How can landscape function as a medium for integrating stadium events and surrounding suburbs? Eden Park, Kingsland

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Acknowledgements

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Abstract

Eden Park Stadium is one of the major hosting stadia of 2011 Rugby World Cup. This research project explores how this and other events associated with Eden Park can integrate with the surrounding community and neighbourhood. This has been achieved by utilising landscape function as a medium i.e. landscape as an instrument that helps to order events, activities and changing urban life. Some key concerns of landscape urbanism, such as water, ecology, economics, social concerns and infrastructure have been explored in order to identify and resolve the existing problems at the site and propose strategies for realising potential.

This research project utilises a multi-scale site investigation, which identified design elements, these are analysed and reconfigured into hybrids to explore and begin to address site problems. Also, a wider environment study contributes to an understanding of the potential function of Eden Park in terms of its ecological processes. In addition a series of case studies comprised existing local and international stadia and their landscape designs, were included in the investigation as both a resource and for the purpose of contextualisation and comparison.

This research explores the use of both fixed as well as adaptive and flexible design strategies in order to achieve the co-existence of large scale sporting events and suburban life. The strategic approach allows for flexibility of use and is designed to create the capacity for more events and activities of all types to occur at Eden Park.
Research Question

How can landscape function as a medium for integrating stadium events and surrounding suburbs? Eden Park, Kingsland.

My original research question was “How can landscape function as a medium for harmonising the relationship between Eden Park Stadium and the surrounding suburb of Mt Eden?” The approach to design primarily attempted to utilise landscape to integrate the large scale building with the surrounding environment; and to closely connect this national stadium with the historic residential areas of Kingsland and Mt Eden. Integration would be reflected in their forms, scales and textures. As the project developed, it became apparent that the different scales between the stadium and property houses was not the core issue, instead, local residents’ life and events at Eden Park gradually became the main focus. Integration became more about people because their activities drive the development and life of the city. The key point of the research question evolved into ‘integrating stadium events and surrounding suburbs’.

Figure 1 Eden Park historical drawing
Adapted from "The botany of Auckland", 1981.
Site Description

Eden Park which was a swamp, is located approximately three kilometres southwest of Auckland’s Central Business District. It has been a sports ground since 1900. The Auckland Rugby Union leased the Park in 1914 and it became their official home in 1925. During the past 110 years, Eden Park has been host to many memorable sporting occasions (Eden Park, 2007).
New Zealand won the rights to host the Rugby World Cup in 2011 after a meeting of the International Rugby Board (IRB) held in Dublin on 17th November 2005. After a few months of public debate, Sport Minister Trevor Mallard announced Eden Park to be the preferred site to host the World Cup on 27th November 2006 (Bowker, 2006). Today’s Eden Park, with a seat capacity of 48,000 remains the home of Auckland’s cricket and rugby and is the venue for international events for the Auckland region. It hosts about 38 sport events in every year. Following the Government’s decision to commit to the development of the Park with new seating to achieve the 60,000 seat capacity required for Rugby World Cup, the Eden Park redevelopment project became a significant task for Auckland city (Eden Park, 2007).
The Problems

Eden Park will be critical for 2011 Rugby World Cup. As a public sports building, Eden Park stadium and its surrounding residential areas were planned a long time ago. Upgrading Eden Park stadium will bring a series of problems, for instance, there is the obvious loss of space, as well as ecological issues, traffic circulation, noise and safety problems.

The surrounding residential area is of significant heritage value and is an important character of the site. It also provides the fabric through which people and vehicles access Eden Park. Therefore, the proposed site for this research project is the area that surrounds Eden Park.

Having conducted research, a number of existing problems, which are safety, transport, access, the solid fence, lighting and noise were identified. These issues are explored and addressed in this project. Recognising and describing these problems was the first step in the investigation.
**Safety:** On game day, pedestrians and vehicles come from near and far; they are crowded and congested at all entrances (Figure 5). Pedestrians are forced to use the same access as vehicles, which is unsafe, inefficient or inconvenient.

**Transport:** Sandringham Road and Dominion Road are the closest main roads to the stadium (Figure 6). They are normally extremely crowded during matches. In order to approach the stadium, from the south or west, people are required to traverse the car park. Vehicles cannot move in or out of this area quickly. If the traffic congestion can be reduced, it will significantly diminish the impact of major sporting events on both pedestrians and the surrounding residential areas.

**Access:** There are at present 16 gateways into the stadium (Figure 7). Some of them are not easily found. There are no seating signs around the stadium. It’s not convenient for first-time users to look for and get to their seats quickly. Private vehicles and buses take a long time to move in and out of the car park.
**Solid fence:** The external solid fence (Figure 8) protects the cricket training ground and the stadium but also separates Eden Park from the local surroundings. There is no access for the public to the training ground. As a result it is not often used.

**Noise and lighting:** The night time environment around the stadium needs to be changed as night games can finish after 10 pm. A significant amount of noise is generated during and after these events. This increased noise and lighting upsets the local residents (Figure 9).

**Water and vegetation:** Water and vegetation are important components of the ecological landscape. They are also considered in this project. Water from the roof and car park has the potential to be treated and recycled on site (Figure 10).
Local Residents’ Concerns

The following surveys were completed by Telecom New Zealand Limited in May 2008 with a total of 510 residents. 76% of residents strongly support the Rugby World Cup being held at Eden Park. The key concerns of local residents are summarised in Figure 11 below:

Besides, community use after Rugby World Cup, more events, safety, shading, public transport, tourism, multi use, rubbish, etc. have also been mentioned by the local residents.
Project Description

The government proposed stadium redevelopment is intended to increase the seating capacity from the current 48,000 to 60,000. As a result of this upgrade, development at and around the venue has become a non-stop process. Landscape design, which is a major element, will facilitate the adaption of this historic site to meet these radical new demands. Of particular relevance is the unique location of the stadium in a high-density residential zone. Furthermore, at present, the community and transport infrastructure surrounding Eden Park struggles to cope with current demand.

In this research project, landscape functions are utilised as a ‘medium’ to integrate these and upcoming Eden Park events and activities with the surrounding suburbs. The resultant landscape design is a combination of culture, environment, aesthetics, economy, and ecology. Exploring the potential is the key component of this project. Unforeseen activities and events obviously cannot always be controlled but a focus on creating flexible open space helps ensure the landscape adapts to changing urban life. This project intends to balance the requirements of rugby game days and residents’ everyday life using a combination of fixed and adaptive design strategies.
Objectives

The increased crowd capacity of the new stadium will have a great impact on the surrounding neighbourhood, in particular: loss of space, ecological impact, traffic and noise control problems as well as various safety issues. There are also positive aspects and potentials. This project hopes to both address the aforementioned problems and also realise potential.

The objectives are:

Minimise game day impact on the surrounding residential areas. This involves balancing the needs of both rugby supporters and the local residents.

Enhance the relationship between Eden Park and the local community by the transformation of existing under-utilised private space to open public space.

Increase activities and business in Mt Eden, Kingsland and Mt Albert.

Encourage sustainable development of the area.

Utilise landscape as a medium to create a flexible multi-functional landscape that will achieve the aforementioned goals.

Based on my previous undergraduate study and interest, Eden Park research project is also a good opportunity to develop my interest in landscape design in urban project and Landscape Urbanism theory.
Theoretical Background

Landscape Urbanism Theory Outline

This research project was primarily drawn up for the purpose of studying landscape in contemporary urbanism. Landscape architect James Corner first developed the notion that landscape is a model for urbanism in his research of the mid 1900s (Charles Waldheim, 2002).

“Recently, a few landscape architects have shed their professionally defined limits to expand their skills across complex urbanistic, programmatic, and infrastructural areas. So it seems that certain elements within each of the design professions – architecture, landscape architecture, urban design, and planning – are moving toward a shared form practice, for which the term landscape holds central significance, as described through the formulation landscape urbanism” (Corner, 1997, p.23).

Landscape theorist and author Charles Waldheim (2002) suggests that in contemporary society, landscape advocates the conflation, integration and fluid exchange of environments and infrastructural systems. Rural and urban areas are mixing. Any landscape design cannot be considered as an individual event, it becomes a part of an area of development and long-term management. Concerning the site, Eden Park is strongly influenced by its surrounding cultural history. Its long-term development strategy cannot deviate from the surrounding environment. Eden Park stadium is located three kilometers southwest of Auckland's Central Business District, straddling the boundary between the Kingsland and Mt. Eden suburbs. The Eden Park stadium upgrade, offers an ideal opportunity to explore these theories through a landscape ‘research by design’ project.
Open-endedness & Indeterminacy

As Waldheim suggests, Landscape is a medium, recalled by James Corner, Stan Allen, and others, “uniquely capable of responding to temporal change, transformation, adaptation, and succession. These qualities recommend landscape as an analog to contemporary processes of urbanisation and as a medium uniquely suited to the open-endedness, indeterminacy, and change demanded by contemporary urban conditions”, and also, landscape is “the most suitable medium of evolving urban activities and arrangements” (Waldheim, 2006, P.39). Architect Bernard Tschumi and architect, architectural theorist, urbanist Rem Koolhaas introduced the ideas of open-endedness and indeterminacy as a conceptual medium of urbanism in the project for La Villette. They advocated the open works can “accommodate all manner of urban activities, planned and unplanned, imagined and unimagined, over time” (Waldheim, 2002, P.14). Landscape is the most suitable medium through which to order programmatic and social change over time, especially complex evolving urban activities (Waldheim, 2006). Fresh Kills project reflects these concepts and can be considered an archetypal project of landscape urbanism in ‘field operations’ mode (Gray, 2006). The site is planned to transform into reclaimed wetlands, recreational facilities and landscape public parkland. The Fresh Kills strategy involves: the site over time, potential future uses, process for public involvement with the park adapting to evolving community needs. James Corner presented a complex interweaving of natural ecologies with the social, cultural, and infrastructural layers of the contemporary city. Aspects of Corner’s approach are reflected in my Eden Park investigation and resultant proposition with the potentials of an open ended and indeterminate future being a key theoretical focus of the project.

Water, Ecology and Urban Infrastructure in Landscape Urbanism

Furthermore, Landscape is conceived as a complex medium capable of articulating relations between urban infrastructure, public events, and indeterminate urban futures (Waldheim, 2006). Architect Christopher Gray (2006) summarised in his essay that water systems, planted ecological patches and vegetation corridors, biodiversity, urban agriculture, and infrastructural utility are the main concerns of landscape urbanism. “Across a range of disciplines, landscape has become a lens through which the contemporary city is represented and a medium through which it is constructed” (Waldheim, 2002, P.15). With regard to this project, water, ecological influence, urban infrastructure and
social needs are highlighted and emphasised as key themes in design. Studying their relationship and cooperation in urban hybrid conditions is another focus of this research project.

In the article ‘Thinking through Landscape Urbanism’, the Professor of Landscape Architecture at the University of Western Australia Richard Weller (2006) urges landscape architecture to develop a creative relationship with ecology. He suggests that “a truly ecological landscape architecture might be less about the construction of finished and complete works, and more about the design of process, strategies (social and cultural transformations, social and ecological functioning) and agencies”. It’s an ecological art of instrumentality. As Weller (2006) points out “contemporary landscape is one made up of network flows, ambiguous spaces, spreading spaces and diffusions...” Landscape is becoming “an admixture of cultural, technological, and natural system.”

Elizabeth Mossop, who is Professor of Landscape Architecture and Director of the Robert Reich School of Landscape Architecture at Louisiana State University, extended the concept of integrating water and ecology with infrastructure system in her essay. She suggested “landscape design can be instrumental in working with natural processes... It is clearly not about making approximations of pristine natural environments, but rather making functioning ecologically based systems that deal with human activity and natural processes in the urban environment” (Mossop, 2006, p.170). A similar approach to the integration of public space and water treatment can be seen in real designs: Sydney Victoria Park and Melbourne eastern freeway projects.

These theoretical statements are investigated and tested through the Eden Park landscape design process. They manifest as either a design instrument or strategy.
Case Studies

Jasmax Proposed Design for Eden Park

Eden Park will be upgraded to a world class standard. In late 2005, Eden Park Development Committee appointed HOK JASMAX, a joint venture of HOK Sports Architecture and JASMAX to lead the design. The new design, worth $320 million, was conditionally granted resource consent in January 2007 (Malmanche, 2006).

Figure 12 Jasmax initial design for Eden Park
Jasmax has done a comprehensive plan for Eden Park (Figure 13). Some aspects of their design were changed in 2009 due to budget and council consent issues. Their proposition contains a strong vision, which includes access arrangements and on-site parking strategies to deal with traffic problems. Comparing their latest design and strategies with mine, some similarities are found which include the use of public transport to deal with large numbers of visitors; the connection of Eden Park to Kingsland rail station and business areas; and the refinement and streamlining of pedestrian’s routes on game days. My research project however has a number of significant differences. For example, I include design outcomes, which give more consideration to local residents’ daily life; there are mixed-use spaces; I deal with water on site; use adaptive design elements to organise the space and events rather than a fixed design; existing trees are retained. Many of my design strategies, a response to the extremes of demand, and the potentially opposing needs of locals and visitors’, are flexible and dynamic.
Interview with City Councillor

City Councillor and President of the Eden Park Neighbours’ Association Mark Donnelly suggest:

- The connection of Kingsland and Eden Park via Link Road
- Taxis should be kept out of the inner block
- CBD shuttle bus should operate on game day
- Have lights over the middle of Walters Road and Bellwood Road to help pedestrians; any lighting needs to be for brief periods on game nights only so as not to inconvenience residents
- Widen the rail platform
- Shared space at Sandringham Road, bollards could be installed to give adequate footpath width for patrons on game days

Mark Donnelly gave very valuable suggestions in terms of lighting, traffic and safety issues. His suggestions reinforced the merit of my ideas and early design work.
Following research into existing worldwide stadia, six locations were identified for closer examination. In particular different strategies for the utilisation of landscape function for the purposes of integration were evaluated, as were the various approaches to the types of issues of a similar nature to the Eden Park situation. The case studies perform two invaluable functions: in the first instance they influenced and informed the approach to the design of the Eden Park surrounds; they also serve to contextualise the investigation.

**International Stadia**

**BC Place Stadium**

One of main sports and entertainment venues is BC Place in Vancouver. It is located on the southwest edge of downtown at the end of Robson next to False Creek and Chinatown. BC Place, which is the world’s largest air-supported domed stadium was opened in 1983 and holds more than 60,000 seats. This multi-functional venue has the capability to host a variety of events, including sports, trade and consumer shows, rock concerts, royal visits and football games (BC Place Stadium, n.d.). BC Place Stadium does not have a site boundary. From the aerial map, it appears well integrated within the urban fabric. The stadium has a very close relationship with surrounding business areas and public spaces. For safety, elevated pedestrian’s bridges transfer people from the stadium to surroundings, extending to other open spaces and urban facilities. A key strategy is using people’s movement to connect the site with the surroundings. Pedestrian routes, which are not just for stadium events, have become part of the city infrastructure. Pedestrian, traffic and car parks are layered at BC Place Stadium.
**La Stade de France**

The Stade de France is the national stadium of France, situated in the Paris suburb of Saint-Denis. It has a seating capacity of 81,338 and is used for the French rugby union team during the Six Nations and other major internationals. In 2007, it was the principal Rugby World Cup stadium, making it the only stadium in the world to have hosted both a Football World Cup Final and a Rugby World Cup Final. The Stade de France is easily accessible. Three levels (ramps, gangways, staircases) limit both the need to move around and the number of steps to climb. The Stade de France is the first stadium easily accessible for the physically disabled.

The stadium has a movable stand, which can be retracted to meet different demands. This building was also intended to help drive development in the Plaine Saint-Denis area. Since its opening in 1998, the Stade de France has become a popular touring venue for high-profile recording artists (Stade de France, n.d.).

The stadium is surrounded by commercial buildings. Shops and cafes are located to the east of the stadium. Paving, which surrounds the building and extends into the business area, is an important design element leading and directing people’s movement. On-street-parking includes a lot of temporary drop-off spaces and bus stops. This approach influenced my proposition, in particular the strategy of using non-standard paving to indicate temporary car parks. Furthermore directional paving in my scheme links Eden Park to the surrounding areas, blurring the physical boundary. It also helps to govern visitors’ movement and activities.
Wembley Stadium in London

Wembley Stadium is located in Wembley Park in London, England. This all-seater stadium, which is based around a bowl design, has a capacity of 90,000. It is primarily an association football venue. The Stadium is also used for music concerts and other sporting events. It is linked to Wembley Park Station on the London Underground via Olympic Way, and Wembley Centre via the White Horse Bridge. It also has a rail link, provided by the Wembley Stadium railway station, to London Marylebone and Birmingham (Wembley Stadium, n.d.)

Business areas and Wembley stadium share the parking space. Buses circulate in the business area. Public space is utilised to increase parking and public transport services on game day. As with BC Place Stadium, elevated pedestrian’s bridges gather and direct pedestrians.
Auckland Stadia

Mount Smart Stadium

Mt Smart Stadium, formerly Ericsson Stadium, is located in Auckland. It is 10 kilometres south of the city centre, in the suburb of Penrose. Mt Smart Stadium is Auckland Regional Council's premier sporting venue. It is part of the regional parks network and belongs to the residents and ratepayers of the Auckland Region. Mt Smart Stadium is a multi-purpose sporting, leisure and entertainment complex capable of hosting a diverse range of events catering for 200 or up to 47,000 people. It is used by athletics clubs, Oceania soccer, Rugby Sevens, touch rugby and for numerous other entertainment events. For more than a decade it has hosted the Big Day Out music festival.

Limited parking is available on-site at Mt Smart Stadium on non-event days. Major event day parking is restricted, however there is free parking on the streets surrounding the Stadium and many local businesses open their premises for parking for a fee (Mount Smart Stadium, n.d.).
Mt smart stadium, located in the centre of Penrose Industrial Park, has the potential to provide leisure space for workers. People are able to circulate around the stadium. Pedestrian paths lead people from a wooded area, through the stadium, arriving finally at the open field. The scenery continually changes to enhance this landscape journey. The high density native planting becomes a node in the urban green network. Mt Smart stadium was built based on the existing landform. People flow to the stadium through a sloping field. Another notable strategy which utilises slope is north of Mt Smart Stadium, the sloping field there offers temporary seating. This idea was explored in my Eden Park project. Slopes at Eden Park facilitate pedestrian access to the main entrance. They also allow a flexibility of use i.e. at other times people my gather there, celebrate, sit or play.
North Harbour Stadium

North Harbour Stadium is a stadium situated in the heart of the Albany Business District in North Shore City. The neighbouring oval plays host to the region's major cricket matches. North Harbour Stadium has an official capacity of 25,000 for sporting events. Open air concerts are occasionally held at the stadium. With easy motorway access, the centre is just 12 minutes north of Auckland’s Harbour Bridge. Surrounded by sports fields and parks, the Harbour Function Centre provides a peaceful and relaxing location for conferences, miscellaneous functions, or product launches. Carparking is a breeze with 1,100 free on site parks. Public transport is an easy, stress-free way to travel to events at North Harbour Stadium. Depending on the size of the event, the entry ticket price may include bus transportation direct to/from North Harbour Stadium, with a drop-off and pick-up close to the Stadium Entrance Gates. For some events, shuttle bus operates from Albany Station Park’n Ride direct to North Harbour Stadium starting around one hour prior to kick-off.

North Harbour Stadium is one of New Zealand's leading entertainment and sporting venues. It is a multi-purpose sports, recreation, cultural and entertainment facility at the heart of the North Harbour region for the whole community to enjoy. North Harbour Stadium is the centrepiece of the North Shore Domain, a 24 hectare site consisting of multi-purpose sports fields, landscaped walking paths, picnic areas and gardens (North Harbour Stadium, n.d.).

North Harbour Stadium is well planted with plenty of vegetation enveloping. There is a large multiple-use public open space which improves safety. The security zone is the stadium itself. Swales in the car parks treat water runoff. Car parks service both North Harbour Stadium and the Albany Shopping Centre. This sport venue and business zone are closely connected via a shared main road.
Figure 22 North Harbour Stadium
The Trusts Stadium

The Trusts Stadium is conveniently located in Henderson, Waitakere City and with motorway access nearby is less than 15 minutes from central Auckland. It is a multi-purpose sport and entertainment facility which hosts a broad range of events including local, national and international sporting events, conferences and corporate events, trade shows, expos and music concerts. With fixed and retractable seating, the arena accommodates up to 5,000 people for a range of events. The arena can also operate in a smaller theatre format for that more intimate concert show by sectioning off areas. This flexibility provides a perfect performance space for smaller audiences. With massive 4,900 square metres floor and now greatly improved roof loading ability it can cater for an even wider range of shows. The Stadium and surrounding Douglas Track and Field were developed in partnership with Waitakere City Council.

There is plenty of public parking on site; there are also over 2000 car parks located within easy walking distance and most of them are free. For many of larger shows shuttle buses run which can collect people from major transport hubs prior to the show and deliver them back after the show (The Trust Stadium, n.d.).
In conclusion, from the research of international and Auckland stadium examples I found each stadium has the capability to host a variety of events as a multi-functional venue, including sports, trades, shows, concerts and visits. As outlined they utilise a variety of strategies to achieve this successfully. Eden Park also has the facilities to host these types of events, but unlike the aforementioned venues, it is located in a high-density residential neighbourhood. This unique aspect, which includes the potential for ongoing significant impact on local residents’ daily life, sets Eden Park apart. There are positive aspects to this very close relationship that landscape design can exploit. Utilising some of the aforementioned strategies residents can benefit with, for example, the use of previously unaccessible space as a part of their daily life. In my project this involves exercise opportunities, children’s playground, improved traffic circulation, car parking, night activities, social needs and community uses. As opposed to the listed stadia, my approach focuses more on an exploration into potential uses and involves change over time. The combination of fixed and strategic interventions could be used in other open spaces or sporting venues. ‘Flexible and shared’ space are the key aspects that differentiate my approach to that of the existing precedents.
Other Case Studies

Paris Plage

Paris Plage is an expressway in Paris. For one month every summer, this expressway along Paris’s Right Bank transforms into a public space with a movable sandy beach, palm trees, beach chairs, deck, and lawn. One of the objectives of Paris Plage was to make summer vacation accessible to people who are unable to get out of town (Project for Public Place, n.d.).

This design used removable elements to create an artificial beach in summer every year which is very different from what people see and use in other months. This precedent inspired the strategy, utilised in my Eden Park design, of utilising movable elements to create mixed-use space capable of fulfilling multiple requirements.
**Auckland Harbour Bridge Barriers**

An example can be found in Auckland of the use of movable elements to control traffic - Auckland Harbour Bridge moveable lane barrier. It was originally designed for 8,250 vehicles but now more than 170,000 vehicles use it everyday. The moveable barrier works to increase capacity. The barrier creates three and five lanes for the morning and evening. Once rush hour has passed, barrier is moved back to the centre (Contrafed Publish co. Limited, n.d.).

Fernando (2007) suggests an open-ended urban space allows for a wide range of possible uses without changing the existing physical characteristics or altering the primary function of the space. Paris Plage and Auckland Harbour Bridge examples demonstrate the use of adaptive elements to create multiple uses space in the urban public realm.
The light brown colour shows the size of the residential area. The area directly circling Eden Park is of heritage importance. Of significant importance also is the stadium. Kingsland and Dominion Road, historic business areas, which include retail shops, restaurants, bars and cafes are close to and benefit from Eden Park. These business areas are where people socialise, gather and stay.
Transport Network

Analysis of the transport network reveals the circulation patterns of how people move. How people and traffic traverse this area. Network analysis is an effective way to investigate traffic problems and is a good instrument to study the grain of the site. A railway, a motorway and main roads go through this area. The existing multiform transportation system includes trains, buses, taxis and private transportation. The design process starts with network analysis.
Mount Albert Resident Population Census July 2009

Population Summary

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<tr>
<th>Description</th>
<th>New Zealand</th>
<th>Mount Albert</th>
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<tr>
<td>Usually Resident Population 2001 Census</td>
<td>55,137</td>
<td>51,972</td>
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<tr>
<td>Usually Resident Population 1996 Census</td>
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<td>3,165</td>
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<tr>
<td>Increase 1996-2001</td>
<td>3,165</td>
<td>6.1</td>
</tr>
<tr>
<td>Percentage Increase 1996-2001</td>
<td>6.1</td>
<td>3.3</td>
</tr>
<tr>
<td>Percentage Increase 1996-2001, Total New Zealand</td>
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Age Groups of the Usually Resident Population

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<th>Age Group</th>
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<th>Mount Albert</th>
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<td>0-4</td>
<td>59.2</td>
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<td>5-14</td>
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<td>15-19</td>
<td>21.2</td>
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<td>20-29</td>
<td>7.8</td>
<td>21.2</td>
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<td>30-49</td>
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<td>50-64</td>
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<td>Total</td>
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Ethnic Group or Foreign Fee Paying Status of School Pupils in the Electorate, July 2004

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<th>Ethnic Group</th>
<th>New Zealand</th>
<th>Mount Albert</th>
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<tr>
<td>NZ European</td>
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<td>36.6</td>
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<td>NZ Maori</td>
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<td>10.2</td>
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<td>Pacific Peoples</td>
<td>8.5</td>
<td>24.4</td>
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<tr>
<td>Asian</td>
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<td>21.2</td>
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<tr>
<td>Other</td>
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<td>4.2</td>
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<tr>
<td>Foreign Fee Paying</td>
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<td>3.3</td>
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<td>MFAT</td>
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</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure 28 Mount Albert Resident population
Adapted from "Mount Albert Electoral Profile" by Parliamentary Library.
Family type of families in private dwellings:  
- Couple only --- 37.0%
- Two parent family --- 43.3%
- One parent family --- 19.7%

Household composition of private dwellings:  
- One family --- 62.7%
- Two and more --- 4.1%
- One person household --- 20.8%

Tenure of dwellings:  
- Owned --- 49.5%
- Paying rent --- 40.5%

Social Marital Status of People Aged 15 years and over

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<tr>
<th></th>
<th>Mt Albert</th>
<th>Rank*</th>
<th>New Zealand</th>
</tr>
</thead>
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<tr>
<td>Married</td>
<td>15,471</td>
<td>34.9</td>
<td>45.2</td>
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<tr>
<td>Other partnerships</td>
<td>5,229</td>
<td>11.8</td>
<td>11.6</td>
</tr>
<tr>
<td>Total Partnerships</td>
<td>20,700</td>
<td>46.7</td>
<td>56.9</td>
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<tr>
<td>Non Partnered</td>
<td>19,149</td>
<td>43.2</td>
<td>36.7</td>
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<tr>
<td>Social Marital Not Specified</td>
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<tr>
<td>Total Aged 15 Years and over</td>
<td>44,280</td>
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<td>100.0</td>
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Research Methodology

Literature Search – Landscape Urbanism theory

Review of Design

- Collect the existing stadia information and data including: plans, reports, statistical data, and the external factors (history, politics, economy, function and so on).
- Investigate the integrating strategies of existing stadia overseas and in Auckland.
- Analyse and study HOK & JASMAX proposed landscape design for the upgraded stadium.

Eden Park Site Analysis

- Site observation analysis: site attendance during matches in Eden Park Stadium in order to observe the location, traffic patterns, surrounding residential areas and to identify additional problems related to the stadium (e.g. pedestrian and vehicle movement, entry and exits, lack of open space and safety). All of these things will be exacerbated by an increased stadium size.
- Analyse site conditions, including orientation and landform. Site conditions analysis is helpful to create an appropriate and a characteristic landscape for the site.
- Study the wider area ecological influence on Eden Park project– water and vegetation.

Additional research into social, cultural, political, economic, ecological and legal perspectives to inform and drive the design process.
Design Strategy

First investigation
Design elements
Combining the elements
Site potential

Wider area exploration
Existing & Potential
Ecological Influence
Water & green network
Business areas

Design moves
Physical requirement:
access
water
traffic
noise
light
safety
Give Eden Park a ‘life’ after games
Community desires
Adaptive & flexible
Unpredictable & change over time

Existing problems
Residents’ concerns
RWC 2011
Site analysis

Case studies
International examples
Auckland examples
Jasmax
City Councillor Mark Donnelly
Others

Theoretical background
Charles Weildheim
Elizabeth Mossop

Figure 30 Design strategy diagram
PHASE 1: FIRST INVESTIGATION
Exploration into the potential of the site

Figure 31 Key design elements & abstract drawings
The first investigation, which utilises drawing, is based on the existing problems and potentials at Eden Park. They are access, edges, light, noise, water, bank and a low area (Figure 31). My first design move involved developing an understanding of each.

I concluded that:

- Access has a different meaning and experience for each of us.
- Edge is an area where elements are exchanged, transform & blur boundaries.
- Slope could provide multiple uses.
- Water is floating and generative. It supports life.
- Light is changeable and controllable. It has the potential to create interest and direct spatial organisation.
- Low area is like a bowl to collect water, people and other floating elements.
- Noise has a variety of types. It is welcomed in public space but problematic in private areas.

Examination of each drawing revealed specific aspects that I believed could contribute to design strategies. Integration of Eden Park events with the suburbs will revolve around these elements. These elements are not independent of each other. The incorporation and cooperation therefore of all these elements in a design aims to create a hybrid condition which will deal with site problems.
Each element drawing was applied to the site.

**Access**

Up & Down  
Enclosed & Open  
Dark & Light materials  
Direct & Meandering  
Complex

The access has multiple forms: up & down, enclosed & open, dark & light, and different materials.
Vegetation has the potential to treat water. The contour map shows that Eden Park is much lower than its surroundings. Water can therefore be a main theme in this area as it was one hundred year ago. Landscape can function as a place to detain storm water, improve storm water quality, and provide a natural aesthetic before it drains into other areas.
A green area flows through the edges. Residential properties and their private green spaces can be seen as patchworks potentially infiltrating the site. The edge will disappear. The boundary between site and the neighbourhood will blur.
Light interweaves paved and green areas. Light has the potential to act as a guide, organising spatial sequences and function.
Noise

Variety of types
Bright & Dark
Volume
Echo
Rhythm

Noise spreads freely. Noise can attract people - in this case it becomes a positive component. Noise might also be minimised in private areas by utilising landscape as a medium.
The element drawings were paired as a means for continuing the exploration. Their combination and conversion allowed me to explore their complex and dynamic relationship. Studying the combination of these aspects helped me to develop strategies, which hopefully work to mitigate the existing problems and realise the potential of Eden Park and its surroundings.

**Access & Edge**

Edge can be understood as a boundary between two areas or different spaces. On the other hand, it is the in-between zone to connect the two. Each access goes across the edge. Edge has the potential to blur or disappear and can be defined or indistinct. Edge can be seen as a permeable space, allowing for the infiltration of different elements, for example, plants have the potential to flow into the site by following pedestrian’s routes. This green meshwork could assist in the integration of the site with the surrounding vegetation.

This study has the potential to redefine the Eden Park public entrance. Designers such as Wood, Marsh, Spackman and Mossop have recently begun to look at traversing edges and creating access from the perspective of the landscape journey. In this case access becomes an element of the urban fabric and an integral part of the city.
Access & Noise

Noise impacts negatively on residential areas during rugby game days. Noise control and minimisation is required. This element however can be manipulated and utilised in a positive way. People can be attracted from a distance by noise. The potential directional qualities of noise could contribute to the structure of the site. Access and pathway can be arranged by imitating the character of noise, such as the form, order and rhythm. Noise and access have a tight relationship. The type, rhythm and volume of the noise can lead and control the crowd. Access can be used as a design tool to indirectly control the noise volume. Landscape urbanism design strategies target not only physical arrangement but also polymorphous functions and transformations.
Noise exists without edge and shape. It is formless. Edge can exist in any place. Noise potentially breaks edges. The relationship between noise and edge is abstract but it can still be presumed, mapped and analysed.

Edges could control and diffuse noise. Noise could be absorbed and returned. Noise spreads out from its centre. Objects can change volume and the route noise takes. Plants can provide a natural barrier, which obstructs noise. They are able to absorb noise and return it. Noise, like people flow from the site to the surroundings, spreads freely.
This abstract drawing explores the free flow of water through the edges. Their conjunction helps to blur boundaries and create a hybrid condition.

One of landscape urbanism’s more intriguing aspects is its crossing of disciplinary boundaries (Mossop, 2006). At and around Eden Park water and infrastructure systems can be integrated, with water runoff processed on site. Furthermore, this combination of elements has the potential to enhance recreational areas. For this reason, along with the sites typography and history, water is a very important element in this project. Traditional water drainage systems need not be the only solution for the processing of storm water on site.
Access & Light

The combination of light, shadow and shade produces a complex interplay of elements. Light creates interesting and dynamic effects, especially during nighttime activities. Light management could help to organise and distribute different types of activities. As with noise it has both positive and negative aspects. Excessive light is intrusive for locals but when seen from afar serves to attract people to the venue.
Access & Water

Water is an essential element to life and the environment. It crosses the site surface and other landscape factors: abiotic (such as roads, blacktop etc.) and biotic (such as forest, soil and vegetation). The network of open space has the potential to satisfy social needs whilst managing water.

Water flow and access seem to be in conflict at the site but there is the potential to exploit this intersection using water treatment processes that could become an attractive characteristic of a new design. At the neighbourhood and site scales, designers have begun to use the matrix of public and circulation space in combination with drainage and water treatment strategies (Mossop, 2006).
Figure 48 Consolidation of all the layers
This is a consolidation of all the layers (Figure 48). Each element interweaves with others. It is my goal at this time to organize and configure this combination of elements into a system that begins to address the problems and objectives of the site/project. The investigation at this stage is focused on access, traffic and people flows, green areas, water and people's activities. Landscape urbanism which involves understanding the mixture of conditions which comprise ecological systems (Corner, 2003) reinforces the merit of this approach. This drawing unfolds and describes my understanding of urban hybrid conditions. Moreover, it is a tool for the exploration of potentials; potentials for both visitors and locals. A reconfigured arrangement at and around Eden Park has the potential to become an important component in the daily life of local residents. Balancing the needs of visitors and residents is the challenge.

Mapping, as a productive instrument, unfolds potentials. Present, future and hidden forces are included in mapping. Designers not only see the existing, complexity and design possibilities but also can discover natural process, events, local stories and economic conditions. It comprises a range of issues (Corner, 1999). This technique and understanding of mapping was adapted for exploring the hybrid site conditions and the relationship within the key design elements. All of these drawings are important components of my investigation process. They help me to engage with open and dynamic systems. They help me to understand their interrelationship and ways of working. The integration all the elements has produced a rich and complex composite.
Testing

At the end of the first investigation three areas, where the layering of elements revealed an intensity, were selected for more in-depth exploration. This drawing utilizes interweaving in an attempt to achieve cooperation between elements.

Water and people flow through a patchwork of elements. In this proposition, water treatment and vegetation will provide scenery. Different materials and lighting enrich the experience. This drawing (Figure 50) is about integration of water, vegetation, cars and people.
The second point is west of the stadium (Figure 52). This drawing depicts an integration of light, noise, vegetation and water flow. Vegetation and water flow has the potential to transform and assume other forms. This area is a people activity zone and traffic transit point.

The third point is on Sandringham Road (Figure 51). This low area has the potential to store and treat storm water on site. Water integrates with the road and paths. Water will however disturb public and private transport. The management of this interaction becomes a challenge.
PHASE 2: WIDER AREA EXPLORATION
**Wider area mapping:**

Big scale mapping (Figure 53) helps to locate Eden Park in relation to other important elements. This wider study helps to reveal for example the potential function of Eden Park in terms of ecological processes. Mapping indicates catchment information, vegetation patterns, transportation systems, public spaces and ecology.
Figure 54 Existing site conditions
This map shows the existing site conditions (Figure 54). They include vegetation areas, transportation, noise and slope.

The green areas have the potential to be connected. Western Springs, One Tree Hill and Auckland Domain are key green patches, which influence Eden Park ecological processes.

The transportation network indicates the movement patterns of people and traffic. Infrastructure works strategically to facilitate events and activities. This system organises people flow influencing passenger experiences via visual sensations and movement.

Kingsland and Dominion Road business areas, which are close to Eden Park, stand to benefit economically and socially from the Eden Park project. The use of these public spaces as transition areas in order to solve traffic problems will facilitate this positive outcome.

Topography is often related to the underlying landscape. Slope is an important place for natural systems.
Figure 55 Site potential
This drawing of (Figure 55) transportation, noise, people collection and water flow explores potentials. Integration of these elements could produce a hybrid multi-functional landscape capable of dealing with both human activities and natural processes.

The road for example could perform multiple functions; open or closed off at different times in order to cater for motor vehicles or alternatively pedestrians. The importance of pedestrian’s routes is becoming increasingly apparent with their growing inclusion as an important part of urban infrastructure.

Pedestrian’s networks could connect business areas. The relocation of traffic transit areas to surrounding business areas would reduce noise in residential zones. Noise could instead be collected in public open spaces.

Water flows through towards Eden Park due to landform. The use of catchments could enhance public space.
Wider Area Exploration

Existing + Potential
Green corridor
Water
Transportation
Noise
Access
Slope
Low land
Pedestrian
Collection
Circulation
Business areas
Visitors

Figure 56 Existing & potential
Mossop suggests (2006) that bringing all of the factors together (Figure 56) is complex, requiring a synthesis of social, political, and economic factors, as well as water management and other ecological issues. This investigation strategy is unlimited and non-linear. So the investigation of existing conditions and potential explores the new relationship of these elements. Corner (2003) states that, landscape urbanism continually looks for different opportunities and engages dynamics as an agent.
Examination of the existing road systems and consideration of alternative configurations is a component of this investigation. There are significant and obvious benefits in improving connectivity between Eden Park and the adjacent suburbs and city centre. The maps below explore possible connections. It is suggested that people and water are combined and flow together. There is the potential to connect green areas. Wider area exploration allows for the interventions around Eden Park to link into larger scale networks.
Cross sections (Figure 58 & 59), which reveal landform, suggest specific design characteristics and possibilities. Some areas contain complex design elements and information, like noise, traffic and people. Low areas have the potential to store and treat storm water on site. At this stage of the design investigation water integrates with roads and pedestrians. Public transport will engage and be affected by water.
A Landform study (Figure 60) helped me to understand the site and surroundings; it includes vegetation, potential water flow and the wider environment. My landscape design is intended to meet the requirements of Eden Park as well as key in to ecological processes. Eden Park sits in the lower area between Western Springs and Mt. Eden. This wider contextual study and the revelation regarding water flows and Eden Park's low lying aspect inspired me to make water a key element in my design.
Figure 61 Relationship between Eden Park & its surrounding environment
Based on my previous findings, this drawing (Figure 61) summarises the relationship between Eden Park and the surrounding environment. This investigation is a very important component of my design methodology. I used these relationships to form strategies for the integration of Eden Park events and the surroundings:

1. This green corridor has potential to be connected to Eden Park. These green spaces can perform both ecological and social functions. I considered this area to be like a stairway. The open spaces could include water, people, and vegetation. Recreational areas will serve social needs.

2. A potential direct link road between Eden Park and Mt Eden could collect storm water, which flows from Mt Eden. Continuous vegetation could be combined with water flow. Storm water will be treated on road with traffic and pedestrians in order to enhance the relationship between Eden Park and Mt Eden area.

3. This potential axis connects two business areas. This route could provide open space; improve traffic flow; and activity opportunities for both residents and visitors alike.

4. The slope and Eden Park are integrated by people’s movement. The slope could provide open space for people to gather. This area has the potential to be a multiple use venue.

The integration of different threads and functions can be seen in urban projects, the Eastern freeway extension project in Melbourne for example. The designers in this instance utilised a strategy that provides open space as well as the management of urban flooding. This motorway extension includes wetlands, which provide habitats for native species while processing water runoff.
PHASE 3: REGIONAL STRATEGIC PLAN
The contour map (Figure 62) shows the existing study area, which includes not only Eden Park but also the wider surrounding area. This large-scale overview is necessary given the complex and regional nature of both ecological processes and the dynamics of people movements on game day. The contours reveal important details for example, steep slopes, aspect and lowland. This topography can drive design decisions for example assisting in the delivery of people to the stadium as well as the direction of water flow at the site.
Site scale investigation
+
Wider area exploration

Diagram of:
Traffic
Access
People flow
Water
Vegetation
First Design Work

At this stage I endeavored, using the key design elements of water, vegetation, landform, access and people’s movement to integrate the site with the surroundings. Because Eden Park and the surrounding neighbourhoods need to meet a diverse variety of needs, including the accommodation of huge numbers of people on game days, a flexible rather than fixed approach was investigated.

Balancing the relationship between this big sport venue and high-density residential areas is a challenge.

Research continuous...
Traffic Management Plan

With 60,000 people coming to Eden Park on game day, transport infrastructure is a vital component. The primary goals are the efficient organisation of people’s movement and the reduction of congestion. Sandringham Road, New North Road, Dominion Road and Balmoral Road are the main roads around Eden Park. The public transport types are train, bus and taxi. I divided them into several layers.

Existing pedestrian flows – 47,000 capacity
Proposed pedestrian flows for RWC – 60,000 capacity
The increase in use of the passenger transport will shift towards the western side of Eden Park due to the attraction of Kingsland Station, Morningside station, and the event bus stops.

Figure 66 Existing people flow
Source: Eden Park Redevelopment & Rugby World Cup 2011 Integrated Transport Assessment 22 December 2008

Figure 67 Road signs

Dominion Road
Sandringham Road
New North Road
Kingsland Central
The rail plans for Eden Park focus on operations at Kingsland and Morningside Stations. They currently deal with 20% of the crowd for the events. I increased the capacity to 30% by increasing the train frequency. It means 18,000 people coming to Eden Park by train on game days.

Figure 68 Traffic management plan - Railway
The management of taxi is challenging at any sports venue. Taxis only have a limited capacity and are relatively inefficient i.e. they contribute to congestion and typically travel either to or from the stadium without passengers. In my design, taxis are kept away from the park. They are located on Dominion Road and New North Road. This will help to avoid pedestrian/taxi conflicts on the streets close to Eden Park. These taxi ranks will be temporary and for game days only.

1 taxi = 2-3 passengers
Bus, shuttle bus and coach are located on main roads and business areas. There are 33 bus routes existing. Buses and coaches currently serve 6,500 passengers on game day. Using temporary game day bus stops I have been able to increase bus numbers and routes thereby enhancing the public transport system. Bus is ideally suited to event transport operations due to their large capacity and flexibility.

1 bus = 40-50 passengers

Figure 70 Traffic management plan - Bus & Coach
To encourage the use of public transport and to keep private vehicles away from Eden Park, I reduced the number of on-site car park spaces. Some public car parks are relocated to business areas. The benefits of limited on-site parking, with the ensuing reduction of converging vehicles, is improved traffic management and increased pedestrian safety.
Based on the public transport plans, this is the pedestrian circulation diagram. For RWC2011, about 50% of the tickets will be sold overseas and of the remaining tickets up to a half could be sold overseas. That means potentially up to 75% of people at major games at Eden Park could be from overseas and the majority would not use a private car. People will therefore circulate between railway station, bus terminal, car parks and the adjacent business areas.
Road closure plan for game days.

Figure 73 Traffic management plan - Road restriction
Figure 74 Traffic management plan
The Traffic management plan is an important component of the project. As Elizabeth Mossop suggests (2006), road systems are a vital element in urban development, open spaces, public transit, public facilities, pedestrian movements and water management. Urban infrastructure provides public space and a foundation for urban and suburban life.
The final design caters for two scenarios: game day (Figure 75) and every other day (Figure 76). The aim of the project is to redevelop this national sports venue and also adjust aspects of the surrounding neighbourhood in order to accommodate these two diverse conditions. A combination of fixed and more ephemeral landscape interventions is utilised in the final design proposition. Benefits for the local community are an important element. It is the premise of this investigation that a flexible and adaptive landscape is best suited to achieve these goals.
Figure 75 Eden Park normal day plan
Eden Park Game Day Plan

Figure 76 Eden Park game day plan
As discussed, research and the site investigation determined the use of both fixed as well as adaptive and flexible design strategies to organise the space, and flow of people in order to allow more activities and events to take place at Eden Park. From an economic point of view, flexible design which can facilitate multiple features and uses at the site is ideal.

The following text and images details how key areas at the site work.
Area A: Northwest

The proposed main entrance (Figure 77) of Eden Park is located to the northwest of the stadium. It includes a link road, which performs multiple functions. At this point I interweave natural ecologies with social and cultural threads. This comes about through the combination of public access and water treatment infrastructure. This main entrance deals with 33% of crowds on rugby game days. The 18 meter wide path links directly to bus stops and the Kingsland business area. The slope could also provide recreation opportunities for future development. The selection of this pedestrian’s route was driven by a combination of factors. Landform qualities (slopes) were an important component as was the determination to link into both the wider transit network and the business area of Kingsland. People are directed by the slope, pass underneath the railway line, cross Sandringham Road and pass directly into Eden Park. This direct pedestrian pathway provides an interesting and memorable journey for visitors, which with the elevated aspect and bold axis provides Eden Park with a grand entrance. The car park on the slope serves the Kingsland business area on normal days and Eden Park on rugby game days or other events. This design move has significant benefits for Kingsland residents and business owners on account of the existing extremely limited parking options. This proposed pedestrian’s path and car park have the potential to provide significant economic benefits for Kingsland business as a result of much improved access and parking. The path entrance (see details: Figure 95) at New North Road collects road surface runoff water. At the car park permeable paving directs water flow to a centrally located swale. Another swale along the footpath next to Sandringham Road also collects water. The proposed new open space will include the main temporary bus drop off area for game days.

The following outlines the rationale and workings of the aforementioned pedestrian access. Percentage of the slope has been calculated.

<table>
<thead>
<tr>
<th>Lands Use</th>
<th>Maximum</th>
<th>Minimum</th>
<th>optimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>House sites</td>
<td>20-25%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Playgrounds</td>
<td>2-3%</td>
<td>0.05%</td>
<td>1%</td>
</tr>
<tr>
<td>Public stairs</td>
<td>50%</td>
<td>-</td>
<td>25%</td>
</tr>
<tr>
<td>Lawns</td>
<td>25%</td>
<td>-</td>
<td>2-3%</td>
</tr>
</tbody>
</table>

\[
\text{percent slope} = \frac{\text{change in elevation}}{\text{distance}} \times 100
\]  

(Marsh, 2005)

The existing slope elevation changes from 58 to 43 meters over a distance of 62 meters. Therefore the slope, on the northwest of Sandringham Road, at 24% is suitable for public stairs.

The main access at Eden Park is combined with water, vegetation, traffic and pedestrians. Vehicles and pedestrians are mixed on normal days. This proposed main access is large enough to accommodate people gathering, celebrating and dispersing. In this process noise is rapidly
shifted away from the neighbourhood thereby minimising game day impact on the local residents.

Native species were introduced for example, Cordyline australis (cabbage tree), Vitex lucens (puriri), Corynocarpus (karaka), Agathis australis (kauri) and Alectryon (tikoki). Selection of species was driven by a desire to link into both existing and historical vegetation patterns. The native cabbage tree in particular has a long history of occupation in this particular area. Cabbage trees on each side of the pedestrian’s path reflect this history, emphasis the continuous linear space and create in the process a strong visual connection to the stadium. The planting also ties into the wider scale vegetation network in order to integrate Eden Park with surrounding ecological systems and processes. During non-game days this link road could potentially provide car parking or space for miscellaneous activities or functions. This fixed design component therefore has an inherent indeterminacy. Similarly the sloping field offers a variety of potentials. Utilisation for example as a seating terrace during cricket games, or at other times a place to rest, socialise, eat, exercise, celebrate or commiserate after a game. The small blacktop areas provide space for other events or recreation.

There is currently a path, which serves as a visitor’s entrance on game days, to the north of the training ground. In my design this element has been converted to accommodate a shuttle bus service for temporary use on event days. In order to speedily transport people to and from the grounds, railway stations and bus stops a free bus will circulate on site. The open space to the north of the pedestrian’s path is for children, people collection, social needs and vegetation.
Northwest

Pedestrian’s path: main entrance, water, social / potential car parks on normal days…

Slope: water, people & public space / recreational space

Seating terrace: cricket stand / resting place / exercise

Gathering space: children & small events

Shuttle bus circulation route & temporary drop off area

Kingsland car park: Eden Park / Kingsland business area

Road on game days closed

Figure 77 Area A - Northwest
Figure 79 Cross section C

Cross section C
Main Entrance

Figure 80 Perspective 1 - Main entrance
Seating Terrace & Training Ground
Sandringham Road

Figure 82 Perspective 3 - Sandringham Road
Area B: Southwest

On the southwest (Figure 84), I have utilised different materials to reveal and direct a variety of uses i.e. temporary car parks, water processing, pedestrian access ways and spaces for gathering. This area, which is flat and suitable for use as people gathering place, has been designed as a mixed-use space, a location for an indeterminate variety of future events involving both locals and/or visitors.

The key design strategy in this area is the use of adaptive and flexible design elements. These are comprised of vegetation walls and wooden blocks that provide multiple uses. The vegetation wall, a mixture of grasses enclosed within a wheeled frame, is 2.5 meters high. These components are relocated via tracks to create permeable fences with gaps to permit people flow on normal day. During game days they can be joined and locked to form barriers, which secure the ground. This flexible and adaptive approach permits a variety of on-site activities, opening up an unlimited range of possibilities. The safety zone can be changed at any time for different purposes. Similarly the wooden seating blocks perform various functions. By virtue of their large size, they can be located to indicate temporary pedestrian access ways on game days. They can also serve as outdoor furniture for residents’ or visitors’ daily use. Pedestrian’s paths at this location provide links to Morningside railway station as well as the industrial and commercial zones. Directional paving extending to Altham Avenue indicates walking routes and draws visitors and locals into and out of the site. The addition of road signs will be another component in the organisation of traffic.

Bus, private car and pedestrians are kept apart by the use of dedicated access points. Bus and coach parking lots (50 in total) are located to the north of the pathway. The south side of the pedestrian’s path is for private vehicles only. As mentioned earlier I have reduced on-site private parking. The existing 530 are cropped down to 293 spaces (90 at ASB Stand car park and 203 on south) in order to encourage public transport use on game days. In addition, information systems such as the Internet, radio, monitors on the main traffic transit areas, bus route timetables for game days and a traffic remote control centre work to improve efficiency.
Figure 84 Area B - Southwest

Southwest

Non standard car parks, people gathering place / social needs / community / multifunctional…
Movable vegetation walls with wheels and tracks; organise space & events / barriers on game days for safety
Pedestrian’s route: extend to south business area
Public transport circulation routes: reduce the crowd congestion
Southwest Entrance
Landscape urbanism continually looks for different opportunities and engages with dynamics (Corner, 2003).

**Area C: South**

On the south side (Figure 86), I have designed swales, which work with the existing landform, to process ground run-off and roof water. My intention was to engage ecological processes for the management of flooding, the enhancement of biodiversity and to provide increased recreational possibilities. The open space offers this opportunity for ‘day-lighting’. As swales play a key role in the management of water I have researched storm water treatment types, swale design criteria, water quality treatment and vegetation. The most common grass used for swale in Auckland Region is perennial rye grass species (Auckland Regional Council, n.d.). Others accompanied vegetation is mainly Carex secta (Purei), Phormium tenax (Flax), and Carex virgata (small swamp edge).

The existing south car park is not used efficiently at present. I have replaced this area with a large rectangular green space, which serves to unite the stadium with the adjacent residential houses. Existing trees are retained. The collection and treatment of water occurs again here. As with the rest of the design proposition there is an adaptive aspect to this element. Movable vegetation walls are again utilised to transform this area from open public space on non-game days to a secured locale during events. When open and accessible this area has the potential to become a back yard for the local residents, providing space for entertainment as well as water treatment. Vegetation is used again to connect the development to the wider context.

The potential pedestrian path is designed as a public space for play, occasional traffic movement and car parking and also as a partially vegetated area. This route also connects Eden Park to Morningside on the west and to Dominion Road to the east. Triangular paving directs people’s movement. The road at this point is illuminated to create a shimmering effect at Eden Park’s most public face. I used low lighting to minimise the light spill from the ground onto the neighbourhood area at night. This luminance however can be controlled subject to demand. Another important rationale for the location of the potential path is the requirement to keeps visitors away from the neighbourhood in order to reduce the impact of game day on residents. This assortment of strategies and elements is a response to feedback from local residents who have encouraged designers to “open up Eden Park” to the local community. My approach, which includes the minimisation of the stadium security zone with a corresponding increase in open space, is a direct response to this feedback. The boundary between venue and the residential areas has become indeterminate.
South

Swale: ecological process & relationship between stadium, people and water
Green space: open to public / be locked on game days
Potential pedestrian route: link to Morningside & Dominion Roads
Directional paving and on ground lighting: people flow & minimise light spill to residential area
Reduced car parks: encourage the use of public transport & open up Eden Park to community
Minimised stadium security zone: public access

Existing car park
Figure 88 Perspective 5 - Reimers Avenue
Area D: East

To the east (Figure 90) of Eden Park alongside Cricket Avenue is the lowest area of the site. It was this area that reinforced the notion that water treatment might be an important design component. In the final design proposition water at this area is recycled and cleaned as it passes through. Alternatively it can be reused perhaps for the purposes of irrigation. Timber boards are utilised here as a permeable surface, which permits infiltration and the free flow of water. This long footpath also serves to attract and direct people away from the adjacent neighbouring houses. People’s movement along this access way triggers low lined interactive lighting. Again this open space intertwines people’s movement and water management. The swales around Eden Park, which process ground and roof run off, are about 4700 square meters in total. The northeast pedestrian’s route includes swales that collect and treat storm water, as well as assist in establishing and maintaining street trees.

Sandringham Road has a strong relationship to this eastern corner and Eden Park in general. It is first main road to the east of the stadium. Furthermore, it provides direct links to Auckland city centre in the north and Auckland Airport to the south. For this reason game day temporary taxi ranks were located on Sandringham Road. This approach to urban infrastructure not only helps to resolve transit issues but also has the potential to offer economic benefits. This arrival and departure of large numbers of fans in the business district, as opposed to residential areas, offers retail and hospitality opportunities.
East

Board walk: water treatment & people's movement
Swale: ecological process - collects, holds & treats water
Temporary taxi ranks and bus stops on Dominion Road

Figure 90 Area D - East
Figure 91 Cross section A
Figure 92 Cross section E
Figure 93 Perspective 7: Cricket Avenue
Northeast Entrance & Link Road
**More Details**

**Point A:** The main entrance from Kingsland to the pedestrian path. The entrance collects road surface water. Slopping landform directs water flow to the drain inlet.

**Point B:** The intersection of pedestrian path and car park. Landform directs water flow from west to east. The car park uses permeable paving to treat and direct water to the middle swale.

**Point C:** Materials change. There is a break in the swale at the pedestrian path. Water continues to flow through a grill-covered rill.

Figure 95 Details - Point A, B & C
**Point D:** The slope and Sandringham Road. The proposed pedestrian path goes under the railway and emerges on Sandringham Road footpath. Water is collected and guided through this path to the swale at the end. This journey incorporates people’s movement, water treatment, vegetation, and public transport.

**Point E:** This swale processes slope water.
Figure 97 Keys

KEY:
1. Main entrance
2. Underpass
3. Access route from Kingsland
4. Car park
5. Swale
6. Open space and traffic transit area
7. Seating terrace
8. Bus circulation route
9. Temporary drop off zone
10. Movable vegetation wall
11. Seating
12. Bus and coach car park on game day
13. Non standard private car park
14. Pedestrian's illuminated path
15. Movable wooden block organises space
16. Pedestrian's path extend to south and business area
17. Open space
18. Swale
19. Board walk and permeable surface
20. Swale
21. Existing ASB car park
22. Green corridor
23. Open space and water treatment
24. People gathering and small events
25. Cricket nets
26. Old member stand
27. HPC building

- Existing trees to be retained
- Proposed planting
- Track
Security zone
The following security zone diagrams illustrate different configurations depending on the nature of events or activities. Eden Park is open to the public on normal days (Figure 98) with the security zone the stadium itself. On rugby game days (Figure 99), the security zone extends over the whole site. This adaptable and flexible approach to security (Figure 100 & 101) allows for a variety of events to occur.
Security zone on game days
Security zone on other event days
Traffic & Pedestrian’s Movement Diagram

Walking distance (approx.):
- Eden Park → Kingsland Railway Station: 190m
- Eden Park → Morningside Railway Station: 620m
- Eden Park → Dominion Road: 440m
- Eden Park → Kingsland: 180m
Limitations

Designers speculate, interpret, and explore their own perception of the multidimensional world and an indeterminate future, thus, design outcomes can be unique or diverse, providing a different point of view. In this project, the design strategy inevitably has its limitations. It is me alone, with my own personal interests, experience and intent, that has identified and analysed the key design elements. There remain more potential or hidden forces in this built environment which could dominate and influence the natural and infrastructural systems in this hybrid urban situation. Site investigation and mapping therefore can never be complete or comprehensive in every sense. However, studying the potentials informed my thinking and enabled an increase in my understanding of this dynamic world.

I have proposed the use of adaptive and flexible design strategies in order to achieve multiple use at and around Eden Park. As a result I believe I have increased the capacity for events and activities to occur. As part of this process I have engaged with both natural and social processes. In reality however, people may use the site and the adaptive design elements in an unpredictable way. How people select the space to use, how they respond to this design, and their behavior in general are all part of an unforeseen future. This project is about providing a chance for events to happen. People are a very active element in landscape, their activities drive the development and change of the city. This investigation, consequently, has explored possibilities in order to unfold site potential, increase adaptability and flexibility to generate an open-ended landscape.
Conclusion

I initially identified design elements from the existing site problems and adopted a dynamic method to analyse them. These elements were conceptualised, analysed and reconfigured into hybrid composites in order to explore potentials, and through this process address problems. My investigation firstly began with mapping each single element (Figure 103), combining every two elements, and then overlaying all the elements at the end. I found this technique to be an effective way to explore the relationships between factors in the complex urban environment (Figure 104). For me the unique qualities at the site were revealed and understood through this investigation process. This research strategy is transferable and could be applied to other projects or situations.

The wider environment study (Figure 105), offered ways for landscape function to work as a driver for the integration of elements. I have incorporated water and ecological processes in the urban infrastructure system. This included the utilisation of existing landform to generate pedestrian’s routes (path on the slope and link road on northeast), creation of recreational areas and footpaths which are merged with water flow, and the use of catchments as a key area for serving social needs.

Research and investigation explored the use of both fixed as well as adaptive and flexible design strategies in order to achieve the co-existence of large scale sporting events and suburban life. This strategic approach uses urban infrastructure, works with time and is open to change. Infrastructure acts as a base for future uses. With regard to my design, the roads, pedestrian paths,
moveable elements and temporary taxi and bus parks are all important aspects of a public landscape that engage with rapidly changing urban life and activities.

“By specifying what must be fixed and what is subject to change, they can be precise and indeterminate at the same time. They work through management and cultivation, changing slowly to adjust the shifting conditions” (Allan, 1999, p.54).

Finally, the design caters for both game days and non game days: Eden Park sport venue has been focused outward as well as inward. It is now an open space that allows more events and activities in the local community. The design strategy has attempted to make a contribution to local community. The design and study area was not only limited on the open space around Eden Park stadium, but also concerns the wider environment because urban systems works as a whole. For instance, the south area enables a wide range of social and commercial activities that contribute to the residents daily lives. The space accommodates different uses and is easily changed by the movable physical items (walls and wooden blocks). The space can change from an activity space and a weekend market to a very busy car park on rugby game days and then back to a space where people gather to celebrate culture and other events at night. The design creates more choices for the public. Moreover, the strategic design moves at Dominion Road engage the space for meeting, walking, waiting, advertising, informal socialising, and other optional activities. As well as this, the temporary taxi ranks and bus stops help to control traffic congestion on event days. Restaurants and bars can extend dining spaces into these flexible areas. When the event is over, Dominion Road reverts to normal use. The road acts as a multiple use venue for both retail and social activities. In short, making strategic and subtle design moves is a key
component of this project. These strategic moves work with unforeseen activities and events and allow the open space to adapt to changing urban life.

In summary, the design work attempts to integrate events, either on game days or on others, by utilising landscape functions. This is in order to maximise the potential of Eden Park as a hub within the network of surrounding suburbs. Opportunities on site and spaces leading into Eden Park, have been dealt with in subtle ways that take in to account indeterminacy and open-endedness. There is an attempt to blur site boundaries by integrating existing and unpredictable activities. This project attempts to emphasise a wider relationship between Eden Park and the surrounding suburbs, rather than focus on a closed masterplan for the Stadium.


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Bibliography


