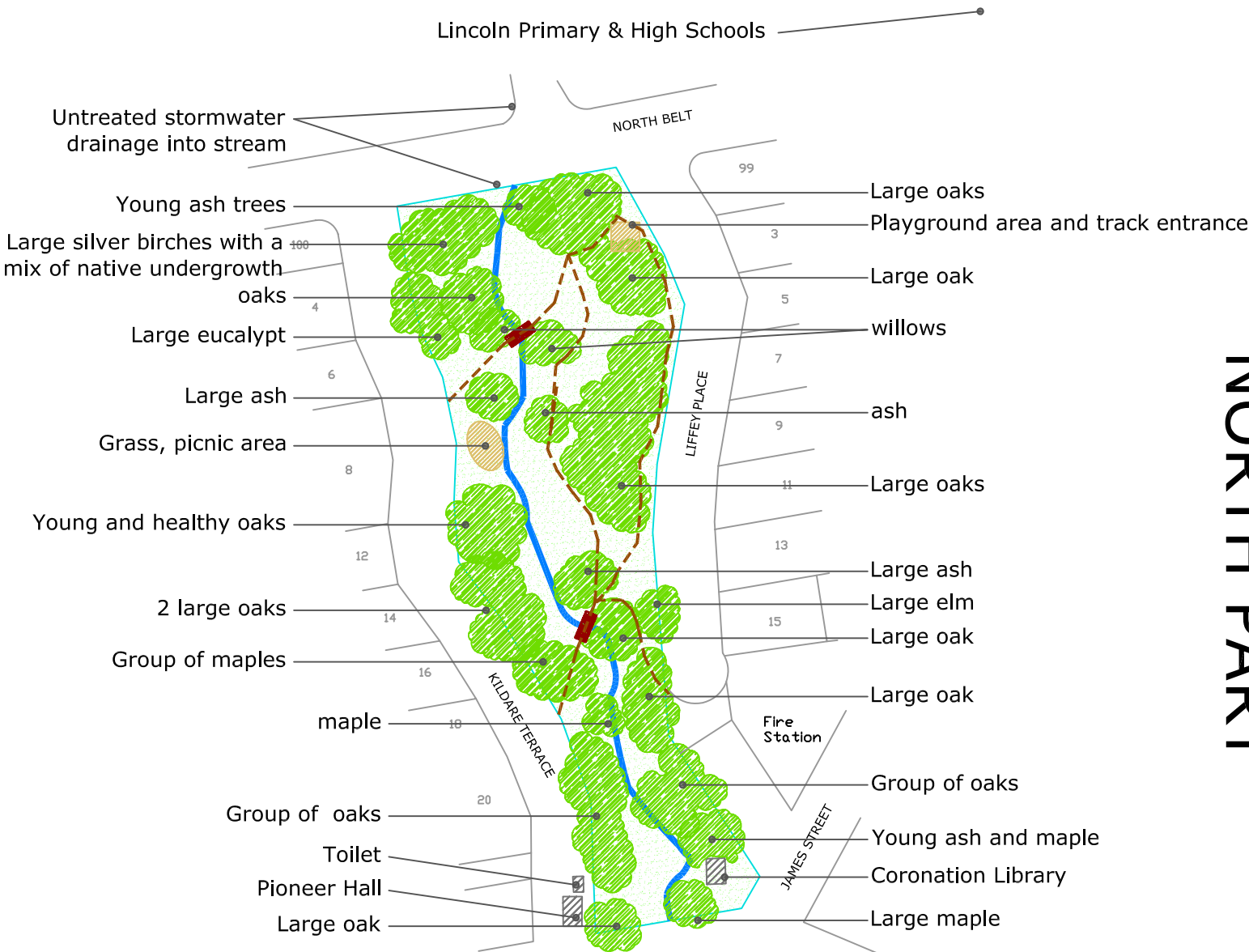
Submitter 7.

- Larger pockets of native species (3-4 patches within domain) for bellbird corridor.
- Native corridors should be an extension of the Ryelands and Mahoe Reserves
- Could add to existing natives found at either end of the domain and add a third in the middle. Reason being that local Lincoln vegetation was once home to many native birds and now most are locally extinct (need more native bird feeding plants for their nectar, berries and insects)
- Planting of native species should not detract/impinge from the oaks
- Provide the best of both worlds with a mix of natives and exotics

Appendix 5.5 - Liffey Domain Landscape Plan (indicative elements) and Photos

SOUTH PART

NORTH PART



EXISTING LANDSCAPE ELEMENTS
(INDICATIVE ONLY) SHOWING MAJOR
TREES AND GROUPS OF SPECIES



Boggy areas along track, north part of domain



Damaged trees over walking track



Existing furniture, north part of domain



Open area and memorial tree adjacent main street



Footbridge in south part of domain, historic railway element



Open sunlit area beside stream in south part of domain



Footbridge in northern part of domain



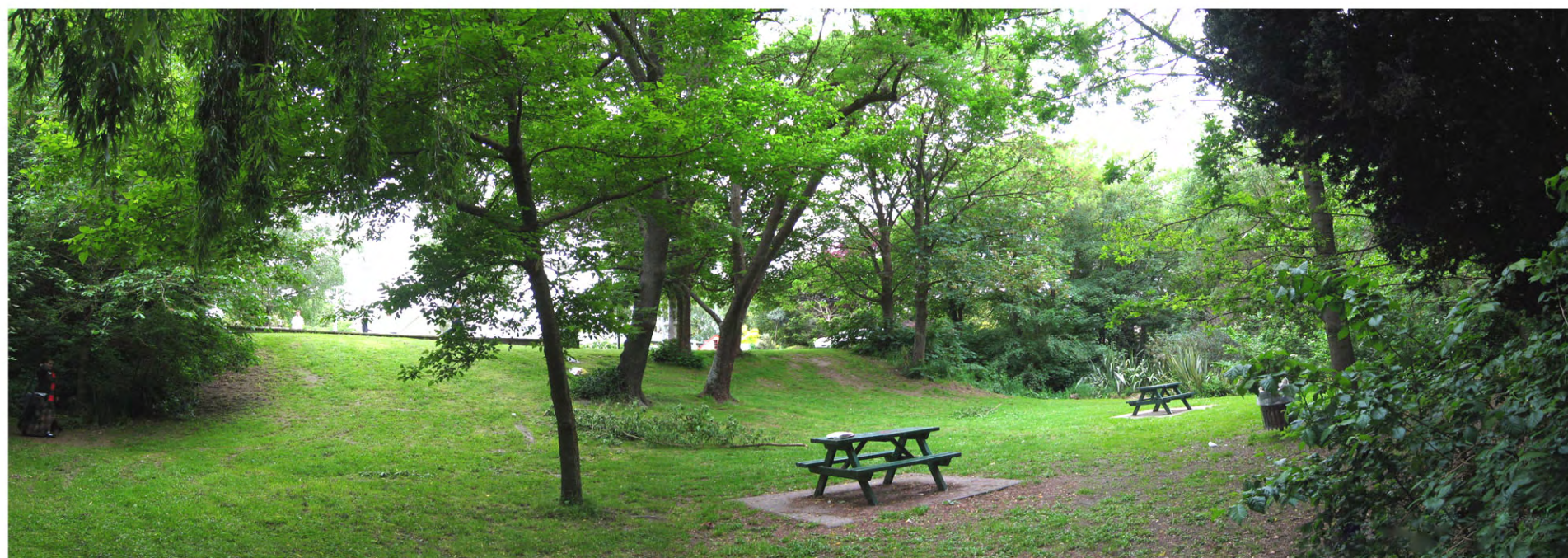
Small footbridge in south part of domain



Playground on the corner of North Belt and Liffey Place



Path entrance through southern part of domain off Kildare Terrace



Picnic area below playground in southern part of domain