N.S.I.E
Naturally Stimulating Instinctive Exploration

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Curation

An investigation into how reconfiguration of landscape components can stimulate user behaviour in the natural environment.

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Abstract

My research begins with an investigation into existing public space to reveal its appropriation and determinants to determine if the site is successful or not. These findings will inform the design research through introducing small interventions which create new site qualities.

This research aims to find what influences use and appropriation within public space. Observations of the determinants and qualities of different sites, will lead to the identification of key aspects, the discoverings will be analysed to determine what makes a public space successful or unsuccessful.

The objective is to use these discoveries to introduce a change in the design process through developing ideas that amplify the surrounding existing environment/structures.

I aim to use designed and non-designed elements that reconfigure the way users manipulate space. I was offered an opportunity to work with a kindergarten (Awatea Kindergarten) as a case study to test my findings.

Findings from the design research highlight how the introduction of new elements into a space, can reconfigure the existing area and amplify those existing natural elements into the design.
Acknowledgements

I would like to acknowledge Awatea Kindergarten, Porirua for allowing me to work with them to test and develop ideas which provided them with options to develop their space further and generate information for my design research.

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# Document Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Page</td>
<td>1</td>
</tr>
<tr>
<td>Curation</td>
<td>2</td>
</tr>
<tr>
<td>Abstract</td>
<td>4</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>6</td>
</tr>
<tr>
<td>Research Introduction</td>
<td>10</td>
</tr>
<tr>
<td>Problem</td>
<td>11</td>
</tr>
<tr>
<td>Research Question</td>
<td>13</td>
</tr>
<tr>
<td>Aims And Objectives</td>
<td>14</td>
</tr>
<tr>
<td>Initial Investigation</td>
<td>17</td>
</tr>
<tr>
<td>Initial Analysis Of Existing Public Spaces</td>
<td>23</td>
</tr>
<tr>
<td>- Site Flows</td>
<td>48</td>
</tr>
<tr>
<td>- User Flows Through Space Constraints</td>
<td>55</td>
</tr>
<tr>
<td>- Existing Barriers And Reactions</td>
<td>62</td>
</tr>
<tr>
<td>- Access And Visual Attractions</td>
<td>70</td>
</tr>
<tr>
<td>- Site Levels</td>
<td>77</td>
</tr>
<tr>
<td>Closer Analysis</td>
<td></td>
</tr>
<tr>
<td>- Movement + (Spaces And Trees)</td>
<td>88</td>
</tr>
<tr>
<td>- Site Conditions And Influences</td>
<td>96</td>
</tr>
<tr>
<td>- Spaces + (Site Features)</td>
<td>100</td>
</tr>
<tr>
<td>- Influences Of The Spaces On The Users</td>
<td>108</td>
</tr>
<tr>
<td>- Trees + (Features)</td>
<td>115</td>
</tr>
<tr>
<td>- Site Users</td>
<td>123</td>
</tr>
<tr>
<td>Conclusions Of Existing Public Spaces</td>
<td>127</td>
</tr>
</tbody>
</table>
# Document Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Study Site Introduction</td>
<td>132</td>
</tr>
<tr>
<td>Literature Review</td>
<td>141</td>
</tr>
<tr>
<td>Precedent Review</td>
<td>154</td>
</tr>
<tr>
<td>Case Study Problems And User Involvement</td>
<td>163</td>
</tr>
<tr>
<td>Wider Site Research Scope</td>
<td>170</td>
</tr>
<tr>
<td>Case Study Site Investigation And Analysis</td>
<td>179</td>
</tr>
<tr>
<td>Initial Design Response</td>
<td>203</td>
</tr>
<tr>
<td>- Kindergarten Expansion</td>
<td>204</td>
</tr>
<tr>
<td>- Dense Vegetation Space</td>
<td>210</td>
</tr>
<tr>
<td>- Public Space</td>
<td>216</td>
</tr>
<tr>
<td>Existing Playscape Behaviour Test 1</td>
<td>223</td>
</tr>
<tr>
<td>- Observations</td>
<td>232</td>
</tr>
<tr>
<td>Case Study Site Playscape Behaviour Test 1</td>
<td>236</td>
</tr>
<tr>
<td>- Observations</td>
<td>243</td>
</tr>
<tr>
<td>Site Intervention Design</td>
<td>246</td>
</tr>
<tr>
<td>- Completion Of Phase 2</td>
<td>251</td>
</tr>
<tr>
<td>- Site Intervention Future Design Plan</td>
<td>260</td>
</tr>
<tr>
<td>- Project Master Plan</td>
<td>289</td>
</tr>
<tr>
<td>Conclusion And Exegesis</td>
<td>296</td>
</tr>
<tr>
<td>Bibliography</td>
<td>301</td>
</tr>
<tr>
<td>Source Of Figures</td>
<td>304</td>
</tr>
<tr>
<td>Appendices</td>
<td>307</td>
</tr>
</tbody>
</table>
The following pages introduce the drivers for the research document, by identifying problems, I can investigate why they provide opportunities for design research, informs research questions to direct the investigation. This section will identify the aims and objectives for the design research with a methodology describing the research process.
Problems

Restrictive And Insufficient Qualities:

Public spaces produce restrictions and insufficient spatial qualities caused by environmental factors. Weather, unsuitable placement of objects (or lack of materials) and location of these sites in relation to their surrounding context generates restrictions preventing users from having the ability to utilize and experience the space rendering it unused and abandoned.

Privatisation Of Public Space:

When we control public space, we tend to ‘police’ ourselves to allow us to monitor our behaviour and limit our interactions. These create uninviting areas others will not access. Generally, these are design issues leading to privatisation of space to occur through creating a network of smaller spaces developed through utilization of site barriers.

User Targeted Design:

Public spaces should be a place where different people can express themselves and interact with one another however this aspect is being neglected in the design process. Spaces are designed for single users which neglects others from being able to express themselves and interact when the primary user is vacant.
Opportunity For Design Research

In my opinion public spaces are lacking aspects required to maintain a healthy and sustainable society. There is an absence in design preventing multiple users from having interactions in public space. Designers start with a 'Blank Canvas' when creating/designing public spaces. Removing the existing natural elements, we harm the sites possibility of utilizing the successful environmental aspects existing on site.

I believe the design research has an opportunity to discover whether using existing elements and environmental factors to influence users exploration and interaction with the environment and other users. the design research provides analysis on how design could improve the way multiple users could interact and utilize public.
Research Questions

How can the analysis of existing public spaces inform design research?

How by incorporating site features, small interventions can create affordances that stimulate exploration and interaction?
Aims and Objectives:

My research will investigate how small interventions can stimulate the surrounding environmental context to become part of the design influencing the user’s behaviour:

- I intend to develop an understanding of how existing public space functions and identify the key aspects that make them successful. Through determining public spaces that are successful and unsuccessful allows for comparison between the different aspects investigated. Conclusions will be drawn from this research to inform the design process.

- Through the use of interventions, can we amplify the environmental structure to determine the role of the design. Achieved by developing small structures or manipulating certain spatial qualities allow for the surrounding context to develop a role in the design process.

- I plan to utilize the opportunity to work with a specific user group to influence the design through their creativity and interactive workshops to test analysis conclusions and ideas. Having workshops with potential users provides the users to understanding of their views for the spaces outcome. Listening to the users will determine what the site affords and appears to them.

- Completing the first stages of the design should demonstrate the ability of using existing environmental elements to create interaction and exploration between different users.

Getting involved and building the first stages of the design should demonstrate the benefits of proceeding with natural outdoor spaces amplified by small interventions within the key environmental aspect of the space. This allows them to visually see something happening that they will be able to use and interact with.
Methodology:

Begin an initial investigation into the problems/ issues identified in public space

Select 6 sites (2 high densities, 2 medium densities and 2 low densities) that I will compare to determine if they are successful or unsuccessful and why.

Provided an opportunity with a Kindergarten (Awatea) as a case study dealing with real people to test the research and narrow the scope to a more specific user group for accurate analysis.

Analysis the user’s behaviour in the existing site and use small interventions to experiment with the users exploration and interaction.

Use workshops with the kids to allow for child lead designs to develop an understanding of the kind of spaces they visualize.

There needs to be a workshop with the people working at the kindergarten as to what realistically can be done on the site due to money, safety etc... (Dealing in the real)

With the ideas collected, begin a progressive expansion of the playground in which small interventions will be used to introduce the users ideas to the existing elements of the site.

The small interventions will look at utilizing the existing typography/ environmental factors to create user exploration and interaction.

These factors will look at connecting multiple site aspects and qualities to generate a progressive site that relates directly to the multiple types of users and provide them with affordances they can discover and interact with.

Physically build 1 or 2 of the interventions to use and demonstrate the ideas generated by the design research.

Develop a conclusion which discusses the discoveries and findings from the investigations, analysis and tests throughout this research document.
Philosophy Model:

- Research Problem/Investigation
  - Literature and Precedent Review
    - Holistic Child Development
    - Existing Region Types
    - Affordances
    - Territorial Range Expansion
    - Natural Elements
  - User Interaction and Observation
    - Direct Observation
    - On Site Experiments
    - Communication
    - Workshop 1 = Goals/Ideas
    - Workshop 2 = Feedback
- Drivers
- Evidence Based Experiments
- Preliminary Design
- Final Design
- Hands On Site Design

Fig 0.7 - Philosophy Model
The initial investigation discovers the values of public space from 6 sites. The sites will then be categorised into different densities across Wellington. This allows me to compare each of the sites within the different densities to determine the successful and unsuccessful elements that exist within. Comparisons between peoples activities and where the are applying them will also be noted and categorised.

As public spaces are used for recreational purposes, it’s important to gain an understanding of what recreation is to users. Using fieldwork to determine relationships between different users based on their recreational intensity and noise levels we can work out the most successful relationships between different users. Depending on the active intensity and the noise levels generated, you can pair users that could co-exist in the same space.

These initial investigations will set a platform allowing for the breakdown of chosen sites to be analysed with an understanding of recreation and behaviour produced within existing public spaces.
Public Space Values

Network of key components and values that influence the behaviour and interaction within public space.
Ideal Public Space Values

Economic Values
- Economic vitality
- Urban management.
- Human capital.

Environmental Values
- Reduced pollution (Air, Noise, Water)
  - Ecological diversity.
  - Energy consumption.

Social Values
- Improved quality of life.
- Security and safety.
- Social equality and stability.
- Cultural vitality.
- Social integration and civic pride...
This diagram pairs users with the same intensity levels to determine which activities could coexist. The other side shows noise levels created from the activities to understand how close users could be to remain jubilant.
User Relationships Conclusions

I discovered that similar users in public space could co-exist in relation to their recreation type. For example, activities that involved high intensity, such as biking would pair well with other users of high intensity like dancers and skaters as the noise levels wouldn’t discourage them. Other users who needed a quieter space like the elderly or book readers tended to be away from louder more high intensity activities.

High intensity and louder activity’s tend to take control over public spaces as the more dominant user. Less dominant and quieter users made their own spaces to get away from others creating privatised areas. This resulted in the removal of interactions that prevented others using that area.

I discovered a lack of design for coexisting users. Areas are being designed for dominant users and neglecting the development other spaces surrounding them reducing interactions between users. This creates a lack of appropriation for having these large scale public spaces that generate negative spaces for users that can’t coexist.
Recreation Study

It is important to understand what recreation means to people within a space or area as the meaning of recreation is a point of view. This is crucial to find out what the restrictions are for different users as they could have religious views, different mind-sets, needs and wants that prevent activities from being performed rendering spaces useless. Recreation is an activity that people engage in during their free time throughout the day people enjoy and recognize recreation as having socially redeeming, physical and mental values. The activity performed is way less important than for the reason for performing that activity and that outcome gained.

Recreation activities can take many shapes and forms; they must contribute to society in such a way that society deems them to be acceptable with in the correct brackets. This means that activities deemed socially acceptable for recreation can change over time depending on the demand or need for there to be such activities.

(Refer to appendix D for more information)
Wellington Region Recreation

Recreation is a large part of everyday life and the key driver of user's behaviour in public space. I investigated into Wellington's recreation to gain an understanding of key aspects.

78% of adults (290,000) in Wellington region take part in sport and recreation in any given week.

Fun runs/walks are the most popular event for adults.

62% of adults are interested in trying a new sport or participating more in an existing one.

Similar proportions of men and women participated in sport and recreation.

4.3 is the average number of activities adults participated in Wellington. (Rest of New Zealand - 4.0)

20% took part in regular club competitions.

66% took part in a organised group by people who take part in the activities.

99% took part in sports or activities casually on their own or with others.

60% say a lack of time is the reason for not trying or doing more of an existing activity.

86% say that they take part for enjoyment.

62% of adults are interested in trying a new sport or participating more in an existing one.

95% say that fitness and health is the key reason for taking part.

13% say a lack of nearby parks or facilities.

To discover how recreation affects users' behaviour, we need to know how they use public space and why they are performing these activities in these areas. What are the key drivers that make people want to come to these public realms?
Wellington Region Recreation

Most Popular Recreational Activities In Nature -

- Cycling
- Swimming
- Walking
- Equipment-based Exercise

64% of the natural settings these took place in were at parks in towns/cities.

83% took part in one or natural settings.

47% were on an off-road bike trail or walking track.

43% were in a bush or a forest of some kind.

51% were at a beach or by the sea.

Comparison between designed recreation space that need specific items and natural recreation spaces that need minimal change.

95% of people took part in sport and recreation in one or more man-made facilities.

59% of man-made facilities were paths, cycle ways and walkways.

47% belong to some form of club.

25% belong to a sports club.

23% belong to a gym or fitness centre of some kind.

Most Popular Sports -

- Football
- Golf
- Cricket
- Netball

Fig. 1.3 - Wellington Region Recreation Statistics including Previous Page
Wellington Region Recreation

Conclusion

It is clear that a large portion of the Wellington community takes part in sport or recreation weekly. They take part in recreation to stay fit and healthy with the only reasons for not performing recreation being due to lack of time or facilities nearby.

Organised club sports had the majority of people participating because it eliminates the stress of having to organise activity’s themselves. These generally are team sports which force interactions between people. Although many people also took part in activities in natural settings such as bushes, forests and beaches which are individual activities. These activities would force users to interact with other users they haven’t meet before.

Recreation contains many different types of users participating in different activities that don’t interact with each other. These are designed at different sites which separates these activities. All users are participating in these activities aiming for the same goal of staying fit and healthy or to find a way of interacting with others. Finding a way to design spaces that would allow different activities to coexist would allow users with the same goals to interact through passive or active recreation.
This chapter looks into what attributes, determinants and appropriation that makes public space successful or unsuccessful. How site aspects influence human behaviour so conclusions can be drawn from findings/observations to use as a guideline through the design process. From the initial investigation I identified key categories of public space to compare. Analysis of these categories will create typologies that affect user behaviour in the existing public spaces.
Process Of Initial Existing Site Analysis

Decide which types of public space I want to investigate.

Pick what sort of urban structure these sites will contribute to.

Find sites that I feel are different in the public spaces they provide. Through context, density's, urban development and potential users.

Unsuccessful

Successful

Compare and contrast the different determinants of the site to understand why one would be more successful than the other.

Conclusions and generation of site typologies.
Analysis Categories For Existing Sites

Context Analysis:
- Site Conditions
  - Site Flows
- User Flows Through Space Constraints
  - Existing Barriers And Reactions
  - Access And Visual Attractions
    - Site Levels
    - Site Journey

Site Specific Analysis:
- Movement + (Spaces And Trees)
- Weather Affects On Activities
  - Spaces + (Features)
- Users Of Existing Spaces
  - Site Trees + (Features)
  - Site Users
2 sites from 3 different urban densities would allow for an understanding of a wider scope of users in different contexts. One site would be selected as a potentially successful site and another as unsuccessful. To determine how some sites determinants make a space more successful then another I will compare two sites in the same urban densities. Each density has a different urban context and by investigating each of these, allow for analysis of a much larger user group of existing public spaces.
Site Analysis Locations

The chosen site locations in relationship with Wellington. Spread throughout the different contexts in different area types such as the town belt, residential areas and inner city locations to widen the research scope.

Fig. 2.3 - Existing Site Analysis Locations
High Density Context Map

Locating other parks, playgrounds and recreational areas that create links through the high density area in relation to the chosen site.
Medium Density Context Map

Locating other parks, playgrounds and recreational areas that create links through the medium density area in relation to the chosen site.

Fig. 2.5. - Medium Density Context Map
Locating other parks, playgrounds and recreational areas that create links through the low density area in relation to the chosen site.
Successful High Density Site (Waitangi Park)

I believed this site provided a number of activities for users to perform in a variety of spaces. It contains the facilities needed for the types of users in the area. Different users should be able to come together increasing interaction. It also has a number of access points and potential pathways which would suggest the site has a easy flow and movement pattern.
Waitangi Park Site Conditions

Fig. 2.8. - Waitangi Park Site Conditions
Unsuccessful High Density Site
(Frank Kitts Park)

This site appears unsuccessful because its dark, damp and the different levels/ layers change the atmosphere of the site. This is creating private, uninviting spaces throughout the site. Large barriers preventing movement through the site, it doesn’t provide the direct contact allowing for interactions and activities to occur.
Frank Kitts Park Site Conditions

Fig. 2.10 - Frank Kitts Park Site Conditions
Successful Medium Density Site
(Charles Plimmer Park)

Initial reaction to Charles Plimmer Park is that its successful out of the two medium density sites. It seems to provide more opportunities for movement around the surrounding context. Naturally provides tracks using the existing environment allowing recreation to occur.
Unsuccessful Medium Density Site (Woof Woof Ruf)

Woof Woof Ruf appears to be unsuccessful due to its topography. A view of Newtown is the only attraction to users but the view is hidden away with limited access. Generally, this is what I would describe as a single use space specifically targeting dog walkers, bikers and locals who know the site.
Woof Woof Ruf Site Conditions

Fig. 2.13. - Charles Plimmer Park And Woof Woof Ruf Site Conditions
Successful Low Density Site
(Khandallah Park)

Khandallah Park appears successful in the way it allows for multiple activities to take place in a single area. The sites welcoming and encourages all users to utilize the site. The site uses a swimming pool (local hot spot) and the walk up Mt Kaukau as an attraction technique to bring users to the site. Its only missing little interactions to attract people into certain areas.

Fig. 2.14. - Khandallah Park Context Map
Unsuccessful Low Density Site
(Johnsonville Park)

Johnsonville park at first look is unsuccessful because of how it has no real attractions, determinants or interest to users. It’s used as a starting/meeting point for walkers up Mt Kaukau. However, it has a space hidden away in the bushes which people living in the area would only know about.
Khandallah Park Site Conditions

Fig. 2.16. Khandallah Park Site Conditions

- Open Space
- Access Points/Vegetation
- Features
- Benches/ Human Interaction
- Benches/ Human Interaction
- Vegetation and Pathways
- Pathways
Johnsonville Park Site Conditions
To investigate user movement of existing sites I would select random users as they entered the area and watch their movements through the space. I would then record these movements on a map which would identify the areas with the most movement and reveal how people’s movement through the site relates to the existing pathway and site aspects.

After identifying people’s movement, I will then select points along these movements that I believe influenced the user’s behaviour. This produces typologies for the successful and unsuccessful aspects of the site. A palette will be created to understand the different aspects of these topologies.
Frank Kitts And Waitangi Park Site Flows

Fig. 3.1 - Frank Kitts Park Site Flows

Fig. 3.2 - Waitangi Park Site Flows

Key
- All Pathways
- Peoples Movement
- Main Loop
- Barriers

Frank Kitts Park
Waitangi Park
Woof Woof Ruf And Charles Plimmer Park Site Flows

Fig. 3.3. - Woof Woof Ruf Site Flows

Fig. 3.4. - Charles Plimmer Park Site Flows

Key

- All Pathways
- Peoples Movement
- Main Loop
- Barriers

Woof Woof Ruf

Charles Plimmer Park
Initial Site Flow Observations

Frank Kitts Park - Waitangi Park
- Movement in relation to the barriers.
- Prefer to stay on the parks pathways.
- Movement near access points.
- Provide straight linear movement
- Waitangi Park is more successful as it allows multiple movement options.
- Creates easy passage through the site.
- Frank Kitts Parks movement is strongly dominated by barriers and restrictions.

Charles Plimmer Park - Woof Woof Ruf
- Plimmer Park is successful as people move through it due to more pathway connections.
- Separated from the main track.
- Site way too small for most people to move.
- Movement in all directions and not just linear movement.
- Opportunities to create their own movement pattern.

Khandallah Park - Johnsonville Park
- Move in a direct motion.
- Concrete pathways that guide user’s movement.
- Tended to move through the space on their own creating a more natural movement.
- Different approaches to allowing user movement that utilizes the natural elements.
Fig. 3.7 - Site Flow Typologies For All Density Sites
Site Flow Typology Aspects

Frank Kitts Park - Waitangi Park
- Dominated by corridors and views.
- Creates involuntary movement.
- Restrictions and constraints prevent user movement.
- Movement with visual connections and open views.
- Direct movement towards their intended location.

Charles Plimmer Park - Woof Woof Ruf
- Movement through bushes and environmental context.
- Utilize rocky pathway textures, typography barriers and vegetation as forms of guiding movement.
- Large natural trees provide shelter for users passing underneath producing interesting corridors around the site.

Khandallah Park - Johnsonville Park
- Man-made pathway structures.
- Natural pathways utilizing existing vegetation.
- Pathways created through users experiences.
- Uses concrete to give users direct movement and passage.
- Provides the freedom to move around.
- Utilizes visual connections to track access points.
To analyse the spaces within these sites, I used the flows from the previous investigation to identify the separation between the used and unused spaces. Key areas in which a specific activity had been designed for or was occurring in. I would also consider areas where interactions occurred as a separate space due to the function of the space.

This investigation would identify the types of users that use these spaces and the constraints the site faces preventing them from opening up to a multiple number of people. From this I can see how the sites create interaction within the spaces and why these flows tend to move to certain areas. Relationships between spaces will be revealed as some would work together to produce a better outcome.
Frank Kitts And Waitangi Park User Flows Through Space Constraints

Fig. 4.1. - Frank Kitts Park Flows Through Space Constraints

Fig. 4.2. - Waitangi Park Flows Through Space Constraints

Key

- Harbour
- Recreation Space
- Buildings
- Car Parking
- Park Space
- Connection/ Playgrounds
- Wetland Areas/ Other Areas

Frank Kitts Park

Waitangi Park
Woof Woof Ruf And Charles Plimmer Park
User Flows Through Space Constraints

Fig. 4.3. Woof Woof Ruf Flows Through Space Constraints

Fig. 4.4. Charles Plimmer Park Flows Through Space Constraints

Key
- Open Forest Areas
- Park Space
- Sports Ground
- Buildings
- Car Park
- Dog Park

Charles Plimmer Park
Khandallah And Johnsonville Park User Flows Through Space Constraints

Fig. 4.5. - Khandallah Park Flows Through Space Constraints

Fig. 4.6. - Johnsonville Park Flows Through Space Constraints
Initial User Flows Through Space
Constraints Observations

Frank Kitts Park - Waitangi Park
- Close to the harbour which attracts most of the flow.
- Getting users away from the busy city spaces.
- Provide spaces for the surrounding urban context.
- Targets dominant user group in that area.
- Waitangi Park provides large open spaces to attract people.
- Surrounded by less imposing buildings which provides a great place for activities and events to be held.
- Accommodates multiple user types and recreation.

Charles Plimmer Park - Woof Woof Ruf
- These areas are spread out.
- No real program within the park structure.
- These parks are track based, providing movement options.
- Evenly spread spaces surrounding the site.
- Relies on the pathways to create connections to each space.

Khandallah Park - Johnsonville Park
- Has many spaces for multiple users.
- Different users able to interact and be involved in all types of recreation.
- Johnsonville Park only provides a singular open space.
- Allows for people to create their own activates.
- Only appeals to nearby residents.
- Potential for having programmed activities.
- Potential to provide spaces that draws users from the surrounding areas.
Users And Constraints Through Space Typology

Frank Kitts Park

Enclosed Space

High Open Space

Woof Woof Ruf

Enclosed Viewing Space

Sheltered Viewing Space

Khandallah Park

Pathway Separation Space

Playground Attraction Space

Waitangi Park

Singular/Targeted Space

Private Space

Charles Plimmer Park

Open Area Space

Sheltered Seating Area

Johnsonville Park

Secret Space

Unprogramed Area

Fig. 4.7. - Flows Through Space Constraints Typologies For All Density Sites
User Flows Through Space Constraints
Typology Aspects

Frank Kitts Park - Waitangi Park
- Seating and close interaction spaces.
  - Higher point for separation.
  - Causes major privatisation in the site.
  - Spaces that are targeted to single users.
- Private spaces which produce huge separation between users.
  - Designed for a purpose.

Charles Plimmer Park - Woof Woof Ruf
- Large open space in an area where people can come together.
  - The site has chairs in an area that is sheltered.
Understanding of the surrounding environmental context.
  - Views to attract people.
  - Slope of the terrain prevents the use of the space.
- Successfully use the environmental context and aspects to
  generate successful spaces.

Khandallah Park - Johnsonville Park
- Multiple spaces in which provide the area with a bunch of activates.
  - Area has a meaning which attracts and draws users.
- Open spaces that people have the freedom to choose the function.
  - Hidden spaces allow for a quiet, uninterrupted space for locals.
- Attraction of having more users in the space will attract more
  people wanting to be with other people.
The barriers on the site were identified by mapping the site's movement to see where/how people were walking. During my fieldwork I noted down barriers that I could physically see and perceive as barriers. It would demonstrate where along these barriers interactions between users would happen as the pathways crossed and how they influenced linear movement compared to free movement. I would then highlight the affected pathways to pull out the different aspects of these barriers.
Frank Kitts And Waitangi Park Existing Barriers And Reactions

Fig. 5.1 - Frank Kitts Park Barriers And Reactions

Fig. 5.2 - Waitangi Park Barriers And Reactions

Key
- Barriers
- Crossing Points
- Road
- Crossings
- Affected Pathways

Frank Kitts Park

Waitangi Park
Woof Woof Ruf And Charles Plimmer Park Existing Barriers And Reactions

Fig. 5.3. - Woof Woof Ruf Barriers And Reactions

Fig. 5.4. - Charles Plimmer Park Barriers And Reactions

Key
- Barriers
- Affected Walkways
- Road Barriers

Woof Woof Ruf

Charles Plimmer Park
Khandallah And Johnsonville Park Existing Barriers And Reactions

Fig. 5.5. - Khandallah Park Barriers And Reactions

Fig. 5.6. - Johnsonville Park Barriers And Reactions
Initial Existing Barriers And Reactions

Observations

Frank Kitts Park - Waitangi Park
- Discovered Waitangi Park has more barriers than Frank Kitts.
  - Very low barriers creating visual connections.
  - Barriers are very linear and tall. (Hard edges)
- Unsuccessful by producing tunnel vision that prevents users from interacting with the site.

Charles Plimmer Park - Woof Woof Ruf
- Reduces the barriers by providing walkways.
- Cleared out bushes leaving overhanging canopies that are easy to walk under.
- Woof Woof Ruf doesn’t provide people with easy access.
  - Positioned close to barriers that prevent movement.

Khandallah Park - Johnsonville Park
- Barriers prevent movement from expanding the park.
- Environmental features determine the size of spaces.
  - Positioned at the bottom of hills or valleys.
  - Deal with challenging topography.
- Streams used as barriers to separate spaces.
- Natural barriers (Soft edges) define what happens to these spaces and allows for the spaces to maintain a natural setting.
Existing Barriers And Reactions Typology

Waitangi Park Typologies of Site Barriers

Seating Barriers

Activity Separation

Private Pathways

Road Barrier

Access Barrier

Facade Barrier

Frank Kitts Park Typologies of Site Barriers

Movement Barrier

Seating Barrier

Height Separation

Height Interchange

Enclosure Barrier

Road Barrier
Existing Barriers And Reactions Typology

Woof Woof Ruf/ Charles Plimmer Park Typologies of Site Barriers

Movement Barrier

Height Separation (High)

Height Separation (Low)

Terrain Constraints

Johnsonville/ Khandallah Typologies of Site Barriers

Vegetation Movement Barrier

Space Definition

Slope Barrier

Stream Barriers

Viewing Separation

Property Separation

Activity Separation

Planting Constraints

Natural Movement Barrier

Open Space Boundary

Slope And Vegetation Movement

Constructed Stream Barriers

Fig. 5.7 - Existing Site Barriers Typologies For All Density Sites Including Previous Page
Existing Barriers And Reactions
Typology Aspects

Frank Kitts Park - Waitangi Park
- Very low lying allowing people to see over them.
  - Creating visual connections.
- Bridges as passing points allows for movement through the barriers.
- Transportation and building facades are used as barriers.
  - Barriers that provide spaces which are very social.
  - Creates connections and interactions to other users.
  - Heights of the concrete structures.
  - Lack of breaks or gaps in the barriers.

Charles Plimmer Park - Woof Woof Ruf
- Has a lot of height separation.
- Creates a very small group of passage ways around the site.
  - Allows for viewing sites and creating separation.
- Creates activities that can be performed in smaller spaces.

Khandallah Park - Johnsonville Park
- Able to create space and movement.
- Dense vegetation producing soft barriers.
- Vegetation is hiding the barriers behind like extreme slopes, streams and rough terrains.
- Allows the space to have a safe feeling which provides a physical barrier that actually prevents people from using unsuitable areas.
An important part of public space is the access points that allow for users to enter the site easily. For this part of the analysis it was key to go to the site and find all the access points that created the main movement. I would also note any major views that would influence users movement in the site.

An understanding to the reasons why certain access points at different locations are successful or unsuccessful. Views are important for a sites appropriateness as they create different functions like attracting people to the site, used for supervision and producing visual connections to the surroundings. These aspects reveal the strategies and affects these views have on the site.
Frank Kitts And Waitangi Park Access And Visual Attractions

Fig. 6.1.  - Frank Kitts Park Access And Visual Attractions

Fig. 6.2.  - Waitangi Park Access And Visual Attractions

Key
- Site Access
- Outer Access
- Existing Pathways
- Views
- Main Movement

Frank Kitts Park

Waitangi Park

N
Woof Woof Ruf And Charles Plimmer Park Access And Visual Attractions

Fig. 6.3. - Woof Woof Ruf Access And Visual Attractions

Fig. 6.4. - Charles Plimmer Park Access And Visual Attractions

Key
- Site Access
- Outer Access
- Existing Pathways
- Views
- Main Movement

Woof Woof Ruf

Charles Plimmer Park
Charles Plimmer Park Access Points And Visual Attractions

Fig. 6.5.  - Khandallah Park Access And Visual Attractions

Khandallah Park

Key
- Site Access
- Outer Access
- Existing Pathways
- Views
- Main Movement

Fig. 6.6.  - Johnsonville Park Access And Visual Attractions

Johnsonville Park
Initial Access Points And Visual Attractions Conclusion

Frank Kitts Park - Waitangi Park

- Allows people to enter the area from a number of directions.
  - Frank Kitts Park only has a few main access points.
- Square shape and uneven heights limit access.
- Waitangi Park is a strange shape and much flatter allowing more movement.
  - Provides viewing platforms with different levels.
- Waitangi Park is too flat to get any views outside of the park.

Charles Plimmer Park - Woof Woof Ruf

- Use heights and high canopies to provide areas with views.
  - Has a purpose to visit the site creating an attraction.
  - Access to the sites are rather limited.
- Charles Plimmer Park pathway network is much wider providing more access points.
- Woof Woof Ruf has few access points and no external features.

Khandallah Park - Johnsonville Park

- Views and access points are decided by the barriers.
  - The views for these sites are for safety purposes.
  - Watch over others in the park.
    (Children being watched by their parents)
- Produce ‘needed’ views for the activities, users and spaces that exist inside of them.
Encouraged Interaction Views

Walkway Views

Lookout Views

Frank Kitts Park

Waitangi Park

Seating Viewing

One Sided View

Over Vegetation Views

Woof Woof Ruf

High Canopy Opening

Through Canopy Opening

Singular View Point

Khandallah Park

Charles Plummer Park

Over Vegetation

Multiple View Points

Seated Hill Viewing

High Canopy Opening

Forced Views

Passage Connections

Johnsonville Park

Movement Views

Forces Interaction

Passage Connections

Fig. 6.7 - Access Points And Visual Attractions For All Density Sites
Barriers And Reactions Typology
Aspects

Frank Kitts Park - Waitangi Park
- Utilizes levels on the site to attract people to the views.
  - See over the areas below.
- Waitangi Park does not provide any major view points but it provides views across the park that allows connections to the surroundings.

Charles Plimmer Park - Woof Woof Ruf
- High canopies provide an affective space for people to see their surroundings.
- Placing seating underneath the trees to allow for the view to be used as a stop or attraction point for users.
- Tracks provide views which influences the user’s behaviour to walk along these tracks.
  - Creating points along a track that users want to use.

Khandallah Park - Johnsonville Park
- Provide a lot of privacy through the site barriers.
- High trees in certain areas allow for people to see underneath and create connections with the access points.
- The vegetation provides a controlled viewing platform.
- Maintains connections with the parks natural settings.
Due to the sites being within different urban densities, different contexts meant that the environmental factors and aspects of the site would be different. It's important to map out the height changes through the sites as they afford the space different conditions for activities to occur. Slopes also influence access, movement and quality of the sites as it’s a large aspect of how public space operates.

Identification of the top, medium and low points of each site and the connections between these points to understand where the major slopes on the site are located in relation to barriers and existing movement.

**SITE LEVELS**
Woof Woof Ruf And Charles Plimmer Park Site Levels

Fig. 7.3. Woof Woof Ruf Site Levels

Fig. 7.4. Charles Plimmer Park Site Levels

Key
- Barriers
- Medium Level
- Top Points
- Mid Points
- Low Points
- Spaces
- Low Connections
- Mid Connections
- High Connections

Woof Woof Ruf

Charles Plimmer Park
Woof Woof Ruf And Charles Plimmer Park Site Levels

Fig. 7.5. - Khandallah Park Site Levels

Fig. 7.6. - Johnsonville Park Site Levels

Key
- Barriers
- Medium Level
- Top Points
- Mid Points
- Low Points
- Spaces
- Low Connections
- Mid Connections
- High Connections

Khandallah Park

Johnsonville Park
Initial Site Levels Observation

Frank Kitts Park - Waitangi Park
- They influence the way the space is used for events.
- Being flat allows for it to hold events successfully.
- Creates spaces for people to preform activities.
- Frank Kitts uses its relationship with the harbour and strong structural barriers to create high points along the water front.
- Generates both forms of recreation and creates a relationship with the harbour.

Charles Plimmer Park - Woof Woof Ruf
- Steep slopes that provide views.
- Limits the types of users that are able to access the area.
- Spaces seem to be located in the mid-level area.
- Residential areas have easier access to the sites.

Khandallah Park - Johnsonville Park
- Use Mt Kaukau as the starting point.
- Mixes passive recreation with active recreation.
- Stream runs through the space amongst the flat spaces.
- Parks are placed by the typography of the area.
- Khandallah Park has a very linear shape.
- Johnsonville Park has a larger more uneven shape.
- Provides a space for the users to have more uncontrolled movement and direction.
- Khandallah Park utilises it’s given shape to get the most affective spaces.
Frank Kitts Site Journey
Waitangi Park Site Journey
Woof Woof Ruf Site Journey

Fig. 7.9 - Woof Woof Ruf Park Site Journey
Khandallah Park Site Journey
Johnsonville Park Site Journey
Changing the scope of the analysis I can identify the smaller features of the sites in greater detail. I wanted to understand the true movement within the site and if there was a relationship between the movement near trees on the site. I was able to identify how the spaces interacted with trees in terms of purpose, cover and shelter from the environmental conditions.
Frank Kitts Park Closer Look At Movement + (Spaces + Trees)

Fig. 8.1. - Frank Kitts Park Close Site Movement With Spaces And Trees
Waitangi Park Closer Look At Movement
+ (Spaces + Trees)
Woof Woof Ruf Closer Look At Movement + (Spaces + Trees)

Fig. 8.3 - Woof Woof Ruf Close Site Movement With Spaces And Trees

- Trees
- Trees Providing Shelter
- Main Movement
- Pathways
- Dog Park
- Seating Space
- Parking
Charles Plimmer Park Closer Look At Movement + (Spaces + Trees)

Fig. 8.4. Charles Plimmer Park Close Site Movement With Spaces And Trees
Khandallah Park Closer Look At Movement + (Spaces + Trees)

Fig. 8.5. - Khandallah Park Close Site Movement With Spaces And Trees

- Trees
- Trees Providing Shelter
- Main Movement
- Pathways
- Dog Park
- Seating Space
- Parking
Johnsonville Park Closer Look At Movement + (Spaces + Trees)

Fig. 8.6 - Johnsonville Park Close Site Movement With Spaces And Trees
Closer Look At Movement + (Spaces + Trees) Conclusions

Frank Kitts Park - Waitangi Park
- People chose to move through Waitangi Park as it has multiple pathways compared to Frank Kitts Park.
- Frank Kitts Park has more features and seating dedicated areas.
- Waitangi Park has greater open space affording people the ability to utilize activities.
- Frank Kitts Park has a more natural feel through un-patterned tree layout.

Charles Plimmer Park - Woof Woof Ruf
- Pathways that allow connection through the site.
- Uses more natural trees to provide shelter.
- Woof Woof Ruf has no real connections to any surrounding area.
- Relies heavily on the linear movement and user’s knowledge.

Khandallah Park - Johnsonville Park
- Utilises the vegetation/ trees around the space.
- Enjoyable space provides better conditions to attract users.
- Johnsonville Park is just very open and has no visual connections.
- Spaces go unused and underutilized creating unsafe areas.
I selected three of days that I would go to the sites and record what people would be doing at those times. I decided to go to the sites during the weekday whilst it was raining and once while it was sunny to compare how they are utilized during those condition. I also would go during a weekend day to investigate how a weekend would compare to the previous days.

I pinned the locations where activities where occurring during those conditions. It allows me to understand whether the sites are being utilized or abandoned during different weather conditions. It should support the issues identified in the initial investigation about sites being abandoned in poor weather conditions. Identifying which parts users aren’t using will suggest something in those areas are affecting the ability for the site to be utilized.
People tended to utilise the space more during the weekend and sunny days with very limited interaction during rainy days.

Frank Kitts Park is much like Waitangi Park in the way it has multiple people enjoying the space during weekend and sunny days. Almost nobody went there during rainy day.
Woof Woof Ruf Site Conditions vs Activities

Week Day
Sunny Day

Week Day
Rainy Day

Weekend
Sunny Day

- Peoples Preforming Some Form Of Activity

Only time Woof Woof Ruf got used was during the weekend. On any week day it had almost no users. The only ones coming through were people on a walk, run, etc...

Charles Plimmer Park Site Conditions vs Activities

Week Day
Rainy Day

Week Day
Sunny Day

Weekend
Sunny Day

- Peoples Preforming Some Form Of Activity

Charles Plimmer Park was well used during Week Days and Weekends but abandoned during rainy days

Fig. 9.2 - Woof Woof Ruf And Charles Plimmer Park Activities
Khandallah Park was well used by walkers on all days. During weekends and sunny days it tended to attract crowds of people to the spaces.

Johnsonville didn’t have anyone coming or going. All the days were very similar with the only people passing through being a small number of walkers and runners.
I wanted to locate the smaller features that could influence the reason users would be attracted to the site. Key features I looked for were bins, benches, main movement, space identities (what the spaces afford people) and areas where people were gathering. Using these I am hoping to identify successful features for creating interactions and attracting different users. Also by finding the unsuccessful features that ruin the atmosphere of the site and reduce the chance for these interaction between users and space.
Fig. 10.1. Frank Kitts Park Close Site Spaces And Features

- Park Space
- Look Out
- Enclosed Space
- Seating Space
- Playground

- Benches
- Trees Providing Shelter
- Trees
- Pathways
- Movement
- Featured Spots
Woof Woof Ruf Spaces + (Features)

Fig. 10.3 - Woof Woof Ruf Close Site Spaces And Features
Charles Plimmer Park Spaces + (Features)

Fig. 10.4. - Charles Plimmer Park Close Site Spaces And Features

- Park Space
- Areas Of Activities
- Car Parks
- Slope Space
- Playground
- Benches
- Trees Providing Shelter
- Trees
- Pathways
- Movement
- Featured Spots
Khandallah Park Spaces + (Features)

Fig. 10.5 - Khandallah Park Close Site Spaces And Features
Johnsonville Park Spaces + (Features)

Fig. 10.6. - Johnsonville Park Close Site Spaces And Features
Closer Look At Movement + (Spaces + Trees) Conclusions

Frank Kitts Park - Waitangi Park
- Provide benches away from people making lots of noise.
- Uses the barriers that prevent movement as seating options.
- Successfully adds a secondary function.
- Dedicated areas for different affordances creating separation.

Charles Plimmer Park - Woof Woof Ruf
- Road that straight bypasses the park.
- Charles Plimmer Park has a road that goes to a dead end car park forcing people to stop at the park.
- Provides a wider range of spaces within the area itself.
- These spaces provide areas for users to interact.
- Allows people from outside of Wellington to see the views.

Khandallah Park - Johnsonville Park
- Good parking allows a number of users to come to the site.
- Khandallah Park offers activities to attract users.
- Creates opportunities for engagement with spaces providing direct flows.
- Johnsonville park has limited attractions, no connections, limited engagements with the surrounding and existing landscapes.
- Under maintained spaces and underutilized areas.
I located the types of users that were using the existing spaces to reveal which types of spaces attracted which users. Allowing for the discovery of what aspects or factors produce these conditions for the types of users able to interact in the space.

**Influences Of The Space On The Users**
Frank Kitts Park Users Of Space Conditions
And the Influences Of The Space On The Users

Frank Kitts provides areas that target natural shelter and plenty of spaces to create separation.
Waitangi Park provides spaces that allow for certain users to have a more dominant presence whilst still allowing for the interaction.
Due to the sites being on the town belt near medium density urban structure, it reduces the amount of activities that can be performed.
Plimmer Park has a much flatter open space that allows for users to create activities within those areas.
Khandallah Park provides areas for users along its linear shape which has a set system that allows for the site to become successful.
Johnsonville Park Users Of Space Conditions
And the Influences Of The Space On The Users

Johnsonville Park has the potential for different users and activities to build a relationship in the area.
With each density utilizing foliage and environmental aspects in different ways, I wanted to investigate the relationships between the trees and the small features at the sites. I wanted to find out which of the trees were naturally providing shelter or cover from the elements and which trees had been placed for a specific purpose. I could then see how the trees positioning changes the role of the design/ space and how users utilize the site.
Frank Kitts Park Closer Look At Trees + (Features)

Fig. 12.1 - Frank Kitts Park Close Site Trees And Features

- Trees
- Trees Providing Shelter
- Car Movement
- General People Movement
- Place Of Interest
- Seats
- Key People Spots
Waitangi Park Closer Look At Trees + (Features)

Fig. 12.2 - Waitangi Park Close Site Trees And Features
Woof Woof Ruf Closer Look At Trees + (Features)

Fig. 12.3. - Woof Woof Ruf Close Site Trees And Features

Trees
Trees Providing Shelter
Car Movement
General People Movement
Place Of Interest
Seats
Key People Spots
Charles Plimmer Park Closer Look
At Trees + (Features)

Fig. 12.4. - Charles Plimmer Park Close Site Trees And Features
Khandallah Park Closer Look At Trees + (Features)

Fig. 12.5 - Khandallah Park Close Site Trees And Features

- Trees
- Trees Providing Shelter
- Car Movement
- General People Movement
- Place Of Interest
- Seats
- Key People Spots
Johnsonville Park Closer Look At
Trees + (Features)

Fig. 12.6 - Johnsonville Park Close Site Trees And Features
Closer Look At Trees + (Features)

Frank Kitts Park - Waitangi Park

- No designed shelters on the site.
- Natural aspects like trees provide the cover.
- Uses larger canopies to create shelter.
- Waitangi Park has smaller trees which limit shelter (Mostly from being the newer park).
- Just a cafe by a playground has a suitable shelter.
- Tree cover was usually located near some form of seating.

Charles Plimmer Park - Woof Woof Ruf

- Demonstrate relationships between the trees and the features.
  - Use trees as a shelter.
  - Seating areas utilize the view.
  - Trees provide better cover throughout the park.
- Prevents weather conditions affecting the tracks and making them more accessible.

Khandallah Park - Johnsonville Park

- Utilizes its vegetation to provide areas that have no shade.
- Johnsonville park fails to utilize this by having all the trees along the boundary.
- Sun disappears quickly over the hill causing the whole site to be covered in shade and darkness.
When investigating public space, it is important to understand who is using these spaces, what they are doing while they are there, how long they are spending in the site and how many people are visiting. Looking at the statistics of what people are doing in these public spaces, I can determine what the differences were between the mix of users and activities performed.
Frank Kitts And Waitangi Park Site Users

Number Of People In Park:

- Frank Kitts Park
  - Rainy Day:
    - Through Park: 43
    - Outside Park: 133
  - Sunny Day:
    - Through Park: 122
    - Outside Park: 438
  - Weekend:
    - Through Park: 201
    - Outside Park: 445
- Waitangi Park
  - Rainy Day:
    - Through Park: 32
    - Outside Park: 68
  - Sunny Day:
    - Through Park: 112
    - Outside Park: 388
  - Weekend:
    - Through Park: 284
    - Outside Park: 723

Average Stay Times:

- Frank Kitts Park
  - Rainy Day:
    - 1:42 Mins Movement
    - 7:25 Mins Sitting/ Activity
  - Sunny Day:
    - 2:21 Mins Movement
    - 11:49 Mins Sitting/ Activity
- Waitangi Park
  - Rainy Day:
    - 1:48 Mins Movement
    - 4:52 Mins Sitting/ Activity
  - Sunny Day:
    - 3:12 Mins Movement
    - 16:34 Mins Sitting/ Activity

Types Of Users:

- Frank Kitts Park
  - Office Workers
  - Students
  - Kids
  - Parents
  - Parents with prams
  - Runners
  - Cyclists
  - Elderly
  - Locals
  - Shoppers
  - Photographers
  - Tourist
  - Workout Groups
  - Swimmers
  - Meeting Up
- Waitangi Park
  - Walkers
  - Homeless
  - Shoppers
  - Markets
  - Cafe
  - Kids
  - Parents
  - Students
  - Dog walkers
  - Smokers
  - Residents
  - Locals
  - Elderly
  - Office workers
  - Teenagers
  - Tourist

Where Are They:

- Frank Kitts Park
  - High Points
  - Tree Shelter
  - Large Seating Spaces
  - Playground
  - Shade
  - Market stands
  - Direct Routes
  - Sitting on the edges
- Waitangi Park
  - Under shelter from wind
    - Sitting at cafe
  - Round toilet block
  - Outside apartments
  - Activity Spaces
  - Sitting on the edges
  - Edges of the park
  - Market space
  - In the sun walking
  - Seated in the sun
Woof Woof Ruf And Charles Plimmer Park Park Site Users

Number Of People In Park:

Charles Plimmer Park
Rainy Day:
Through Park: 0
Outside Park: 4

Sunny Day:
Through Park: 22
Outside Park: 87

Weekend:
Through Park: 27
Outside Park: 132

Woof Woof Ruf
Rainy Day:
Through Park: 2
Outside Park: 3

Sunny Day:
Through Park: 5
Outside Park: 11

Weekend:
Through Park: 9
Outside Park: 22

Average Stay Times:

Charles Plimmer Park
Rainy Day:
:38 Mins Movement
2:32 Mins Sitting/ Activity

Sunny Day:
3:21 Mins Movement
6:21 Mins Sitting/ Activity

Woof Woof Ruf
Rainy Day:
:38 Mins Movement
3:21 Mins Sitting/ Activity

Sunny Day:
:58 Mins Movement
15:32 Mins Sitting/ Activity

Types Of Users:

Charles Plimmer Park
-Walkers
-Runners
-Trampers
-Dog walkers
-Locals
-Forest Carers
-Fitness Groups
-Tourist Groups
-Active Recreation Groups
-Photographers

Woof Woof Ruf
-Students
-Dog Owners
-Commuters
-Tourist
-Locals

Where Are They:

Charles Plimmer Park
-On the outsides
-Near the views
-Staying under tree cover
-Sticking to main pathways
-Using the dry ground areas

Woof Woof Ruf
-Walking or playing with dog
-Parked up
-Sticking to flat ground
-Staying under shade
-Walking home from school
### Johnsonville And Khandallah Park

#### Site Users

- **Number Of People In Park:**
  - **Johnsonville Park**
    - **Rainy Day:**
      - Through Park: 4
      - Outside Park: 3
    - **Sunny Day:**
      - Through Park: 16
      - Outside Park: 11
    - **Weekend:**
      - Through Park: 23
      - Outside Park: 29
  - **Khandallah Park**
    - **Rainy Day:**
      - Through Park: 16
      - Outside Park: 0
    - **Sunny Day:**
      - Through Park: 47
      - Outside Park: 0
    - **Weekend:**
      - Through Park: 81
      - Outside Park: 0

- **Average Stay Times:**
  - **Johnsonville Park**
    - **Rainy Day:**
      - 1:18 Mins Movement
      - 1:24 Mins Sitting/ Activity
    - **Sunny Day:**
      - 1:33 Mins Movement
      - 2:21 Mins Sitting/ Activity
  - **Khandallah Park**
    - **Rainy Day:**
      - 1:58 Mins Movement
      - 1:48 Mins Sitting/ Activity
    - **Sunny Day:**
      - 1:23 Mins Movement
      - 19:50 Mins Sitting/ Activity

- **Types Of Users:**
  - **Johnsonville Park**
    - Walkers
    - Runners
    - Trampers
    - Dog walkers
    - Locals
    - Forest Carers
    - Fitness Groups
    - Active Recreation Groups
    - Photographers
  - **Khandallah Park**
    - Walkers
    - Runners
    - Trampers
    - Dog walkers
    - Locals
    - Local Groups
    - Forest Carers
    - Fitness Groups
    - Active Recreation Groups
    - Photographers
    - Kids
    - Elderly
    - Teenagers

- **Where Are They:**
  - **Johnsonville Park**
    - Scattered round the place
    - On the dirt tracks
    - Away from the open space
    - Heading up towards Mt Kaukau
  - **Khandallah Park**
    - Playing in the spaces
    - Under shelter
    - On the built pathways
    - Walking the dog
    - Going to a building in the area
    - Group meetings in the open space
    - Heading up towards Mt Kaukau
CONCLUSIONS OF EXISTING PUBLIC SPACES
Initially, I thought that Frank Kitts Park would be less successful than Waitangi Park. I discovered they both have their successful and unsuccessful qualities based on the surrounding context and the needs of the site in relation to the types of users. Waitangi Park is more successful as it allows people to move through the site in any direction producing many successful access and exit points. Frank Kitts Park however doesn’t have the same success as it creates consistent linear movement with its large concrete barriers preventing utilization of the spaces inside.
Woof Woof Ruf and Charles Plimmer Park Conclusion

Woof Woof Ruf was unsuccessful due to how limited the connection is with the surrounding context and the lack of opportunities it offers. Charles Plimmer Park was successful in the way it uses flat ground over steep slopes of the hill that provides many spatial conditions that appeal to different users. It’s also got a great pathway network that allows for consistent flow of people through the site and connects them with the surrounding context.
Khandallah Park was more successful than Johnsonville Park as the site itself actually contained attractions such as a playground, swimming pool and a range of walking tracks. These attributes naturally moved people towards the site giving users a purpose. During poor weather conditions Khandallah part also had suitable infrastructure that allowed for activities to occur.
Different densities really widened the scope for the aspects that were able to be identified as successful and unsuccessful. All had an overall type of aspect for dealing with each of the categories that were analysed. Each of these different types allowed for multiple options to create successful public spaces among the main categories investigated. The high density sites are very separate to the low and medium densities in terms of how they deal with aspects of public space. Medium and Low densities were similar with the positioning and location of the sites.

The problems with public space identified at the beginning of this document, I managed to identify through the analysis of these sites. All had aspects which created issues thus being privatisation of space and single activity design spaces in the high densities areas. In the low and medium densities restrictions and insufficient design for environmental factors caused users to leave these spaces abandoned. These spaces also experience single activity designed spaces which Woof Woof Ruf had the biggest issue with. Khandallah Park demonstrated how this problem could be avoided given the correct structure and program could be used to create the interactions needed.

My overall conclusion for Frank Kitts and Waitangi Park is that both were successful in the way they created attractions for targeted users. I have identified Waitangi Park was more successful in Movement, Access and the ability to use barriers. Frank Kitts Park was also successful due to visual attractions, space constraints and through level changes on site. I intend to use aspects from the sites moving forward in the design process.

Aspects taken from Woof Woof Ruf and Charles Plimmer Park identified the way they utilize the relationship between the trees and views, importance of strong pathway networks, many access points and the importance of having flat land within a steep topography changing the spatial conditions. Neither parks really had different strengths or weakness, Woof Woof Ruf really lacked key aspects that make a successful public space. Rough terrain meant Woof Woof Ruf really doesn't have potential to become anything more than a dog park making it user specific. Charles Plimmer park had better structure which I will draw aspects and inspiration.

Out of Johnsonville Park and Khandallah Park, aspects from Khandallah Park will be the main focus as it is able to connect spaces that provide areas for different user groups to interact. Johnsonville Park is underdeveloped compared to Khandallah and doesn’t offer enough to become a successful site. The features for Khandallah Park such as movement through space, addition of features and the use of surrounding attractions are aspects I hope to manipulate in my design creating a successful network.
I was presented with an opportunity to work with a kindergarten that had inherited a large amount of land that they wanted to partially develop into an expansion of the existing playground. Due to the kindergarten being a nonprofit organisation they aren't able to maintain the maintenance costs for the land. They wanted public space that the council and community use and reduce the maintenance costs.

This has provided me with a chance to use the successful aspects from my public site analysis and introduce them into the design process for the kindergarten. I will test these aspects by trialing and eliminating the issues experienced through the analysis. Using this site as my case study I am able to interact with real people on a real project to test and evaluate my ideas and design in a real environment. With this project I get really specific user types which I will be designing for.
Introducing Case Study Site: Awatea Kindergarten

Awatea Kindergarten will be my case study testing my research question, problems and aims for this design research. I will get an opportunity to interact with the potential users of the site. This design research will have real restraints, issues and challenges that I will need to deal with during my investigation.
Opportunity For User Interaction

Opportunity to work with and interact with one of the potential users of the design (the children).

Watching

Explaining

Communicating
Initial Site Breakdown Options
(Through Discussion With Awatea)

Fig. 14.7. - Initial Site Breakdown Map
Existing Site Large Scale Features:

- Medium size open space near residential.
- Large open green space between school and kindy.
- High elevated space next to kindergarten entrance.
- Slopped open flat grass
- Flat grass
- High canopy
Existing Site Small Scale Features:

Pathway like flat space between slope and the trees.  
Slopped space looking up at the kindergarten.

Highly dense vegetation.  
Open space behind the trees next to the kindy.

Large trunks through out the flat ground.  
Steep grass slope.
Existing Site Sections

Site Section (Potential Public Space Area)

Fig. 14.8. - Section Of Public Space

Site Section (Kindergarten Expansion Area)

Fig. 14.9. - Section Of Kindergarten Expansion Area
Initial Site Breakdown Options
(What Each Space Could Generate)

Community And Council Involvement.
(Open Space)

- Influencing Passive and Active Recreation.
- Community Involvement.
- Using Locals Skills and Trades.
- Ecology Benefits.
- Cultural Aims and Development.
- Educating Community and Surrounding Areas.
- Generating Council Involvement.

![Community and Council Involvement Icon Images](image1)

Children Play and Education.
(Possible Kindergarten Expansion)

- Educating the Children Through Design.
- Creating a Natural Playing Space Which Generates Natural Active Recreation For The Kids.
- Provide Exploration.

![Children Play and Education Icon Images](image2)

Waste Removal and Redevelopment
(Dense Bushes)

- Clear the Area
- Educate and Use Labourers Skills

![Waste Removal and Redevelopment Icon Images](image3)

Fig. 14.10 - Breakdown Option Icon Images
In conclusion the kindergarten will be a challenge but I have the opportunity to test my research in a real environment. They have a large area they are looking to develop which targets a lot of different potential users. With children being the dominant users of the site they will become the first priority for the design process. A large part of the design process will be the interactions between me and the children with the development of the space. Workshops with the kids would allow for the design to be child led by utilizing that creativity the children displayed during my initial visit.

Turning the remaining areas of the site into a public space will be difficult. I will need to gain an understanding of what the community in the area want/need, what the aims for the future of Porirua City is and the history of the site to learn if it has any value for the surrounding community. My analysis will allow me to get a greater understanding of the existing features on the site and understand aspects of the site that could be improved by implementing areas from my analysis of the existing space.
LITERATURE REVIEW
Affordance of Nature

Natural environments in the modern urban context create rough dynamic playscapes which are best utilized by challenging motor activity in children of young age. Most natural environments contain and afford young kids the same types of activities in which they need to increase their motor skills in a positive way. The Natural forces kids to think about what the natural environment affords them through perception and feel thus increasing the knowledge through a none programmed playscape.

Gibson (1979) came up with a concept “Affordance” which was describe as having an awareness of the environment and the significance of the function that it provided the user. Example: A tree that is appropriately branched and stemmed will be perceived as being able to be climbed or climbed on. In which case a natural environment allows for such affordances and possibilities to exist. (Gibson 1979)

Natural elements such as slopes and rocks within a topography afford children natural obstacles to climb and test their motor skills. Vegetation in the area affords kids the chance to investigate new shelters and experience the ability to climb trees. Large open grass areas provide kids with a place to run and tumble around in. There are also areas like mud pits which can afford kids the opportunity to play with texture and experience a transformable space in which they grow an understanding of how the natural environment conditions change to afford them different activities and challenges.

The idea of a physical environment focuses specifically on the forms created. Heft (1988) suggested a different approach to the physical environment by creating spaces that focused more on the function than the actual form. This would allow more people to perceive what these objects would be able to afford within these physical environments.

By using this functional approach, it was easier to create spaces and objects that allows children to generate a better understanding of their environments surroundings. Children use the natural environment to challenge and develop their motor skills and abilities physically as well as mentally. Children tend to perceive the landscape for what it affords them in terms of play. (Heft, H. 1988)
How Interventions Can Help Potential Affordances Be Understood By Young Children

Fig. 15.1 - Affordances Diagram
Section Authors

Fig. 15.2. - James Jerome Gibson

Fig. 15.3. - Harry Heft
natural environments and children

over the past century there has been a massive change affecting play behaviour of children among all ages. their exposure to the natural environment is continuously decreasing as the surrounding context of childhood spaces develop and parents begin to fear for their child’s safety. most of this is due to large populations living in dense urban environments and the use of cars making streets unsafe to cross.

nature deficit disorder is what develops in children after removing access to nature. aspects of a child’s development are separated into 3 aspects. according to (moore and wong, 1997), learning in an outdoor setting stimulates 3 main aspects of children’s development. these are physical, cognitive and social skills (herrington et al, 1998).

physical happens from the removal of large playscapes that leads to sedentary lifestyles or become a part of the obesity epidemic. (herrington et al, 1998) large paved sports areas provide singular movements whereas natural environment allows for a variety of different movements that help the kids physically develop.

cognitive effect happens when children enter a green space and are able to spend time in that area. even having something as simple as a visual connection to green space can reduce symptoms of adhd or stress levels. removing children from this environment can have a bad effect on their cognitive development.

the last of these is the social aspect of children’s development. this part allows them to take risks, explore and work together to manipulate the landscape. this allows for certain concepts to be developed and understood by children of all ages. (van den berg, 2011) playscapes also allow for cultural and social identification to be developed by allowing for ownership of certain parts of the playscape for a short amount of time. (moore and wong, 1997)
Children Engagement With The Surrounding Natural Environment

As time passes, affordances of each activity within the natural environment are discovered and actualized. The experiential depth increases.

Fig. 15.4. - Children Engagement With Natural Surrounding Diagram
Territorial range is the area in which children’s play is enclosed and the pathways that allow for these spaces to be connected. Children begin to develop understanding of spaces and begin to expand. Robin Moore (1986) stated that the term was in relation to children ageing and being given the chance to expand their borders which allows for environment exploration.

**Fig. 15.5. - Territorial Range Diagram**
Fig. 15.6. - Robin Moore

Fig. 15.7. - Susan Herrington
Attention Restoration Theory

Racheal and Stephen Kaplan proposed a theory that children and adults both have an increase in the way they are able to focus on completing tasks after being exposed to the natural environment (Kaplan 1989). Their theory divided their attentions into different subtypes, Voluntary (requiring directed effort) and involuntary (constantly active). With children and adults being exposed to nature which is viewed as an involuntary activity allows for the voluntary function to have a chance to ‘rest’ (Kaplan 1989).

Through allowing voluntary function to ‘rest’ this would restore the ability to be able to focus. Creating better attention span to the surrounding environment increasing people’s opportunity’s to identify affordances in which they would be able to overcome.

History of Designed Play Spaces

Playscapes began as just reserving spaces for children to be able to come and play outside but it became a relatively new development in design as people began to embrace urban living. As we began to understand the dangers of urban living people started to design playgrounds for children that are safe and away from the developing urban areas. Playgrounds began as small as a little sandbox and have now developed all the way up to modern playgrounds.

- 1880 – 1890: Sand Gardens
- 1900 – 1920: Model Playgrounds
- 1930 – 1940: Development slowed or suspended due to depression and war efforts.
- 1940 – 1950: Adventures or Junk Playgrounds
  - 1950 – 1970: Novelty Playgrounds
- 1980 – Present: Modern Playgrounds
### Key Authors Theories:

**Table 1: Theories of Play, Children Play And Development (Allyn and Bacon 1995. p.15)**

<table>
<thead>
<tr>
<th>THEORIES</th>
<th>REASONS FOR PLAY</th>
<th>GREATEST BENEFITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surplus Energy</td>
<td>To discharge the natural energy of the body</td>
<td>Physical</td>
</tr>
<tr>
<td>H. Spencer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewal of Energy</td>
<td>To avoid boredom while the natural motor functions of the body are restored</td>
<td>Physical</td>
</tr>
<tr>
<td>G.T.W. Patrick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recapitulation</td>
<td>To relive periods in the evolutionary history of the human species</td>
<td>Physical</td>
</tr>
<tr>
<td>G.S. Hall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Practice for Adulthood</td>
<td>To develop skills and knowledge necessary for functioning as an adult</td>
<td>Physical, intellectual</td>
</tr>
<tr>
<td>K. Groos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychoanalytic</td>
<td>To reduce anxiety by giving a child a sense of control over the world and an acceptable way to express forbidden impulses</td>
<td>Emotional, social</td>
</tr>
<tr>
<td>S. Freud, A. Freud, E. Erikson</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive – Developmental</td>
<td>To facilitate general cognitive development</td>
<td>Intellectual, social</td>
</tr>
<tr>
<td>J. Bruner, J. Piaget</td>
<td>To consolidate learning that has already taken place while allowing for the possibility of new learning in a relaxed atmosphere</td>
<td></td>
</tr>
<tr>
<td>B. Sutton-Smith</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arousal Modulation</td>
<td>To keep the body at an optimal state of arousal</td>
<td>Emotional, physical</td>
</tr>
<tr>
<td>D.E. Berlyne, G. Fein</td>
<td>To relieve boredom</td>
<td></td>
</tr>
<tr>
<td>H. Ellis</td>
<td>To reduce uncertainty</td>
<td></td>
</tr>
<tr>
<td>Neuropsychological</td>
<td>To integrate the functioning of the right and left cerebral hemispheres</td>
<td>Biological, intellectual</td>
</tr>
<tr>
<td>O. Weiningher, D. Fitzgerald</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fig. 15.8. - Theories Of Play (Allyn And Bacon)**
### Table 2-1: Play Types and What You See (Hughes, 2001)

<table>
<thead>
<tr>
<th>Play Types</th>
<th>What would be seen the children are doing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>Talking, singing</td>
</tr>
<tr>
<td>Creative Play</td>
<td>Exploring materials and permutations of colors</td>
</tr>
<tr>
<td>Deep Play</td>
<td>Interfacing with death and mortality</td>
</tr>
<tr>
<td>Dramatic Play</td>
<td>Experiencing events by playing them out</td>
</tr>
<tr>
<td>Exploratory Play</td>
<td>Ranging and investigating new spaces</td>
</tr>
<tr>
<td>Fantasy Play</td>
<td>Manifesting ideas that are unconnected with reality</td>
</tr>
<tr>
<td>Imaginative Play</td>
<td>Manifesting ideas that are connected with reality</td>
</tr>
<tr>
<td>Mastery Play</td>
<td>Interacting with the physical environment</td>
</tr>
<tr>
<td>Object Play</td>
<td>Exploring the tactile and cognitive properties of objects at close hand</td>
</tr>
<tr>
<td>Recaptitulative Play</td>
<td>Recapping on previous evolutionary stages</td>
</tr>
<tr>
<td>Role Play</td>
<td>Exploring adult functions by engaging in them</td>
</tr>
<tr>
<td>Rough and Tumble Play</td>
<td>Calibrating one’s own and others’ tactile and muscular properties.</td>
</tr>
<tr>
<td>Social Play</td>
<td>Investigating and applying social protocols and rules.</td>
</tr>
<tr>
<td>Socio-Dramatic Play</td>
<td>Experiencing catharsis by dramatizing difficult experiences.</td>
</tr>
<tr>
<td>Symbolic Play</td>
<td>Represent abstract and conceptual ideas.</td>
</tr>
</tbody>
</table>

Fig. 15.9 - Play Types (Hughes, 2001)

### Table 2-1: Elements for a Rich Play Environment (Hughes, 1996)

<table>
<thead>
<tr>
<th>The Elements</th>
<th>Children have the opportunity to experience:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varied Physical Environment</td>
<td>earth, air, fire and water</td>
</tr>
<tr>
<td>Materials and Tools</td>
<td>plantings/construction, height/depth, enclosed/open, varied surfaces, habitats for wild and domestic animals</td>
</tr>
<tr>
<td>Challenge</td>
<td>fabricated/natural consumables, loose parts (Nicholson, 1971)</td>
</tr>
<tr>
<td>Movement</td>
<td>running, jumping, rolling, balancing</td>
</tr>
<tr>
<td>Emotions</td>
<td>sadness/gladness, rejection/acceptance, frustration/achievement, boredom/fascination, fear/confidence</td>
</tr>
<tr>
<td>Sensory Stimulation</td>
<td>sounds, smells, tastes, tactile, experiences</td>
</tr>
<tr>
<td>Experimenting with Identity</td>
<td>concepts of self, role play, dressing up, masks, face paints</td>
</tr>
<tr>
<td>Change</td>
<td>building/demolishing, seasonal growth/decay, weather, cooperating/resolving conflict, environmental transformation</td>
</tr>
<tr>
<td>Social Interaction</td>
<td>a wide range of individuals and groups across age ranges/interest groups, abilities, genders, ethnic and cultural differences</td>
</tr>
</tbody>
</table>

Fig. 15.10 - Elements For Rich Play Environment (Hughes, 1996)
Acknowledgment Of Contributing Authors

Territorial Range Expansion:
- A. E. Van Den Berg
- C. G. Van Den Berg
- Nilda G. Cosco
- Robin C. Moore

Holistic Child Development:
- Jonathon Gemmell
- Herrington Studtmann
- Susan Studtmann
- Moore and Wong

Natural Elements:
- Karen Dawn Teague
  - Pinar Metin

Affordances:
- Ingunn Fjortoft
  - J. Gibson
  - H. Heft

Child Led Design:
- Mark Francis
- Racheal Kaplan
- Stephen Kaplan
- Lorenzo Ray

Other Key Idea Backup Authors:
- Mohammed Z. Islam
- Janet E. Dyment
- Anne C. Bell
- Doris Pronin Fromberg
  - Doris Bergen
  - Alina Phillips
- Poland Gustavsson
- Fergus P. Hughes
- Ken Studtmann
Using workshops with the kids and potential users of the site to utilise their creativity and imagination to produce design ideas.

Holistic development is the development in language, intelligence, social skills and motor skills in young children in preparation for the future.

Using natural elements and interventions to encourage physical skills that kids gain understanding to objects and their abilities.

Utilizing the natural environment with in the design. Using it to cure nature deficit disorder and implement attention restoration theories while improving environment education.

As time passes, affordances of each object/ intervention setting are discovered and understood. The experiential depth increases through out the site.
The precedent review will focus on three different types of playscapes in the Wellington region. It will also investigate one playground which is considered as the solution of modern day playground problems. (Such as safety, protection, simple and clean properties)

I wanted to investigate how a site could be designed with the function being dedicated towards education and learning. There is also a natural play design in the town belt of Wellington that uses natural elements to create playscapes for children. This would allow for an investigation into the features and aspects used to generate natural play.

The final site would be for an older age range then the potential user I will be dealing with (Preschoolers) but in terms of investigation, the way it is able to use the existing features of the site to develop a playground. This was an interesting opportunity to discover the restrictions of using existing features on site and what they are able to afford the users.
Key Precedents:

Existing playgrounds in the Wellington Region I investigated were Adrenalin Forest in Porirua (Adventure Playground), Central Park Playground (Modern Playground Design), Discovery Garden in the Botanical Gardens (Learning Environment) and Matairangi Nature Trail on Mt Victoria (Natural Play Design).

Wellington Playscape Types:
Key Precedent: (Adventure Playground)

Location:
Okowai Rd,
Aotea,
Porirua 5022

Context:
Urban residential neighborhood.
Development area.

Site Type:
Urban Woodland.

Opened:
Wellington - 2010
(Also has parks in Christchurch - 2006 and Bay of Plenty - 2011)

Size:
Vertical 1m - 31m.
Area 40,000m²

Age Range:
All ages.
(Children must be above 1.30m tall)

User Groups:
All user groups.
(Only need to have average fitness and can attend whatever level you feel fit enough to complete)

Access:
Car, Train, Bus, Bike, Walking (If living in the area)
Group transport.

Who Initiated:
Jean Caillabet.

Types of Activities:
Tarzan swings, Flying foxes, Rope bridges and tree platforms.

Key Notes:
- Movement through the site is the activity.
- Using the tree canopy as the start and end points.
- Increasing levels of challenge and height.
- Range of ages and fitness levels.

Costs:
$400,000 (Per Park)
$250,000 (For Equipment)

Build Time:
3 - 4 Months

Adrenalin Forest Wellington

Adrenalin Forest has quickly become a popular destination amongst many different user groups who like to challenge themselves with the adrenalin and the independence they have in shaping their aerial adventure.

Mission: Adrenalin Forest staff train users on what they need to do when climbing in the trees through the course and how to do it safely. The clients then go off and have the ability and independence to climb through the trees themselves.

Design Goals: Adrenalin Forest has been designed to challenge people of all ages and fitness levels emotionally and physically. Create a safe environment where they can discover their own limits.

Fig. 16.2. - Adventure Playground Precedent Review
Central Park Playground

Central Park Playground is a popular space within the city and is well-used by commuters from Brooklyn to the city. Central Park Playground is full of formal gardens, grassed areas, natural woodland and bush. The playground has a flying fox and a large space for other activities. This playground is very modern in the design approach and is made up of mostly plastic components which prevents kid’s development.

Mission: Is to maintain the surrounding town belt in which the playground sits inside of by improving the biodiversity of the site and create an enjoyable space for people to pass through.

Design Goals: The design goals for the space was to have many activities within the space which can attract multiple people to the park. Also encourages play through big attractions for kids like a flying fox or a playground.

Costs: N/A

Design Time: 104 Years (On Going)

Key Precedent:
(Modern Playground Design)

Central Park Playground is a popular space within the city and is well-used by commuters from Brooklyn to the city. Central Park Playground is full of formal gardens, grassed areas, natural woodland and bush. The playground has a flying fox and a large space for other activities. This playground is very modern in the design approach and is made up of mostly plastic components which prevents kid’s development.

Mission: Is to maintain the surrounding town belt in which the playground sits inside of by improving the biodiversity of the site and create an enjoyable space for people to pass through.

Design Goals: The design goals for the space was to have many activities within the space which can attract multiple people to the park. Also encourages play through big attractions for kids like a flying fox or a playground.

Costs: N/A

Design Time: 104 Years (On Going)
**Key Precedent:**

**Learning Environment**

**Location:**
Wellington Botanic Garden.
Near the Treehouse Visitor Centre and plant nursery.

**Context:**
Wellington Botanic Garden.

**Site Type:**
Garden/ Green Space.
Hill side.

**Opened:**

**Size:**
1500m².

**Age Range:**
Children.
Aged between 5-12 Years.

**User Groups:**
Children.
Families. (Supervision)

**Access:**
Car, Bus, Bike, Walking (If living in the area)
Running, Cable car.

**Who Initiated:**
Client: Wellington City Council.
David Sole.
Consultant: Friends of the Wellington Botanic Garden

**Types of Activities:**
Garden exploration.
Other garden attractions.
Natural Attractions.
School Groups.

**Key Notes:**
- Place to learn about planting.
- Idea is to inspire to live in a healthy urban environment.
- Develop a interest in the natural environment.
- Develop play through planting.

**Costs:**
$3.1 Million + $400,000 (To finish)

**Design Time:**
5 Years

---

**The Discovery Garden**

The Discovery Garden will become a place for children to have fun and learn about plants which will hopefully develop some interest in the natural environment to inspire children to live in a healthier urban environment.

**Mission:**
This is an opportunity for kids to become involved in the natural environment in which will encourage environmental and botanical awareness in future generations.

**Design Goals:**
To build confidence in children to explore and understand the surrounding natural environment generating the ability to discover different uses for the plants. The design will help the kids to discover these uses.

![Site Aerial](image)

![Garden Play Goals](image)

**Te Kaapuia o Te Waoku education programmes:**

- **Medicine:**
  Plants have many healing properties. Learn about some special plants and the ailments they can treat. Kids can have a go at making a useful remedy with plants found in the garden.

- **Conservation:**
  We can make so many things with plants and their properties determine how we use them. Kids can have a go at making and building using plants, then explore the plants used in the garden.

- **Food:**
  The food we eat can all be traced back to plants- but what goes into growing the food we buy? Learn what a plant needs to survive, how to listen to plants and have a go at planting something to take home.

- **Fibre:**
  We get fibres from plants to make useful things like ropes and fabrics. Extracting fibres from plants is a very special process in many cultures. Here we look at extracting muka from harakeke and the practices involved.

---

Fig. 16.4. - Learning Environment Precedent Review
**Key Precedent:**
(Natural Play Design)

**Location:**
Alexandra Road, near the Lookout Road loop winding down for about 500 metres to near where the Mount Vic tunnel

**Context:**
Town belt.

**Site Type:**
Unstructured Space Trail walk.

**Opened:**
2 April 2017

**Size:**
Along 500 meters of trail.

**Age Range:**
Suitable for all ages. (Aimed at 5 years +)

**User Groups:**
Families. Encourages both kids and adults to go challenge themselves.

**Access:**
Car, Bus, Bike, Walking (if living in the area) Running.

**Who Initiated:**

**Types of Activities:**
Log climb, Slide, Weaving poles, Fallen logs, Rope Climbs, Tree House.

**Key Notes:**
- The play area goes along a pathway that goes from one activity to the next.
- Basic designs that interact with nature. (Gives activity purpose)
- Based around learning.

**Costs:**
N/A

**Design Time:**
2 Years

---

**Matairangi Nature Trail**
Mount Victoria/ Matairangi comprises sector 9 of the Wellington Town Belt, it extends from Mt Alfred north to Oriental Bay. It creates the eastern arm of the Town Belt and is characterised due to the ridge and north-western slopes above the suburbs of Mt Victoria and Oriental Bay.

**Site Mission:** To identify any opportunities or spaces for site redevelopment which will allow for upgrades that are consistent with user needs and the values of open space. Identifies appropriate management of key cultural sites in the area.

**Site Design Goals:** Using the principle of shared track users will continue, but there will be design and behaviour interventions which will be applied to help reduce conflict between different user groups where necessary along the pathways.

---

Fig. 16.5. - Natural Play Design Precedent Review
Aspects On Existing Site From Precedent Review

Adrenalin Forest:
Taking the potential of using the existing trees in the area to afford climbing movement options and obstacles for the kids.

Fig. 16.6. - Adventure Forest Precedent Review Site Example

Modern Playground:
The site already has a play area. Due to the lack of money the facility is lacking the normal large scale structures that most playgrounds utilize. Its underdeveloped and uses very similar structures throughout which doesn’t expand the knowledge of the kids.

Fig. 16.7. - Modern Playground Precedent Review Site Example
Aspects On Existing Site From Precedent Review

**Education Site:**

The existing site already has a variety of plants that could be utilized to help educate the kids of their surroundings as the plants are common for the region.

**Natural Playscapes:**

There are plenty of opportunities to amplify the existing structure of the site to create natural play areas for kids to understand and create their perceived interpretation of the structures.
During this precedent review I had begun to identify areas on the existing site that replicated each of the major aspects of the precedent sites. They all have a role to play in the development of young children. The natural playscape and adrenalin forest were similar in the way they utilized the natural elements, whereas the education space was an application of selected items in a space.

Adrenalin forest and the natural playscape both utilize natural elements through different manners. Adrenalin forest uses the existing structure of the forest and applies an object or intervention that affords a specific type of movement. The natural playscape is different from this as it uses natural interventions, such as a log or piece of natural material to afford the simple aspects of physical development without giving the objects a specific function.

The education space is an open area where they have introduced a range of plants to help educate the kids. The existing site in Porirua already has a wide range of plants that can be used to educate the children. The precedent garden does have a greater opportunity for selected teachings. I feel that the existing Porirua site would be a good starting point for the education of plants.

In reflection I have identified areas on the site that aspects could be applied to and developed on throughout the design process. These aspects also provide a starting point for generating similar affordances through the site utilizing the other existing natural features.
Dealing with real people on a real project meant that I would be dealing with real problems. These problems would need to be considered based on the users and how they can be resolved using the information already gathered through the site analysis process. These problems will be in relation to the main problems of this thesis and will demonstrate the change necessary for improving public spaces through solving these real issues.

I will also get the users (in this case the children and workers of the kindergarten) to get involved in the generation of ideas for the project. This allows for their involvement in the design process creating a child lead design process with the supervision of the kindergarten workers. This means they see their ideas become a reality. This allows for the site to be designed for the user by the user instead of a designer’s perspective removing can.
Case Study Issues/ Problems

The problems with the case study site is that with the environmental aspects in terms of slopes and uneven terrain can create restrictions on the ability to utilize the space. In poor weather conditions the site’s terrain becomes unsuitable for recreation to occur leaving the space abandoned.

Due to the lack of features and uses for the existing site (Much like Johnsonville Park) there are no major issues with user groups privatising space. By the housing area there is a gap in the fence which makes the boundary of the site unknown creating an area that feels unpleasant and unsafe to be in. Moving forward with the design I will need to revisit the typologies gathered to make sure I don’t design spaces that introduce privatisation of the spaces created.

Transition of Modern Playground Solutions To Natural Playscapes

Fig. 17.1. - Playground Solution For Modern Design
Improving Youngsters Key Aspects

Mental
Knowledge
Learning
Discovering

Embrace
Teamwork
Leadership
Friendship

Merging Modern Playground Solutions
With Loss Of Natural Playscapes

Physical
Fitness
Abilities
Improvement
Skills

Visual
Perception
Connection
Understanding

Fig. 17.2 - Improving Children’s Key Aspects Diagram
Meeting With Children To Generate Ideas

Generating Ideas

Fig. 17.3 – Images From Meeting With Kids To Create Ideas

Generating Ideas

Fig. 17.4 – List Of Kids To Ideas

List Of Ideas

Fig. 17.4 – List Of Ideas
Sorting Kids Ideas Into Categories

Amusement
- Billie and Zion: Swings. (Billie wants a big swing)
- Lewis: Flying fox.
- Lewis: A rope to climb up the bank.
- Iloa: Go up the tree.
- Tamihana: Tree Ladders.
- Hania-Slayah: Big slide down the hill.
- Zion, Avayhi and Tamihana: See-Saw.
- Lewis and Ayvah: A slide. (Lewis wants a Massive slide)

Nourishment
- Tino: Big outside kitchen space. (Hangi, Umu, BBQ)
- Caroline: Chocolate Factory.
- Tamihana: Cupcake factory.
- Tennessee: Wants a pizza oven.
- Jodwyn: Community gardens.
- Shaika: Fruit trees.
- Zameena: Healthy eating so the kindy should have some gardens.

Imagination
- Aiden: Volcano on a hill.
- Cooper: Dig a mountain.
- Zeus: We need water coming down the mountain.

Animals
- Thelia: Some goats.
- Jodwyn: Farm animals.

Machinery
- Luka: A helicopter.
- Thelia: A miniature train.

Unsure
- Tashi: I don’t know.
Kids Ideas And Space Allocation Through Analysis And Interaction
Potential Spaces

Fig. 17.5 - Allocation Of Ideas With Potential Spaces
Problems And User Involvement

Conclusion

What needs to be investigated is how we take modern day solutions for playground design and apply more natural aspects to them. It would produce spaces which push for creativity, imagination and exploration within children whilst developing their motor skills.

I want the design to be child-led so I took them down to the potential site where they were able to come up with ideas through what they perceived the natural landscape to afford them. Categorising these ideas allowed for me to simplify what the children wanted. (Examples such as chocolate factories, helicopters, rugby fields are not ideas that would be possible but the idea of a chocolate factory being related to food allows for the potential idea to be developed into something similar)

I was able to give these categories potential site conditions that would allow for them to have a relationship between the structure and the existing affordances of the site. Moving on to the analysis I will investigate the areas in which these potential ideas could be developed and utilized on the site to design a mult-use space.
To discover what was happening on the site I needed to widen the scope of the analysis to understand the context of the region. I will introduce the area of Wellington, the case study site, the council’s plan for Porirua, statistics on the people living in the region and the key features of Porirua cities’ existing public spaces and recreational spaces.

This information will provide me with an understanding of the types of potential users that could be utilizing the public space. It will also give insight into the demographics of the area which I will be able to use to improve the surrounding context with the addition of new public space features in the case study site.

**WIDER SITE RESEARCH SCOPE**
Introduction To Case Study Site
(Awatea Kindergarten - Porirua)
Strategic Priorities for Porirua City

Strategic Priorities

- Children and young people to be at the centre of city decisions.
- A healthy and protected harbour and catchment.
- A growing, prosperous and regional connected city.
- A great village and city experience.

The Results Porirua Are Seeking (Community)

- Children and young people who will:
  - Be higher achievers in education in Porirua at all levels
  - Have stronger health outcomes
  - Be engaged and active in leading city decisions
  - Be informed and responsive
  - Be strongly connected to their culture, families and community

- The council will support these outcomes through investment in sound infrastructure for future generations.

A harbour that is the centre-piece of the community culturally, recreational and environmentally, and is:
- a clean and natural habitat
- a safe and beautiful recreational environment
- Supported by a robust ecological restoration programme
- Treasured by the community, businesses and visitors
- Supported by infrastructure that minimises adverse impacts to harbour and catchment.

A growing city at the centre of the Wellington region that:
- Promotes and supports economic growth
- Leads regional thinking and connectedness
- Is open for business
- is digitally connected
- Provides critical infrastructure to support economic development.

A city that provides a wide range of recreational, social and cultural opportunities for all ages though:
- Services that are prompt, efficient and respond to community interests
- Activities that bring the community and businesses together to celebrate the city's diversity
- Residents having a say on the look and feel of their village
- Sound and resilient infrastructure that supports the city's aspirations.

PRINCIPLES

- AFFORDABILITY
  For residents, ratepayers and the council.

- PARTNERSHIPS
  With Ngati Toa Rangatira, the community, businesses, schools and individuals.

- SUSTAINABILITY AND EQUITY
  Ensuring a sustainable city future.

- CREATIVITY AND INNOVATION
  Creativity and innovation in all that we do.
In Porirua, the majority of the schools are low decile.
Key Recreation And Public Space Aspects Of Porirua City

Fig. 18.3 - Porirua Context Map Analysis
Statistics On Porirua Compared To Wellington

Dwelling Structure
Porirua (Wellington)
- Separate House - 78.9% (71.2%)
- Medium Density - 6.9% (3.2%)
- High Density - 8.6% (14.3%)
- Other Dwelling - 0.4% (0.3%)
- Not Stated - 8% (3.3%)

Birth Place
Porirua (Wellington)
- UK - 5.9% (7.4%)
- Samoa - 5.4% (1.6%)
- Australia - 1.2% (1.2%)
- SA - 1.2% (1.2%)
- Cook Islands - 0.9% (0.3%)
- Tokelau - 0.9% (0.3%)
- Fiji - 0.9% (0.3%)
- China - 0.9% (1.3%)
- India - 0.9% (1.3%)
- United States - 0.4% (0.7%)

Family Types
Porirua (Wellington)
- Couples With Kids - 43% (42%)
- One Parent Families - 23% (17%)
- Couples No Kids - 32% (41%)

House Hold Types
Porirua (Wellington)
- One Family House - 70.7% (65.4%)
- Multi-Family House - 5.9% (2.7%)
- Related Individuals - 1% (0.7%)
- Group Households - 2.2% (4.8%)
- Sole Person - 17.4% (24.2%)
- Non Classified - 3% (2.2%)

Highest Qualification
Porirua (Wellington)
- Higher Then Degree - 8.8% (13%)
- Bachelor Degree - 1.7% (2.1%)
- Post School - 22% (19%)
- School Qualification - 3.9% (3.3%)
- No Qualification - 41.3% (37%)
- Not Stated - 7.1% (6.4%)

Fig 18.4. Porirua Statistics Including Previous Page
Porirua City In Relation To Awatea Kindergarten (10Min Walking Distance)

Important Buildings/Features In 10Min Walking Distance

Fig. 18.5. - Important Buildings In 10Min Walking Distance

Roading Structure With Commercial Building

Fig. 18.6. - Road Structure With Commercial Buildings 10Min Walking Distance

Vegetation and Sports Grounds

Fig. 18.7. - Vegetation And Sports Grounds 10Min Walking Distance
Porirua city has plans in place to have children’s development at the centre of Porirua’s future development. This is ideal as children are the dominant users for my case study. They also have priorities towards a growing, prosperous, healthy city with a great village like aspects I hope to incorporate into my design.

Through the analysis of school deciles in Porirua I noticed a lot of places were heavily funded by the government which has a relationship with the statistics of people in this region. Porirua has a higher unemployment rate than Wellington’s average, a much greater pacific ethnic group, multi-family homes, less qualifications and lower overall income.

Hopefully by developing spaces that begin the educational process early in kids, the statistics of this region will begin to change over time with a greater understanding of their surroundings and grow an interest in the ability to learn. By understanding this context, I can work on the smaller scale area to have a positive effect on the other areas and residents of Porirua.
Through utilizing the mapping techniques from my initial analysis of existing public spaces I will be able to grasp a better understanding of the case study site. In the analysis for this site I will use the same mapping techniques and develop them further to gather more information out of the categories analysed.

Using the typologies developed identifying key aspects of existing spaces ranging from a wider scope to site specific mapping. Typologies and aspects gathered through the existing public spaces will help note the different types of features on site in each category. These maps will be able to draw out all the potential areas in which interventions could be developed to utilize the existing environmental conditions.
Site Investigation
Barriers + Pathways + Affected Points + Carparks

Fig. 19.1. - Barriers And Pathway Mapping

Trying to discover where possible pathways could be introduced to reduce the effects of the barriers and create new movement to the surrounding areas.
Site Investigation
Area Connections + Pathways + Spaces

Identifying the surrounding spaces to discover the type of area that would be needed to create a relationship between these different space types.
Site Investigation
Site Flow + Contours + Height Points + Views

Investigating into the sites water flow, topography, space conditions/ atmosphere (Small Valleys) and the possible view points in the area.

Fig. 19.3 - Heights And Flows Mapping

Scale: 1:2,500 @ A3

Views
Valleys
Medium Height
Height Links
Water Flow Movement
Site Investigation
High Flow Area + Road Usage + Pathways + Possible Pathways

Gaining an understanding of the effects vehicles have on the site as barriers and where these high activity points occur.

Fig. 19.4 - Road Usage Mapping
Site Journey
Exploded Categories Of Site Analysis

Rainy Week Day
Weekend Day
Sunny Week Day
Wet Weather Site Conditions
Site Slopes
Potential Spaces
Restricted Recreation And Potential Recreation
Potential Pathways, Spaces And Access
Existing Roads, Pathways And Access
Treescape
Site Views
Site Contours

Fig. 19.6. - Exploded Categories Of Analysis
Site Treescape Analysis

Fig. 19.7. - Treescape Mapping

Identifying the tree spread on the site and the types of sizes these trees potentially would cover on the site to show the open and closed spaces.
Site Treescape Images
(Awning)

Images of the different types of vegetation that are existing on the site and the slopes they are situated.
By allowing the public to come near children, the access points need to be noted and the direction of the pathways for safety reasons. This will also uncover the existing flow of the site.
The different gates on the site are uninviting and unclear on whether or not they allow public access in or out.
Gain an understanding potential view points for all the different types of users and what these views are able to cover.

Fig. 19.11. - Site View Mapping

Scale: 1:500 @ A3
Investigating the different views surrounding the site.
Site Contour Analysis

The contour map allows for analysis of the existing site to identify high and low points that could create views, potential play areas and possibly prevent movement or the flow of the site.
This image displays the massive change in topography surrounding the kindergarten.
The contour map and fieldwork provides mapping for where the site has different slope conditions like steep slopes, uneven ground or casual slopes that affects the sites ability to function.
There are two very different land forms on the site which have the potential to create different affordances.
In relation to the slope analysis I was able to investigate where the slippery slopes or unpleasant ground conditions appeared during bad weather.
Site Slope Images
(Soggy)

Clear indication of the way the site is affected by poor weather conditions.

Fig. 19.18 - Site Wet Weather Images
Existing Users Recreation And Activities

Fig. 19.19 - Site Users Recreation And Activities
Conclusions Of Site Analysis

Through the mapping process of the site I was able to identify where there is potential to create interventions that would help amplify the sites existing environmental features.

I was able to group the site up into areas that will utilize the slopes of the site, the areas in which have high canopy trees and the areas affected by wet weather conditions. This developed a map which was able to identify a potential play area for children to learn about the environment during poor weather conditions.

The site is used the most during sunny week days as this provides an opportunity for the kindergarten to use the space. During wet weather conditions the site becomes abandoned on weekends its used to pass through to the shops by residents in the area because that’s the only path that runs from that side to the shops.
Brief look into the areas that have the potential of developing mixed types of recreation and the areas which are restricted.
This process has allowed for me to discover areas for potential development or movement utilizing the existing features.
Existing Site Potential Conclusion

From mapping the potential spaces, new movement and spaces could occur, I was able to break down the spaces to understand which user group would be able to use the spaces. I was able to identify the potential for mixed community recreation, and the different possible kindergarten site spaces that would utilize key features.

- Areas that caught interest either from the way they were able to create movement or flow through the site using the uneven topography of the site or by what the environmental features were able to afford users venturing into those spaces. These points of interest are where my initial design will begin to develop.
After the literature review, precedent review, interactions with the users (children) and discussions with the kindergarten managers, I will begin to test ideas for each identified space (Kindergarten expansion, Community Space and Dense vegetation area) while dealing with issues that occur in these areas.

I will design two to three ideas for each selected area to test the relationships between interventions and the natural environment, taking into consideration the ideas of the kids. As these ideas are developed I will also consider the cost of each iteration (As kindergarten is non profit) and the problems that arise from the application of these ideas.
Kindergarten Expansion
Kindergarten Expansion

Integration 1 Tree Fort

Integration 2 Obstacle Access (Cheap)
Demonstrating how the tree fort can provide access down into the site through exploiting the site's typography. It also amplifies the environmental surroundings creating interactions between the users and the existing treescape.
Possible Tree Fort Formation Tests

Form 1

Tree Deck Fort

Stair Integration 1

Stair Integration 2
With Obstacles

Fig. 20.5. - Kindergarten Integration Options
Kindergarten Access Options

Fig. 20.6. - Kindergarten Access Ideas
Kindergarten Expansion Conclusion

The kindergarten expansion investigated the possibility of using the children’s idea of a tree house to create access into the site. This would produce an intervention that would formulate an understanding on how to manipulate the trees and the slope to create affordances that generate interactions.

I found that you could manipulate the shape of the tree house to allow for events/activities to take place. Some designs managed to affect more of the surrounding context than others.

With the kindergarten being nonprofit I created another solution that could only utilize one aspect of the environment. By removing the tree fort and applying an obstacle climb instead that would amplify the slope in a positive manner.
Dense Vegetation Space

Existing Vegetation Space

Integration 1 Simple Bridge

Looking at the simplest way of generating flow through the site.

Section Of Existing Space

Integration 1 Simple Bridge Section

Fig. 21.1. - Dense Vegetation Existing Map And Section

Fig. 21.2. - Dense Vegetation Integration 1 Map And Section
Adding a compost bin to give the space a purpose for the community.

Kids being the dominant users of the site. Creating an area for them to explore.

Fig. 21.3. - Dense Vegetation Integration 2 Map And Section

Fig. 21.4. - Dense Vegetation Integration 3 Map And Section
Atmosphere Perspective

Fig. 21.5. - Dense Vegetation Integration Perspective
Public Access Issue (Childrens Safety)

Forms Of Existing

Existing Fences

Cheap Wood Poles
- Visual Connection
- Cheap
- Natural Feel

Farm Fence
- Visual Connection
- Cheap
- Transformable

Vegetated

Vegetated Water
- Secure
- Positive Ecology
- Needs Topography
- Education

Vegetated Fence
- Natural Fence
- Weak Security
- Perspective

Steel Vegetated
- Boring
- Secure
- Uninviting
- Negative Space Effect

Low Cost

Pallet Fence
- Cheap
- DIY
- Natural Feel
- Secure

Wattle Fence
- DIY
- Cheap
- Time Consuming
- Natural Feel

Stone Fence
- Solid
- Poor Visibility
- Untransferable
- Negative Space

Fig. 21.6. - Children Safety Wall Options
Dense Vegetation Conclusion

General Flow
For the first integration I just wanted to understand the possibility of giving flow through all areas of the site. This idea would question the relationship between private and public with the pathway being so close to people’s backyards. This develops some privacy issues but would allow for people to access the site successfully.

- Community Involvement
In the second integration I took what I had learnt and moved the pathway further into the dense vegetation trying to stimulate exploration while dealing with the privacy issues. I added a compost bin in the site as it was the only feasible option that gave the spot purpose which would allow for community involvement.

- Child Dominant
The final change was looking at making children the dominant factor for the design. Children have a habit of not wanting to walk with their parents and given the opportunity they will go where their parents can’t. I designed this space to tap into that habit and produced a walkway that allowed the children to explore the dense vegetation.
Public Space
Public Space

Existing Space

Fig. 22.1. - Existing Public Space

Scale:
1:350 @ A3
Potential Active And Passive Recreation Research

Possible Programs

- Flea Market
- Urban Farm
- Picnic Area
- Sports Courts
- Performance Space
- Exercise Space
- Wetland Links
- Artwork Space
- Open Space
- Eatable Forest
- Amphitheatre
- Meeting Space
- Enhances Eco
- Pop Up Cafe
- Food Water Space
- Water Storage

Site Categories

- Transitional Landscapes
- Productive Landscapes
- Community Open Spaces
- Blue - Green Infrastructures
- Ecological Landscapes

Fig. 22.2 - Possible Program Typologies For The Public Space

Fig. 22.3 - Site Categories

A look into the possible programs and landscape types that could be applied. I could also look at mixing more than one program to produce interactions between different users of the space.
Looking at creating a productive landscape that the community could come together and develop. It would educate the kids in culture and history of the area.

Integration 1 Flax Farm Section
I wanted to generate a space that boosted the ecology in the area like the city council have aimed for. Within this landscape I placed community gardens, seating, fruit trees and spots developed for interaction.

Integration 2 Ecoscape Section
The final integration was looking at creating a space which was dominant towards younger users. To do this I created spaces that could generate multiple types of recreation and interactions.

Integration 3 Playscape Section
Public Space Conclusion

These designs have tested different aspects throughout this research. They have tested a variety of different possibilities for public space that would provide relationships to the whole area.

-The first design took aspects from the idea of education providing a function that would allow for the teaching of the culture and history of the site targeting the demographics of the area. Flax farms also create opportunities to learn about weaving and Maori culture developing the skills of young ones and production.

-Option two took aspects from the councils plan to improve the ecology and health of the area. The area would have a pond that utilizes the affordances provided through the flooding and mud areas during bad weather caused by being located in a valley turning it into a solution. It also allows for the education of keeping the water clean in example of protecting the Porirua Harbour.

-The final integration looks at creating a space which multiple types of recreation can coexist in the same area without conflict. This would be achieved through the creation of random passive and active recreation spaces. These would allow different users to interact and generate successful recreation.
With the opportunity allowing me to work with a specific group of users, I was able to perform some tests to discover how my theories could change or manipulate the space. Due to the users being children, my interventions had to be directed towards them in the form of playing equipment.

Recycled materials will be the option for designing these objects to demonstrate that you don’t need funds to create interesting objects that stimulate exploration and peak interest in users.

I hope to formulate an understanding of how these objects can manipulate a space’s atmosphere changing the behaviour of the user. I’m also interested in the way it is able to influence the surrounding features in the site.
Existing Site Behaviour Of Kids

Movement Stages

Fig. 23.1 - Existing Children’s Behaviour Mapping
Designed Test Structure From Recycled Materials

I used recycled pallets to generate objects that could afford the children a difficult side (flat surface) to climb and an easier climbing side (steps) to determine how they perceived the two different surfaces.
Kindergarten Site Movement Video Overlay

Kindergarten Movement Investigation Video (30 Second Intervals)

30 Mins 1.00 Mins 1.30 Mins 2.00 Mins 2.30 Mins 3.00 Mins 3.30 Mins 4.00 Mins 4.30 Mins 5.00 Mins 5.30 Mins 6.00 Mins 6.30 Mins 7.00 Mins 7.30 Mins 8.00 Mins 8.30 Mins 9.00 Mins 9.30 Mins 10.00 Mins 10.30 Mins 11.00 Mins 11.30 Mins 12.00 Mins 12.30 Mins 13.00 Mins 13.30 Mins 14.00 Mins 14.30 Mins 15.00 Mins 15.30 Mins 16.00 Mins 16.30 Mins 17.00 Mins 17.30 Mins

Fig. 23.3. - Video Study Of Children’s Movement
Test Structure Interaction

First Encounter

Through their own creativity they understood the object could be identified as a structure/shelter.

Climbing Affordances

The kids took their time to discover how to use the flat surface and eventually perceived it as a sliding mechanism.

Creativity/Imagination

First encounter they identified that it was an object in which they could climb.

Slide Affordance

The affordances of the ladder have been experienced before allowing them to climb the object instantly.

Fig. 23.4 - Test Structure In Existing Playground
Kids Play Behaviour With Intervention

Movement Stages

Fig. 23.5 - Children’s Behaviour After Introduction Of Intervention
Kids Play Behaviour With Intervention After One Week

Movement Stages

Fig. 23.6. - Children’s Behaviour After One Week With Intervention
Kids Play Behaviour With Intervention Being Moved

Movement Stages

Fig. 23.7. - Children’s Behaviour After Moving The Intervention
Test 1 Conclusion

Discovered through these tests, the intervention created a massive change in the movement patterns and interactions with other features in the playground. As the new object in the site, it took all the attention away from the previous object that attracted the majority.

After one week the playground movements began to mould around these new pathways created by the introduction of the new object. The features of the site around the intervention balanced out. By moving the intervention to the side of the playground which had the least amount of movement, I was able to shift all the attention to the other side of the site creating site flows down that side of the space that previously had very little flow.
I noticed two interesting things that happened on the site. One that looked into how the existing site through user’s experiences generated their own pathway behaviour compared to using the designed pathways. The other was how through an intervention the site movement still moved in the same directions except for one or two pathways which changed to accommodate for the new feature.

The last observation is what I call the leap frog affect which demonstrates how kids move to the first object in the space they find and identify the affordances of that feature. Although if one kid were to skip that activity and move on to the next one, slowly more kids would follow. This effect continues to happen throughout the entire site until all objects have been utilized in which case the kids would scatter to any of the objects they choose.
Kids didn't use the main designed pathway to move around the site. Instead they use direct paths following others or they created pathways in which they had experienced before.
Site Design Vs User Experience Using Intervention

Fig. 24.1 - Observation (Site design Vs User Experience)
Includes Previous Page
The leap frog effect looks at how kids move to the closest activity as a group. If one kid goes to the next activity straight away, then others will follow or the first kid to move to a new activity will set off a chain reaction of kids following behind until all activities have been utilized.
Utilizing what I learnt from the first test in the existing site, I will create an intervention that allows me to test their reactions and behaviour in a new environmental context that’s unfamiliar. This test will support my previous investigations and conclusions on how to design these low investment options to change the spaces qualities.

These changes in space qualities will allow for the interaction with not only different users in the site but between the users and the environment. The test will investigate whether it is possible to design an intervention that allows for the environmental aspects to develop a role in the design by creating affordances for the users. These interventions should also amplify the surrounding features to stimulate exploration.
Intervention Amplifying Surrounding Natural Elements Into The Design

Process Of Changing Spatial Qualities

![Diagram showing the process of changing spatial qualities](image)

Fig. 25.1. - Test 2 Changing Spatial Qualities Diagram
Stage 1 Playground Expansion Build/ Test
(Focus On Trees Playing a Role In The Design To Adjust Behaviour)

Keeping Budget In Mind And Using Recycled Pallets To Build Structure (Low Investment Cost)

Getting Others Involved In The Process Of The Expansion

Final Structure (The Tower)

Placement Of First Playground Structure To Test Children’s Reactions In The Space

Fig. 25.2. - Test 2 Structure Images Built From Recycled Materials
Design Stage 1 Location and Test Area

Fig. 25.3 - Test 2 Location Map
Phase 1 Intervention Reaction and Behaviour test
(Focus on providing trees with a role in the design)

Placement of first playground structure to test children’s reactions in the space.

Exploration around intervention amplifying and utilizing natural elements.

Expanding exploration area identifying new affordances.

Fig. 25.4 - Test 2 Reaction Images
Kids Reaction and Behaviour With The New Natural Space Integration

New Site Play Area Interactions

- Access
- Loose Parts (Ground Material)
- Strange Plants
- Tree (Leaves, Bark)
- Concrete Sloop
- Integration
- Tree (Leaves, Bark)
- Tree (Leaves, Bark)
- Loose Parts (Ground Material)
- Steep Slope

Movement Stages

Movement 1

Movement 2

Movement 3

Movement 4

Fig. 25.5 - Childrens Behaviour in New Site Environment
Design Stage 1 Test Conclusion

As discovered through the literature review on children’s engagement with the surrounding natural environment. Once the affordance of the structure was utilized and they began to experience the natural features in that area, their engagement depth increase dramatically. They successfully started to spread out in all directions interacting with the surrounding environment.

- Using their understanding of the structure inside the space and how it allowed them to climb up to different heights. The children then progressed on to noticing that the slopes on the bank afforded them the same properties. This allowed them to engage with other areas.

- It created interactions between each other allowing them to work together to overcome the unfamiliar objects that they would face. Overall this test was the first stage in the design process and has already started to successfully manipulate the space to improve the environment to encourage multiple users to get involved.
Observations

Test 2

Watching how these kids began to expand their exploration from the single intervention. I needed to find a way of preventing them from exploring out into the unwanted areas.
Exploration Depth With Repeat Visits And Movement

Natural Affordances

Fig. 26.1 - Exploration Depth With Just Natural Affordances
Fig. 26.2. - Exploration Depth With Interventions And Natural Affordances
I will generate a site plan through small interventions which are derived from typologies of the earlier analysis. These interventions will utilize the site’s key environmental features to produce a space that amplifies its surroundings. These spaces will allow for users to perceive what they believe the space can afford them allowing for users to coexist in the same place. It will also create spaces that will be utilized in all weather conditions (within reason) without creating restrictions on the amount of use or insufficiency to perform these activities.

The first phase of the design was built earlier as a test (The Tower) to see how the children would react in the area providing information on how they spread throughout the site. This information allows for me to determine where the next phase of the design would need to be implemented to draw in aspects of the environment and draw their attention away from the unusable areas.
Intervention Relationship With Natural Elements and Opportunity's

Fig. 27.1 - Exploded Diagram Of Relationships With Interventions And Natural Elements
Phase 1 Idea

Natural Environment Involved In The Design:

- Uses tree elements (Hanging Leaves/ Branches).
  - Utilizes tree shelter.
  - Uses loose ground elements.
Phase 1 (Completed)

The Tower

(Using The Tower to allow the kids to be able to reach the hanging down leaves and climb up the trees.)
The tower was designed to allow kids the opportunity to reach the large leaves hanging down from the trees that were previously out of reach. It utilizes the shelter of the trees to reduce the effect the weather has on the area. By introducing this intervention, it created more possibilities for interaction with the environment causing different activities to occur attracting different users.

Through this intervention I have been able to amplify the surrounding environment to play a role in the spaces function stimulating interest and exploration within the childrens behaviour. The next step is to apply an intervention that is on the edge of that exploration to allow the space to grow in its ability to produce affordances in the existing environment.

Completion Of Phase 1 Conclusion
By building phase two of the design we are able to see the reaction in behaviour from having two interactive pieces amplifying the natural environmental context. This also demonstrates how taking the existing elements (typography) you can create a low investment option that changes the availability for use.

The idea is to see if placing a new intervention on the edge of the exploration range from the first phase, whether it can produce an area in which the exploration is controlled between the two objects. This would prevent the spread expanding out of reach and sight of their supervisors providing set makers (interventions) that create an overlapping boundary which controls unwanted exploration through centring their interests.
Phase 2 Idea

Outdoor Classroom

(Focus on trees becoming part of the design through creating a wall like surrounding)

Fig. 28.1. - Outdoor Classroom Collage Idea
Natural Environment Involved In The Design:

- The slope becomes the design.
- Uses the trees as a wall like structure.
- Trees become shelter.
Outdoor Classroom Perspective Idea

Fig. 28.3. - Site Design Phase 2 Perspective
Stage 2 Playground Expansion Build/ Test
(Focus on utilizing the natural typography and slope)

Using recycled timber to create seating in the dug out spaces.

Using the slope to dig out suitable sized levels for sitting on.

Fig. 28.4 - Site Design Phase 2 Construction
Stage 2 Outdoor Classroom

Placement of this intervention allows for the trees to play a role in the design by creating a room like atmosphere.
Outside Classroom Expansion Build/ Test
(Perceived As A Climbing Obstacle)

Perceiving New Obstacle

Using Learnt Knowledge

Discovering The Affordances

Childrens Perception and Exploration

Discovering New Knowledge

Childrens Perception and Exploration

Fig. 28.6 - Phase 2 Test Images
Demonstrating how the application of a second intervention allowed for better control and management of exploration.
Completion Of Phase 2 Conclusion

Allowing kids to learn in an outdoor setting can stimulate the three main aspects of a child’s development noted in the readings of Susan Herrington, I decided to implement an outdoor classroom. This would mean they wouldn’t just be learning through physical discovery of affordances but would be taught outside of the classroom to clarify understandings of the natural environment.

Through the tests I discovered that instead of identifying the space as a learning environment they perceived the area to be a obstacle which would allow them to scale the slopes. This provides this new space with the ability to contain different functions. As they understood this object they began to expand exploration to test the ability to climb objects existing on site. (Climbing fallen tree trunks, steep slopes utilizing similar climbing strategies to the structure they just climbed)
The design will be achieved through a plan indicating each sequence of the design process implemented over time to generate an end result that's beneficial to all users of the site. By creating a plan that identifies each step of the process allows for the kindergarten to build the interventions/structures when best suits them (Due to money issues, volunteers and weather conditions)

Having a step by step process allows the kindergarten to use the space during its production. The kids would be able to discover the affordances of the site as each new intervention gets introduced continually stimulating their ability and interest to explore new elements. Each intervention will target a certain function whether that be learning, testing or discovering depending on the requirements of that space. The functions will also have a relationship with the key elements of the existing site develop a role in which the environment can effect exploration.
Phase 3

Steps

(Unconfident Kids Can Stay Involved)

Phase three is very simple. It’s a stair case the provides children the opportunity to access the interventions down below. Some children wouldn’t of developed the ability to climb the slopes or use the slopes interventions to move up and down. This will allow for easy access to and from the kindergarten.

Fig. 29.1 - Steps Collage Idea
Phase 3 Idea

Natural Environment Involved In The Design:

- Utilizes the steep slope.
- Utilizes tree shelter.

Fig. 29.2 - Steps Isometric
Phase 4

Hill Slide

(Amplifies Steep Slope)

The hill slide is the first intervention that will be used to utilize the steep slopes coming down from the kindergarten. The slide would have the ability to function during wet or dry conditions eliminating the weather's impact. It's also an event that would attract users to the space.
Phase 4 Idea

Natural Environment Involved In The Design:

- Utilizes the steep slope.
- Slippery conditions.

Fig. 29.4 - Hill Slide Isometric
Phase 5

Rope Jungle

Utilizing the trees as a design element)

Creating a centre point between the first two interventions I will then apply the rope jungle which physically will connect the tree structure. The kids will develop a understanding of how to climb and utilize the surrounding trees. Placement of this intervention creates an even movement pattern around the site through the already existing structures.

Fig. 29.5. - Rope Jungle Collage Idea
Phase 5 Idea

Natural Environment Involved In The Design:

- Uses the tree structure.
- Utilizes small slope space.

Fig. 29.6. - Rope Jungle Isometric
Phase 6

Rock Climb

(Allows Movement Up Steep Slope)

Now that the tower and outdoor classroom both have interventions that provide direct connections between them and access to the kindergarten, a rock climb would be implemented to connect the rope jungle. The rock wall utilizes the steep unusable slope to provide movement up next to the slide which is a strictly downward movement. The rock climb allows for the children to perceive the terrain on the site and learn how to utilize the features to produce movement.

Fig. 29.7. - Rock Climb Collage Idea
Phase 6 Idea

Natural Environment Involved In The Design:

- Utilizes the steep slope.
- Understands embankment texture.

Fig. 29.8 - Rock Climb Isometric
Phase 7

Edible Garden

(Uses open space and natural interventions for learning)

Once the interventions utilized the slopes and trees within the expansion area it was time to expand into the open space at the bottom. The space created in this area would provide a learning opportunity through the introduction of natural interventions. By introducing edible plants, children could build interest in the abilities, history and culture of New Zealand’s plants.
Phase 7 Idea

Natural Environment Involved In The Design:

- Natural interventions turn the open space into a learning environment.
- Provides connection to existing site vegetation.
Phase 8

Rope Climb

(Using Soft Slope)

The site closest to the potential public space has no trees or high vegetation anywhere leaving just the banks slope. Using this slope to create a rope climb up to the top allows for children to interact with the public and other users of the site from a safe distance and clear view. The soft grass also provides cushion safety that substitutes for the modern solution of rubber padding which prevent the kids ability to understand risk.
Phase 8 Idea

Natural Environment Involved In The Design:

- Utilizes the hill slope.
- Soft grass embankment.
Phase 9

Pond Learning Space

(Utilizes Uneven Ground)

With the idea of the public space being an ecoscape and the council's drive to maintain a healthy Porirua harbour, I've utilized a small dug out space in the ground to apply a makeshift pond which would represent the larger ecoscape at a smaller scale. The kids would be able to learn about maintenance and investigate/interact with the aspects of the pond.

Fig. 29.13. - Pond Learning Space Collage Idea
Phase 9 Idea

Natural Environment Involved In The Design:

- Utilizes the hill slope.
- Uneven ground surface.

Fig. 29.14. - Pond Learning Space Isometric
Phase 10

Mud Pit

(Uses flooding and mud problem)

Phase ten investigates how its possible to take a problem with the site (in this case flooding of specific area) and turn it into an advantage. Instead of spending hundreds of dollars to fix the site, see it as an opportunity to turn the problem into a solution. In this area; its turning the flooding into a mud pit area so in wet conditions the pit turns to mud affording the kids a chance to experience something that they wouldnt normally get a chance too.

Fig. 29.15. - Mud Pit Collage Idea
Phase 10 Idea

Natural Environment Involved In The Design:

- Turns water problem into a activity.
- Maintains the open space element.
Phase 11
Worm Farm Open Space
(Affords space for activities)

Leaving an open space is crucial for allowing the children to develop their own ideas to utilize space. Due to the public access being so close to the open area, implementing worm farms as a secondary barrier to maintain interest on the kindergarten side of the fence prevents unwanted interactions.
Phase 11 Idea

Natural Environment Involved In The Design:
- Creates a buffer from the new pathway.
- Open space allows for a creativity element to exist.

Fig. 29.18. - Worm Farm Isometric
Public Space Phase 12

Ecoscape Public Space

(The chosen type of space from the initial ideas that the kindergarten would find most beneficial for the space.)

Scale:
1:350 @ A3
From the initial designs for the site, different spaces were generated. These potential space ideas were discussed with the people who worked at the kindergarten. We decided that the ecoscape was the best option for this community lead space. This area would need external funding so it would be one of the last items to be introduced to the site as council and community involvement would be needed to progress with this space.

The reason this idea was chosen is because of the way it was able to allow multiple users into the space using a progressive network that had a mix of users in the middle with separation of the public and children for safety reasons. The public space would be the furthest area away from the kindergarten with the ecoscape. In the middle the site would have community gardens, fruit trees and community cooking pit that the kindergarten would have access in which multiple users could mix and interact. Then the separation of the young children for safety reasons within the kindergarten expansion area.
Public Space Phase 12 Perspective

Fig. 29.20 - Public Space Ecoscape Map Perspective
Public Access Phase 13

Children Dominant Access

(The kindergarten wanted to implement a passage way that allowed kids to still be the dominant user. The exploration pathway appeared to be the most successful option among people in relation to the kindergarten.)
In this area children are the more dominant users of the site, the idea of having another access point which introduces the idea of exploration at the being of the site was chosen. This access would allow for children to explore the dense bush giving them a sense of pride and empowerment giving the illusion they are doing it themselves.
Phasing Sequence For Site Development

**Phase 1**
The Tower

**Phase 2**
Outdoor Classroom

**Phase 3**
Stairs

**Phase 4**
Hill Slide

**Phase 8**
Rope Climb

**Phase 9**
Minor Pond

**Phase 10**
Viewing Platform

**Phase 11**
Mud Pit Solution

*Fig. 29.23. Progression Of Site Development Over Time*
The idea behind the phasing sequence is to allow for the kindergarten to have the ability to use the site while it's being built. It would also generate opportunities for the kids to get involved making the spaces that they would use. By putting in one intervention at a time you can see how this creates recreation and exploration through an understanding of the changes that might happen with the insertion of the next stages.
Site Intervention Master Plan

Fig. 29.24 - Site Intervention Master Plan
Landscapes have many existing features that can be discovered through the application of small interventions. In this case study I have demonstrated how the use of small interventions was able to amplify the surrounding environmental aspects to create new site functions.

These functions allow for the site to stimulate instinctive exploration for the user which develops an understanding of the affordances generated. These different site functions allow for the reduction of restricting aspects on the site and insufficient spaces due to environmental factors.

Due to the nature of the users I was dealing with, privatisation of the space was a forced concept because of safety issues but the kids had different personalities and skills to perceive how sites functioned for them. This gave me a chance to sample how different users were able to interact with each other in the same space by allowing the non-programmed area to influence how the different users co-exist through the same site aspects.
This section shows the master plan of the whole site. It allows for an understanding of how the whole site would work together so the consistency of the site is understood. The master plan introduces you to all the areas in which the interventions are positioned and allows for identification of the key factors targeted in the design process.

The maps show all the pathway networks in the site which range from existing pathways to instinctive pathways that are created through the use of the interventions and the user's continuous visits to site. Through the pathway networks developed, these new elements and designs back the research done on flows and movement through successful existing public spaces utilizing the observations from the behaviour tests performed in the existing and new sites.
Site Master Plan

Fig. 30.1 - Site Master Plan
Splitting the site into categories so I could identify the purpose of each intervention to allow for a transition of different users to co-exist.
Identified Potential

Using the natural elements that could provide potential affordances I identified the spaces that the interventions will be located creating direct linear flows in multiple directions for easy movement around the site.

**Fig. 30.3 - Potential Site Intervention Spaces Diagram**
Intervention Influence On Movement Network
Pathway Movement Network Breakdown

New Main Community Pathways

Intended Off Track Movement (Using Interventions to Suggest Movement)

Built Playground Pathways (Controlled Movement)

Unintended Site Movement (Created By Natures Role In The Design)

Movement 1

Movement 2

Movement 3

Movement 4

Fig. 30.5 - Site Movement Network Diagrams
Master Plan/ Pathway Network Conclusion

The site uses interventions that allows for the interaction between the user and the environment. Using the observation from the existing site behaviour test about designed pathways vs user experiences, I noticed the need for directional pathways to help guide users through space. Although the balance between paved walkways and unpaved walkways needs to be equal to allow people to create their own movements within the different features.

The idea behind the structure of the path network in the community area is focused on allowing direct routes to the main interaction areas and influence spaces whilst leaving open areas for people to move freely. The kindergarten expansion uses two main pathways to allow access to the space. The interventions have the role of creating the pathway network by influencing the true site movement.
CONCLUSION AND EXEGESIS
Conclusion

Public spaces in the Wellington region were restricting user’s ability’s to use space. They provided insufficient spatial qualities for the user due to environmental conditions and surrounding site context. Majority of the public spaces had small pockets in which privatisation occurred. Singular targeted user groups in the design process caused privatisation of these public spaces. These issues were the direct reason for a loss of interaction, abandoned spaces, connections and usability. All important features of public space.

In this document I was able to demonstrate how a design process can maintain a healthy and sustainable society. It was achieved through the ability to create spaces that allowed multiple users to interact in the same realm. I used the opportunity to display how you could create these spaces using the existing elements to provide areas that multiple users could perceive activities allowing for people to coexist.

I used the kindergarten to test my findings to demonstrate how these ideas would change the way public spaces are designed to maximise usage and interactions between different user groups. Working with the kindergarten meant I had to deal with real problems that come attached when working with real people on a real project. Due to the kindergarten being a non-profit organisation, this became a key driver for me trying to design spaces that utilized as much of the existing site as possible without costing much money.

I found that in-depth analysis of key values of existing public space, allowed me to generate information on each feature that was able to inform my design research. This analysis provided direction, understanding and conclusions that developed my design research and allowed me to demonstrate my ideas successfully. The analysis of existing space instructed how the analysis of my case study site was able to be manipulated to provide more information and better understanding of the aspects to improve the success of the design process in discovering existing site features.
Analysis of the case study site identified the key features that could be utilized in providing space with a function. By introducing the right instrument, I created an area that allowed multiple users to utilize the space and co-exist in the same environment through the ability to perceive different functions of the same element. The introduction of interventions to the space amplified the opportunity to stimulate the environmental context creating multiple functions from a singular feature. These encourage interest to explore the functions that are generated through a design process.

- 

After identifying key areas of the case study site that provided opportunity’s which would be used with interventions to provide a function that amplified the surrounding context. I was able to sort ideas with the right environmental feature that generated multiple functions using minimal design.

- 

Tests I performed with the kindergarten demonstrated how small interventions can manipulate users behaviour in a space with the introduction of an unknown object. This object provides a simple singular function. These test results showed how they can continually change the sites movement and user behaviour affecting the surroundings. The results informed the design process for identifying how the small interventions would transform the appropriation and qualities of the site.

- 

My aims for this design research was to begin the first stages of the design and build them for the kindergarten to use. I noticed that the most successful way to develop this space was to utilize the existing features developing the site in stages. This would allow for the site to be used throughout the building process with each part allowing for the site to work successfully. I completed this objective by building the first two stages of the design process that invested the surrounding context into the production of multiple functions demonstrated when the kids interacted with the build. This allowed for me to observe how they used and perceived that environment.

- 

This research demonstrates through the opportunity of working with real users how you can successfully use small interventions to amplify the existing features of a site. Providing functions that allow for multiple users to co-exist. It shows how site conditions can be viewed as an opportunity rather than a problem to introduce a function that allows for that area to be used instead of neglected. I do identify that certain users will need areas that are private or singularly targeted for them only due to the conditions of their needs. In this case the children need to be separated for safety and supervision reasons.
This research contributes towards the discipline by demonstrating a new way of thinking about the way we design public spaces. It shows through identifying key areas in the natural environment how we are able to insert small designs to amplify the surrounding context. Therefore, allowing the existing environment to become a part of the design. Analysis of existing sites to identify key features is important to the discipline as it demonstrates that we can use analysis to inform the design process through conclusions of the behaviour of public space.

If this research was to be continued I would maintain my involvement with the kindergarten to continue to test and develop my ideas on the site. I would believe it to be important to also move out of the kindergarten and begin to test these theories among different users and not a specific group.

Who could find this thesis interesting:
- Students
- Anyone working with children
- Teachers
- Landscape Architects
- City Council
- Regional Council
- Investors
Awatea Development

Awatea wish to continue on with the project and are using my ideas to help push the project forward. They are doing this through pin ups and sharing the ideas with the people needed to get this project moving. They were very thankful for the work I was able to accomplish and I hope it is able to be continued.

Fig. 31.1. - Awatea Kindergarten Pin Up Presentation
BIBLIOGRAPHY


SOURCE OF FIGURES
APPENDICES
### Playing Plants

<table>
<thead>
<tr>
<th>NZ Native Ferns</th>
<th>Potential Plants Used For Play</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Cyclosorus shieldii</em></td>
<td></td>
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<tr>
<td><em>Blechnum dissectum</em></td>
<td></td>
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<tr>
<td><em>Cystisus medulairisc</em></td>
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<tr>
<td><em>Diplazium filixmas</em></td>
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</table>

Plants can be used as tools to provide kids with a variety of different experiences and movement. These plants can also be used for play areas and planes. The edible plants can be used for play spaces or areas. The edible plants can be seen in the diagram, as well as other plants that are not edible. The edible plants can be found in New Zealand.

### NZ Native Shrubs

<table>
<thead>
<tr>
<th>Helie saxatilis</th>
<th>Myrsine divaricata</th>
<th>Carinchesia colorata</th>
<th>Pechayonea insignis</th>
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### NZ Native Grass/Flax

<table>
<thead>
<tr>
<th>Cortaderia richardi</th>
<th>Chionochloa flavicans</th>
<th>Astelia fragrans</th>
<th>Phormium tenax</th>
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### NZ Native Ferns

- Colourful
- Touch
- Smell
- Creating Space
- Movement
- Seasonal Changes
- Prop/Objects

### Edible Plants

#### Edible Ferns

- Gully Fern
- Hen and Chickens Fern
- Hillsides Tongue Fern
- Ranetki

#### Edible Maori Plants

- Toi Wintere Grass
- Kupera (Kaia Gooseberry)
- Pahata (Wild Turps)
- Kohekohe (Watercress)

#### Edible Herbs

- Bitter Grass
- Kohekohe (Watercress)
- Dwarf Bush Nasturtium
- Macquarie Island Cabbage

### Appendix A

- Appendix A

### Appendix B

- Appendix B

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308
Appendix C

Intervention Construction Through Using Recycled Pallets. Producing Objects That Provide Functions
Understanding Recreation

When the word recreation was first discovered and used, it was described as a way of curing an illness by going somewhere that escaped the normal stress and strains of life. (Harper, 2018)

There are two types of recreation. Passive and active recreation where active includes activities that an individual must directly participate in. (Dancing, playing an instrument, swimming) Passive recreation only requires one to observe. (Listening to music or watching a football game)

Passive Recreation

Outdoor recreational activities, such as nature observation, hiking, and canoeing or kayaking, that require a minimum of facilities or development. Activities have minimal environmental impact on the recreational site. These aren’t always through direct participation and normally involve being an observer to something that is happening or someone they know preforming an activity. The idea of passive recreation or what is considered passive recreation is the ability to be free from the stresses of your everyday life.

Active Recreation

Active recreation normally involves physical involvement in a sport or by participating in some form of physical exercise that pushes your body to perform at a higher level than usual. Most people who are involved in active recreation are a part of a group, club or join someone else who participates in that specific activity. Active is the most conscious form of recreation as it involves forcing your body to perform.

Appendix D