

Learning from the past in developing our urban landscapes

What is the potential of incorporating historical knowledge to
plan urban landscapes in Ōtautahi?

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Executive Summary

- For centuries Māori had used Mātauranga to sustainably use Ōtautahi's waterways.
- Colonial theorists and planners built Christchurch on top wetlands and various other waterways. Ignoring the knowledge collected from Māori.
- As early as 1850, Christchurch experienced issues with its water management including flooding and drainage.
- Water-related issues faced by contemporary urban planning, show that historical knowledge was not taken into consideration in the early years of development.
- The post-earthquake era is an opportunity for Christchurch to change the attitudes towards the importance of historical knowledge in urban planning.
- As climate change persists it is vital that the urban planning of Christchurch acknowledges the historical natural features and learns to work with them and not against them.
- Internationally there are case studies where cities have successfully adapted their urban planning to suit the natural environment.
- The potential to incorporate historical knowledge in urban planning will create a more resilient city. And embrace the cultural traditions and knowledge of Ōtautahi.

1. Introduction

Water is one of the most important building blocks that enables earth to support life. Nowadays, water is part of public spaces within cities around the world. Christchurch's natural landscape was once occupied with various wetlands, springs, rivers, and underground waterways. Over its 150 years of Ōtautahi's urban development, water features have been modified to support the needs of the citizens. Post-earthquake, these pre-existing waterways have caused issues for the urban landscape.

Despite the known existence of these historical waterways, there is no legislation concerning its need to be considered when developing urban landscapes. History constitutes an important component in developing a resilient and sustainable city. This research investigates the potential of incorporating historical knowledge in Ōtautahi's urban planning. The research was conducted in partnership with Di Lucas. Who was frustrated that historical knowledge is not incorporated into the urban design management of Christchurch. And seeks to discover the benefits of doing so.

Wamba (2014) defines historical knowledge as information gathered about the past for a location through experiences and education. The black Maps of Christchurch, indigenous knowledge, and early settler knowledge are the main forms of historical knowledge. Collectively, they paint a picture of Christchurch's natural landscape before it was developed. The Black Maps is an important source of knowledge and is referred to throughout the report. These are maps sketched in the 19th century showing the layout of Christchurch overlain where there once was vegetation, swamps, and various other waterways (See Appendix 1, Figure 1).

The report begins by reviewing relevant literature to the research, followed by the methodology, and results are discussed in regards to the consequences and potential of incorporating historical knowledge in urban planning. Limitations were acknowledged, and the report will conclude with a summary of the findings of the report.

2. Literature Reviews

Literature relevant to this study was reviewed and synthesized, categorized into the following subthemes;

2.1 Māori and Early Settler Attitudes

Early settler attitudes towards land heavily influenced the design of Christchurch. The lowlands of the Canterbury plains were central to the survival and prosperity of both Māori and early European settlers. Yet they used the land in radically different ways. Māori's knowledge about Canterbury's natural environment allowed them to use the land in a sustainable way (Cookson & Dunstall 2000). This included not building their villages in the floodplains and wetlands of what would become Ōtautahi. In contrast, the attitudes of the early European settlers believed Māori were not using the lands to their full potential (Pawson & Holland 2005). This led them to create a settlement on land where Māori dared not, whereas it turns out, was prone to fluvial hazards. A changing set of attitudes towards land use shows how a shifting set of values greatly affects how the land is developed. These two sets of attitudes explain the importance of historical knowledge in urban planning as Christchurch was built using the attitude that ignored historical knowledge.

2.2 Waterways

There is a need to incorporate waterway knowledge into Christchurch's development and planning, both culturally and historically. British Waterways (2009) promotes understanding of the significance of historic places and their need to be managed sustainably. The heritage of Christchurch's waterways represents an irreplaceable and precious resource for urban planners. But commercial pressures can put the history and traditions of the waterways at risk of being lost in favour of new development. However, new development should not be discouraged, but rather it should integrate historical context and modern design to create urban planning that promotes the past and future. Culturally informed urban planning can inspire more sustainable outcomes and participatory processes. Historically there has been a lack of incorporating cultural knowledge into the city's water management. Which resulted

in widespread customary resource degradation (Harmsworth et al. 2016). Incorporating Māori cultural expectations and knowledge into the management of Christchurch's waterways would better reflect the people that live in the city and create more vitality and sustainable urban living space.

2.3 Christchurch Earthquakes

The 2011 Christchurch Earthquake is proof that not incorporating historical knowledge in urban planning can have disastrous effects. Cubrinovski and Robinson (2016) recognised how damage suffered in the earthquake was often due to the land's susceptibility to liquefaction. Through their research, they discovered that the east side of Christchurch was a shallow subsurface consisting of swamp deposits. These soil composites would be a factor in the 2011 Earthquake, as they would cause liquefaction and lateral spreading (see appendix A, Figure 2). The earthquake also presented an opportunity for the city to learn from past mistakes and include historical knowledge in future urban planning. 'Share-an-idea' and Mataporpore are initiatives that emerged after the earthquake and promote the inclusion of citizens' opinions and mana whenua engagement in urban planning. As Matthewman and Goode stated, the 2011 earthquake presented an opportunity to build from scratch, a post-colonial city, inclusive of everyone with a strong recognition of mana whenua (2020).

2.4 International Case Studies

International case studies of urban planning have consistently analysed the importance of incorporating historical knowledge into development and planning. Taking into consideration the importance of water as a life force, and the historical links it held was a common theme among the literature (Agha Ebrahimi Samani et al. 2015; Michel et al. 2019). Historical preservation of natural landscapes are important in times of urbanisation as it helps define a place's identity. This can be done through ecological restoration to protect wildlife and plant species, and landscapes and seascapes (Antrop. 2005; Michel et al. 2019). Literature emphasised the importance of understanding the natural and cultural forces that change the landscape, and knowledge of natural disasters proving to be essential to minimise future damage (Antrop. 2005; Birch & Wachter. 2006).

3. Methods

3.1 Methodological Framework

Qualitative data was collected through semi-structured interviews. A face-to-face interview provides an experience that cannot be replicated, offering insight that enhances the decision-making process (Stein et al, 2019). Young and Mumby et al, (2018) recognised how interviews allow in-depth analysis that may previously be inaccessible. This methodology provided insight into the development of Christchurch. Participants for interviews were recommended by Di Lucas and our tutor Jillian Frater. Six experts were willing to participate, each one researched to create personalised interviews utilizing their knowledge and background.

3.2 Ethics

Ethical considerations have a resonance with this research due to the in-depth nature of the interviews (Roshaidai Arifin 2018). Protection of the interviewees was achieved through the application of appropriate ethical consent forms. Consent forms stated the purpose of the research and a brief description of how the information gathered would be used (See Appendix B). Consent forms were required so that the interview could be recorded and their names could be published in the report.

3.3 Interviewees

Interviewees included:

1. **Grant Edge** - elected councillor at ECAN. Grant is a landscape architect with a background in urban and rural design and planning.
2. **Vicky Southworth** - geologist with over 15 years of experience. Her priorities at ECAN include improving rural and urban water quality and protecting biodiversity.
3. **Hugh Nicholson** - the Principal Urban Designer at the Christchurch City Council and Design Lead for Regenerate Christchurch.

4. **Hannah Lewthwaite** - senior landscape planner in the Natural Environment Team for the Christchurch City Council.
5. **Arapata Reuben** - iwi member of Ngāi Tūāhuriri and is currently manager of the whakapapa unit for Te Rūnanga o Ngāi Tahu.
6. **Clive Appleton** - overseeing implementation and compliance of the Comprehensive Stormwater Network Discharge Consent for Christchurch City Council

3.4 Thematic Analysis

Interviews were recorded via Zoom, or in-person interviews using Voice Memo software, and a transcript was created for each. These transcripts were analysed through thematic analysis which involved identifying patterns in meaning across the transcripts (Guest et al., 2012). This was the most effective way to analyse the data collected from the five interviews as it could provide key themes to answer the research objective. The themes identified in this research were Early Urban Development, 2011 Earthquake, Indigenous knowledge, Waterways and Springs, and Climate Change and Sustainability.

4. Results & Discussion

4.1 Early urban Development

Early urban development of Christchurch City shows that historical knowledge and understanding of the landscape were not utilised in city planning. The lack of acknowledging the landscape went beyond waterways and includes other natural features and landforms such as St Michaels gully and Linwood sandhills (Appendix A, Figure 3). Despite all these natural features, the grid layout remained largely intact and only minor changes such as road closures were made (Wilson et al. 2005). The early decisions about the placement and urban setup of Christchurch greatly influenced the water-related issues that are seen in contemporary times

The settlement of Christchurch was planned in England by colonisation theorist Edward Gibbon Wakefield and lawyer John Robert Godley. They based their design on the typical English grid layout. Captain Joseph Thomas, an experienced surveyor, selected the land that the design would be placed on (Wilson J. et al, 2005). These initial plans failed to acknowledge the natural landscape of the canterbury was different from the cities back home the design was based on. Waterways were drained to fit the colonist city design (Wilson J. et al, 2005). This early decision to modify the land is the root of most water-related issues the city sees today. Grant Edge spoke of how:

“Over the last 150 years, we’ve done a poor job in considering our natural landscape. This is partly due to having our urban pattern placed on our land by someone from Britain, who had not seen the place. They laid down this plan, rejiggering it to fit the rivers. Christchurch is still historically bound to this.
– Grant Edge

For things to change, there needs to be a city-wide recognition of what was here before urban development began. The six statues of the city's early urban developers show the attitudes towards what history is celebrated and acknowledged.

"They were celebrated for doing certain things in the context of their day, but was there a consideration of the indigenous story? Or, if you actually look at their story, were they part of a colonising activity or suppression?" – Karaitiana Tickell, Chief executive of Pura Pura Whetu. (Broughton 2020).

However, these statues do not represent the entire story of the city's past development as it leaves out how important indigenous knowledge is. Hugh Nicholson discussed that this narrative needs to change stating:

"How do we deal with changes in community views? How do we respond to sculptures of racist people? What do we do about them? How do we acknowledge that? ... A city is a reflection of the people who live there."

The urban design of Christchurch is a representation of the early attitudes of the city's planners. Their disregard for designing a city that works with the natural landscape caused a settlement to be created on top of wetlands that have proved to be disastrous. However, Grant Edge stated that:

"The one opportunity the city has to change things dramatically is post-earthquake".

There is an opportunity to change what historical knowledge the city celebrates. This history needs to include cultural knowledge as it is a massive part of the Christchurch identity. Doing so will mean people know the history of the natural landscape, leading to a better understanding of its characteristics now. New development should not be discouraged because of what has happened in the past. Instead, there is a potential to use the knowledge gained by these experiences and create new projects that work with the natural landscape and not against it.

"It is important to recognise early European history's association with waterways. Certainly, there were a lot of problems regarding water management..." – Clive Appleton

By approximately 2041, the greater Christchurch area will increase in population by 120,000 more people. This will generate a demand for more infrastructure (Stevenson & Banwell, 2006). There is potential for the city to break away from its traditional colonial city design to something that better represents its landscape – protecting both the environment and culture of Christchurch, creating a resilient city.

4.2 Christchurch 2011 Earthquake

The 2011 earthquake caused widespread damage, especially in the Central Business District and the eastern suburbs. This earthquake affected the waterways through the inputs of liquefaction, bank slumping, and uplift streambeds (Cubrinovski, 2011). Historically, there is knowledge about Christchurch's waterways and how it is susceptible to earthquakes. Hannah and Vicky both recognised how parts of the red zone were susceptible to liquefaction.

“Liquefaction was a known mechanism for creating damage in an earthquake event. This is something that should have been acknowledged before the land was built on” – Vicky Southworth

Although early urban planners had access to landscape history, they chose to ignore it due to the pressures of infrastructural demands. Arapta explained how Māori were aware of the repercussions of an earthquake in Ōtautahi, noting that:

“We should have learned from this experience... (past earthquakes) but instead urban planners of the 1900s decided to build on top of the land that was vulnerable.”

Intentionally building on ground that was sensitive to water-related earthquake effects exemplifies how, in the early years of developing Christchurch, the drive to meet housing requirements trumped the significance of listening to historical knowledge about the natural terrain, as Hannah stated:

“Subdivisions were granted that shouldn't have been.”

The land beneath these subdivisions was prone to fluvial effects from an earthquake, resulting in structural and land damage, so they were dubbed the "red zone." The colonial narrative that the British worldview was superior to Māori knowledge, consequently caused a lot of the water-related issues in the 2011 earthquake to occur, as Hannah stated:

"This was not how things were done back then."

The earthquakes lost a substantial amount of history by damaging many of the buildings that were particularly related to Early Settler design. 204 protected buildings were lost as a result of the earthquakes (CCC, 2019). The loss of Christchurch's heritage buildings changed the city forever. The sense of loss created a desire to capture the memories of Christchurch. It also raised awareness of the importance of retaining the remaining built heritage as being vital to the district's identity (CCC, 2019). Hugh addressed how there was an opportunity to recognise the history that had previously been absent in the city;

"One of the things we were keen to try and do is incorporate the histories that hadn't been told, Māori and indigenous history"

Ten years on from the 2011 earthquake and there are still lessons to be learned. The event emphasizes the importance of considering and incorporating historical knowledge when planning and developing urban landscapes.

4.3 Indegenious Knowledge

Ngāi Tahu have an intricate, holistic and interconnected relationship with the natural environment and resources of Canterbury, which is encapsulated in their knowledge base – Mātauranga. Wai is an integral part of the Māori culture, as it is the essence of life (Callaghan et al., 2018). Mātauranga historically allowed Ngāi Tahu for centuries, to enjoy Ōtautahi's waterways whilst also preserving them for future generations. Arapta discussed;

"We understood the waterways and how we could benefit from them without

damaging them”.

Ngāi Tahu's understanding of Mātauranga illustrates when historical knowledge is considered into urban planning, it can build resilient and sustainable living spaces. Māori's philosophy towards water management in the 19th century is in contrast to how early settlers viewed the land. The colonial narrative man was superior to nature influenced how early urban planners built Christchurch;

*“Early settler Europeans ignored the knowledge Māori had about Ōtautahi... they built on top of old waterways.... That should have never happened.” -
Arapta Reuben*

Early urban developers' failure to acknowledge the indigenous history of Christchurch's natural landscape consequently caused the early water-related issues for the city in the 1850s. This included stormwater and sewage draining, and reoccurring flooding from the Waimakariri and Avon (Holland & Mooney 2006). These issues are still very prevalent in contemporary urban planning and suggest had indigenous knowledge been considered when selecting the location of Christchurch, the flat floodplain it sits on today would not have been selected.

The location of the city cannot be changed but the attitudes towards managing its natural landscape and waterways can. Nationally, there has been a shift in the value indigenous knowledge has in urban landscape planning. The earthquake has provided the city with an opportunity to re-navigate the path of urban landscape planning. Māori are being consulted on more and more urban landscape projects as their knowledge about the area is invaluable to ensure the sustainability of the natural and urban landscapes.

“I think it is important that we take the historical and cultural use of the river into consideration.... So we can restore it with honour.... And it's good for the environment too” – Clive Appleton

Mataporpore is a charitable trust, established after the earthquake to provide mana whenua voice in recovery and planning in Christchurch. Hugh and Hannah

discussed their experiences working with the trust; both agreed it provided an invaluable Māori perspective on Christchurch's urban planning.

“Cultural narratives are a treasure to the city, something we should be celebrating” - Hugh Nicholson

This Trust is a major step in the right direction to increase engagement between mana whenua, council, and urban landscape planners. But Arapata discussed the Trust needs to be dissolved and instead other forms of communication or initiatives should take its place;

“Mataporpore was set up to help with the Christchurch recovery.... But this has finished... moving forward it would be good to see other forms of consultation with us”.

Christchurch is beginning to recognise the significance and importance of indigenous knowledge about waterways, and how this knowledge can be used to develop a sustainable and resilient city. The success Māori had with mātauranga and surviving on Christchurch's land pre-European illustrates it is possible to enjoy and manage the waterways in a sustainable way. The potential for using this historical knowledge in future urban planning for the city will mitigate the effects of fluvial faults and will show the city how to manage them in a way that allows their sustainability.

4.4 Waterways & Springs

Joseph Thomas placed Christchurch on a mosaic of swamplands, underground streams, and rivers such as the Avon and Heathcote, making the land prone to flooding. However, this knowledge does not appear to be systematically investigated or protected in much depth when it comes to urban planning. This presents an issue as failing to acknowledge the history of the natural landscape results in unsustainable planning.

New Zealand has historically found it difficult to look at the risks before building. Vicky discussed how:

“The Council would go ahead with subdivisions even though they were prone to flooding, there was a need to meet housing numbers. There may be a flood risk, but these other factors trump that.”

Since the 1860s there has been investment in relieving and improving drainage and flood protection of the city. These have managed to protect the city, however, areas are still being developed where it is known to be poorly drained and low-lying (Wilson et al 2005). Which showcases that even when there is historical knowledge that suggests not to build on that land, if there is an economic profit to make from building infrastructure it will go ahead.

However, in contemporary times there has been a change in the water management framework, there is a willingness to embrace the natural water features. The array of springs scattered across Christchurch has served many purposes over the years; this varies from spiritual values to water supplies. The earthquake caused many of these springs to appear throughout the city that was either left alone or drained. These springs form groundwater-dependent ecosystems, providing moist refuges for organisms, and were critical to the indigenous people’s survival (Hatton & Evans 1998). Springs make up a part of Christchurch and its history. They deserved to be protected and valued so that they may be seen or heard.

“There’s a whole series of underground rivers. We started to break those out in some places, and we started to show them. Quite a lot of discussion about how we can show those underground streams on the surface, whether or not we can reveal them, perhaps being able to look down and see them or hear the water running” – Hugh Nicholson.

Vicky provided a quote from an early European migrant, Edward Ward, who in 1850 described the Avon as *“cool and clear as crystal - most delicious to taste”*. Christchurch waterways will never be like they were pre-European. However, the historical knowledge about them can be embraced by creating water management that integrates the natural and urban environments. As Clive said;

“We need to acknowledge the importance of waterways and their spiritual

significance.”

4.5 Climate Change and Sustainability

Developing a sustainable city was acknowledged by interviewees in terms of planning for future urban landscapes. Hugh discussed the concept of ‘Share-an-idea-, the community-led plan to allow public input into the post-quake rebuild. There was a common consensus among residents to have a ‘Green City’ that was sustainable and natural with rain gardens inserted into the central city, reducing car parks, and increasing street trees.

The use of geomorphological aspects are being developed as a form of flood protection;

“With natural ecosystems, marshes and things in the front that do the hard work, rather than engineering, ecosystems do the protections” – Hugh Nicholson

This use of green spaces and natural landscapes to protect and enhance the waterways was similarly seen in Isfahan, Iran, where legislation and greenspaces were used to prevent building in the proximity of the river (Agha Ebrahimi Samani et al. 2015) Greenspaces are a way to use the natural characteristics of the land to reduce urban flood risk. The effects of climate change and sea-level rise are unprecedented and may exceed conventional engineered stormwater management capabilities (Kim et al., 2016). Kim et al. (2016) studied the uses of greenspaces and found they were an effective way to reduce urban flood risk and improve the resilience and sustainability of cities. As Hannah Lewthwaite explained, the Avon River had previously gone down an engineered route, the earthquake has provided an opportunity to go down a more natural path. Natural landscapes can get lost through intense urbanization, preserving them, and understanding historical uses can be a source of sustainable management (Antrop, 2005).

Understanding the physical aspect of the land to plan for flooding and sea-level rise was also discussed by Vicky. The Black Maps show the waterways lying beneath the city, as Vicky stated;

“You could enrich a city by looking back, but also acknowledging what’s coming with climate change and making sure we’re not squeezing out important ecosystems or creating risk for future inhabitants”

The importance of protecting natural, historical ecosystems is a commonly shared theme across the literature when referring to urban planning and development (Agha Ebrahimi Samani et al., 2015; Michel et al, 2019; Antrop, 2005).

The interviews and literature have expressed the importance of incorporating historical knowledge into future urban planning. The natural landscape has existed long before urban civilization, and using the knowledge of these landscapes can aid in planning for future climatic risks that are expected to unfold. Understanding this research is essential for future planning, as Hugh stated *“There are 20,000 houses that are vulnerable to flooding over the next 50-100 years”*. This emphasises the importance of understanding these risks, and the potential impacts community representatives must consider. The impacts and risks of climate change should be of interest to all communities, as it will affect everyone. The urban landscape planning of Christchurch post-earthquake shows how to plan for future risk, as Arapata said;

“We should be looking after the environment... the waterways.... It’s important to preserve them so future generations can enjoy”.

5. Limitations

Time Restrictions

Time restrictions were a limitation to our project as there were long turnover periods between the initial email requesting an interview and the actual interview. We contacted over 18 people in total, having to wait for replies, and send follow-up emails, many to no avail.

Covid-19

Level 4 and 3 restrictions limited our research as we were unable to meet as a group or attend university with all work moved online. Our first interviews had to be conducted over Zoom, causing more structured interviews with less ability to naturally expand on the conversation that we found we were able to do in in-person interviews.

Qualitative Data

According to Creswell and Creswell (2017), a mixed method of collecting data would have been more effective as an integration of both qualitative and quantitative data. Qualitative data is significantly more time-consuming and open-ended questions can lack consistency and comparability (McGuirk & O'Neill, 2016). A mixed-method approach combining the qualitative interviews with a quantitative survey could have elevated our research results.

Thematic Analysis

Thematic analysis can be a useful, flexible form of qualitative research, but can be inconsistent when developing themes (Holloway & Todres, 2003). Alternatively, if interview questions were constant throughout all the interviews, the content analysis could be used to systematically analyse the presence of words and themes as a form of both qualitative and quantitative analysis (Flick, 2014).

6. Recommendations for Future Research

Below are recommendations for further research for the potential of incorporating historical knowledge in future urban planning:

- How could the underground waterways be utilized more sustainably without disrupting the built environment?
- Research the benefits and negatives of the proposed Christchurch channel 1906 (See Appendix A, Figure 4)
- Gain a better understanding of what initiatives and policies already exist for engagement with mana whenua regarding urban planning.
- Restoring historical natural features of the rivers such as the Avon river baths and how this contributes to sustainably enjoying the natural water-ways (See Appendix A, Figure 5)
- Opportunities and barriers to enacting legislation requiring the inclusion of a place's natural history before urban development can take place.

7. Conclusion

Christchurch has an opportunity to reinvent the way historical knowledge is applied in future urban planning. The natural water features of the landscape are not going away, if anything more will appear as climate change continues. The potential of incorporating this knowledge into urban planning is invaluable; not only will it create a more resilient city that is adaptable to its natural landscape. But there will be better cultural cohesion of the city as there will be more engagement between council and mana whenua. To understand what is here now, we must know what was here before.

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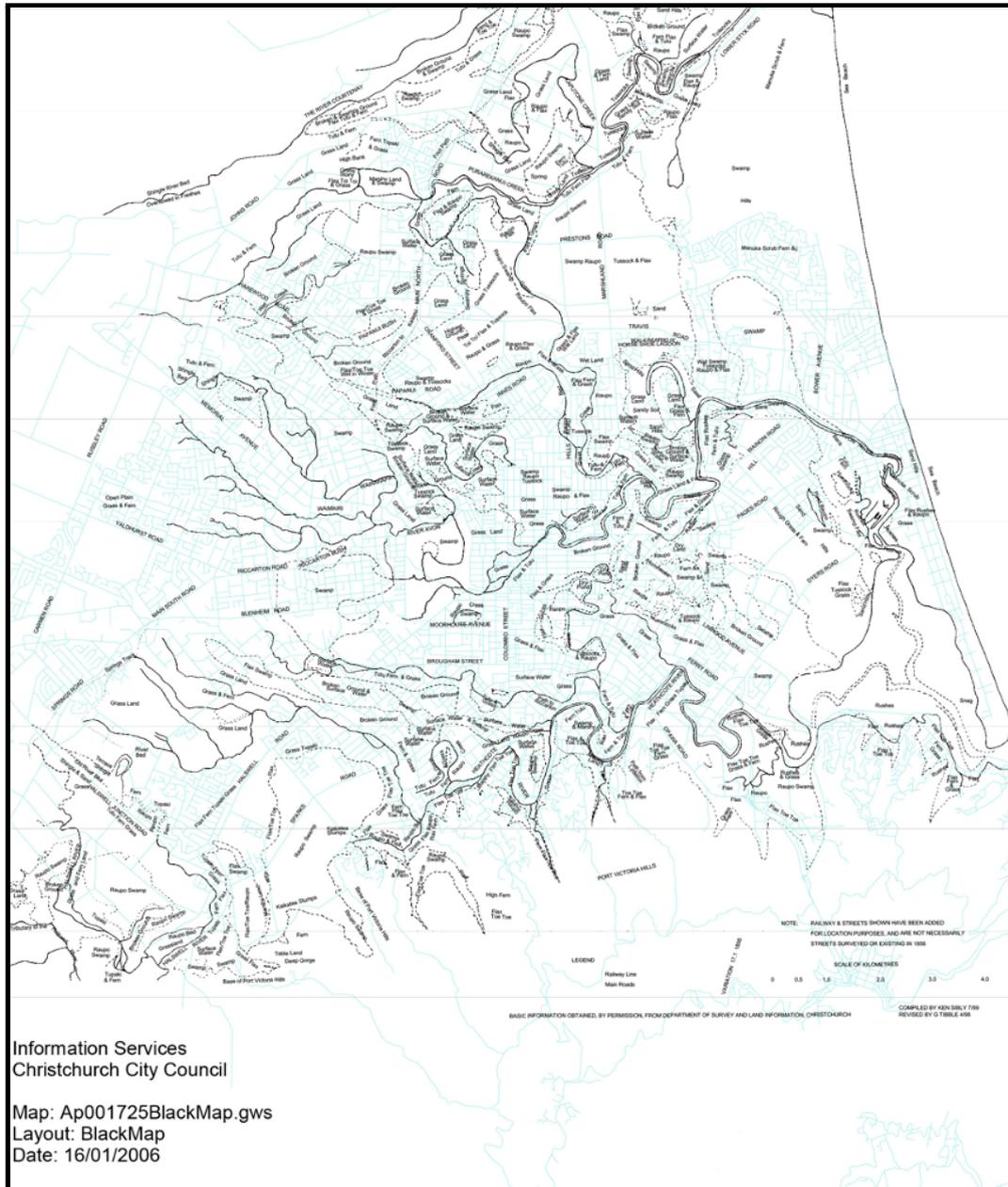
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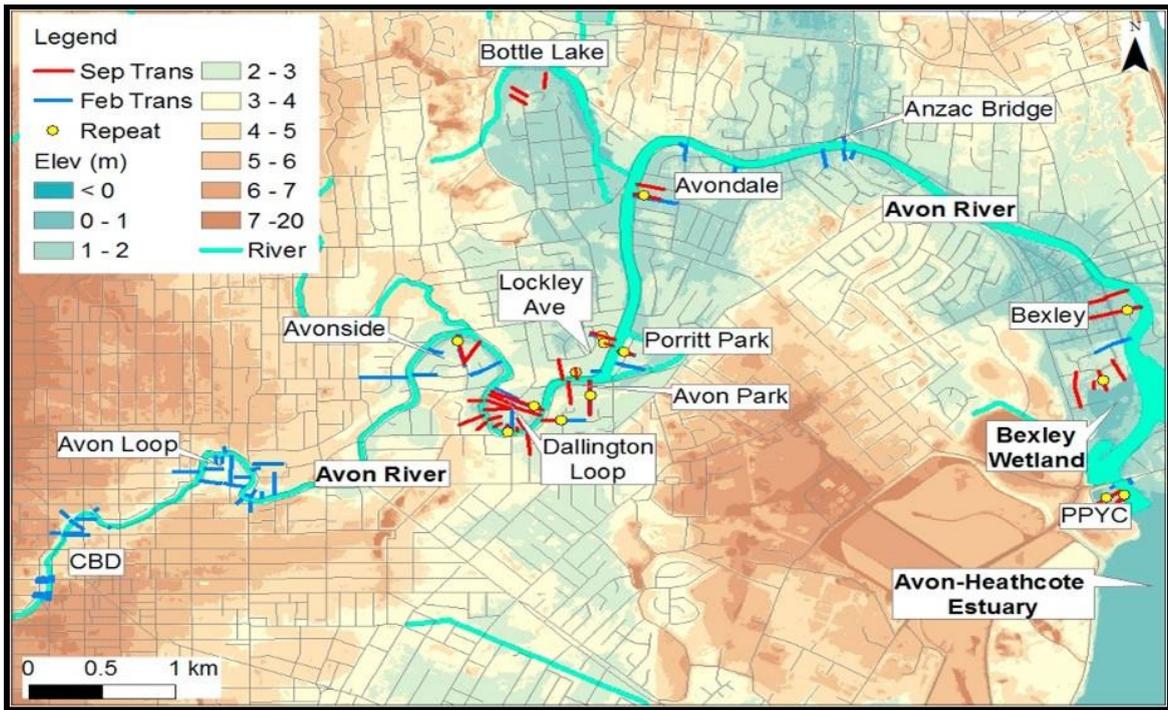
Appendices

Appendix A: Maps/images

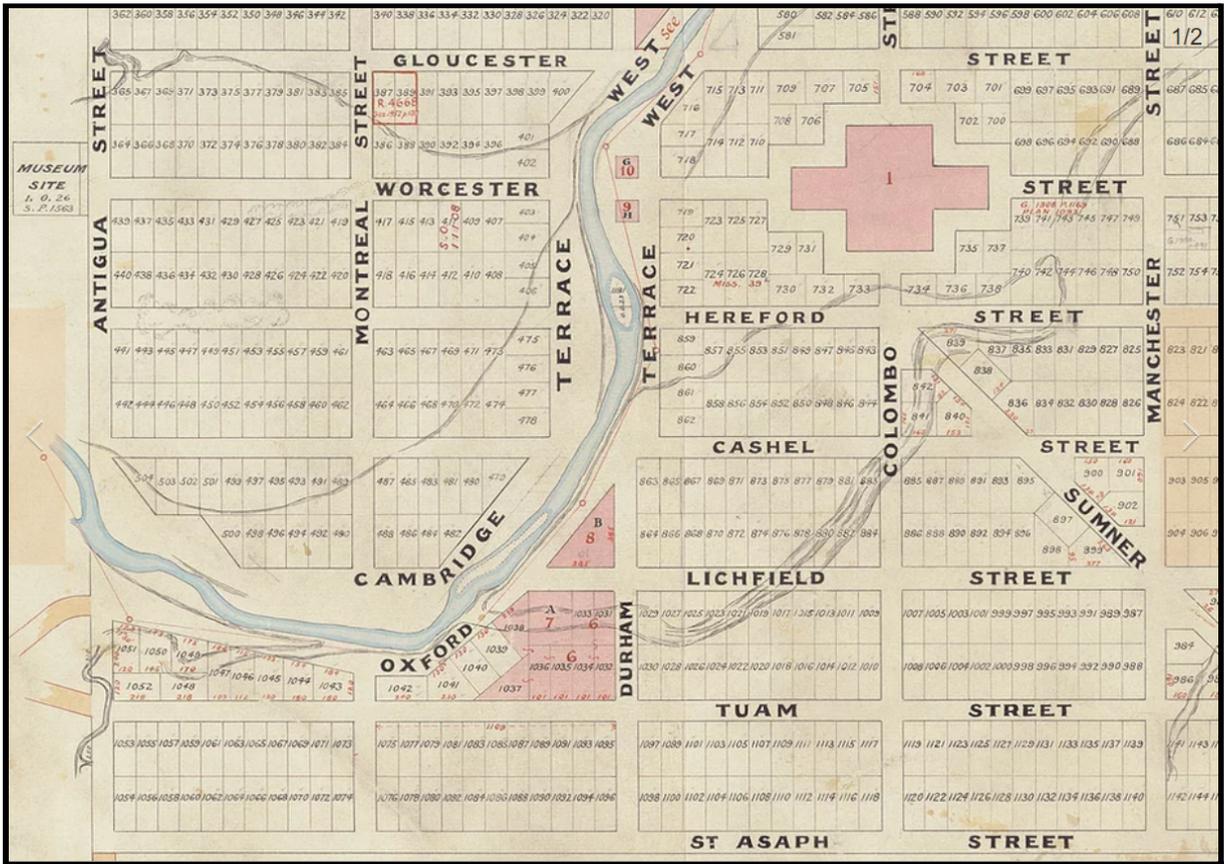


(Figure 1) 1856 Black map showing Christchurch overlain with waterways, swamp and vegetation

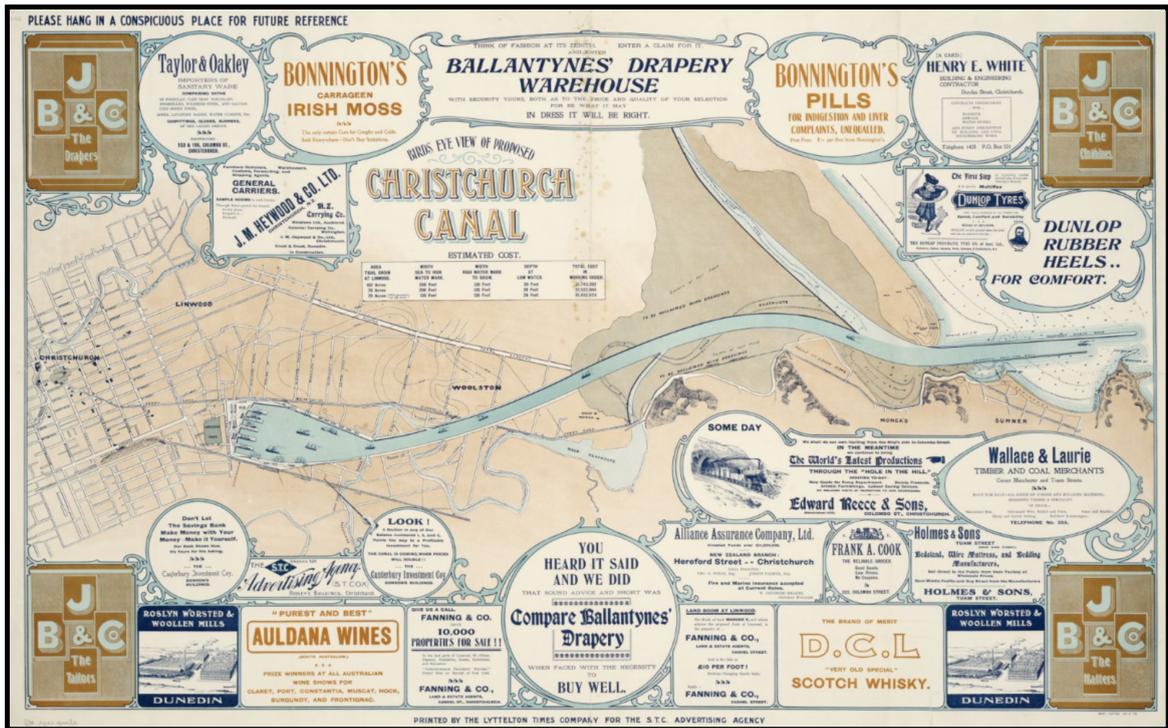
<http://www.lucas-associates.co.nz/assets/ChCh-Historical-Maps/1856-Blackmap-environment-ecology.pdf>



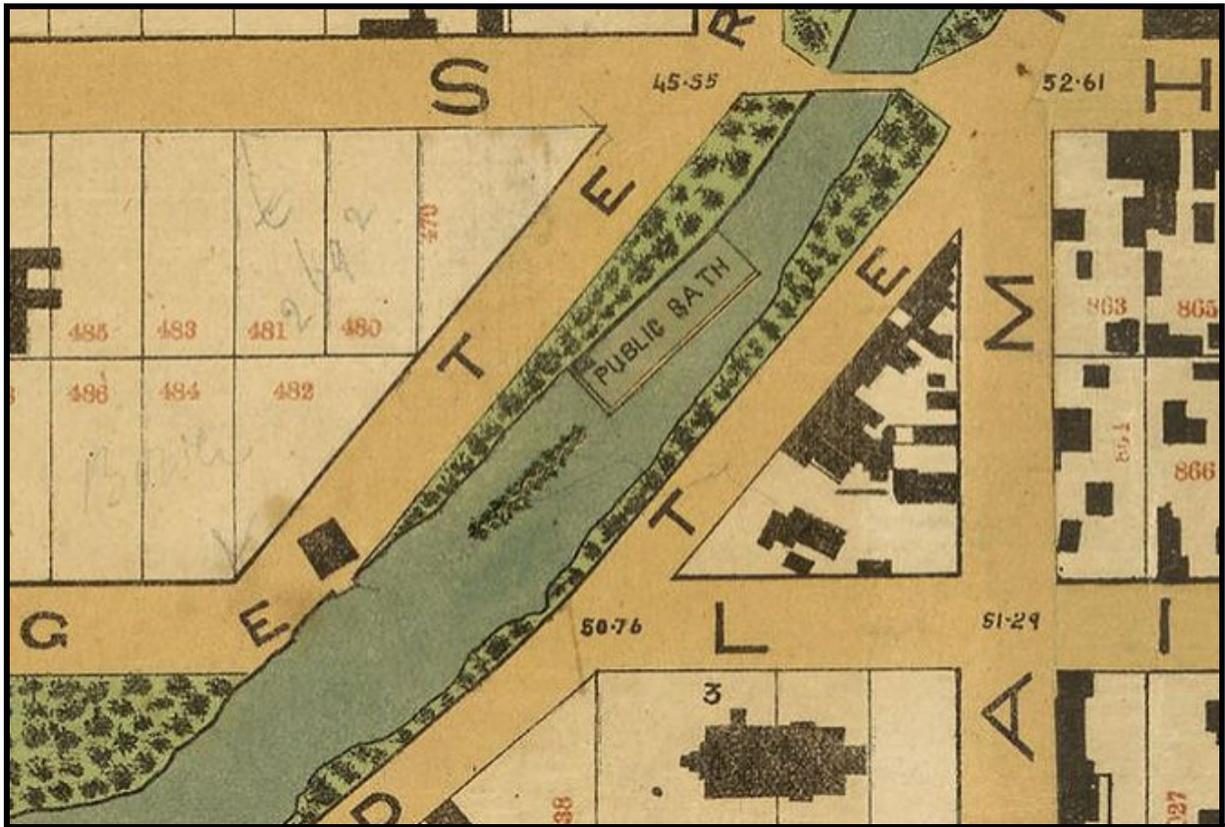
(Figure 2) Locations of transect measurements for lateral spreading along Avon River (Cubrinovski and Robinson, 2016).



(Figure 3) This map is from 1850 showing two major flood channels running through central Christchurch, south and north of cathedral square. The southern channel was a dry gully, filling up during floods, whereas the northern channel was a flowing stream (Williams, H., et al, 2019).



(Figure 4) Birds eye view of a proposed Christchurch channel. (*Birds eye view of proposed Christchurch Canal, 2021*)



(Figure 5) Christchurch's first swimming pool was in the Avon river/ Otakaro. These baths were built upriver of Cashel street bridge and Rhododendron islands north end. Construction began in October 1876 and was opened on the 17th of January 1877. These baths closed 1886 and were initially a financial success however many factors led to its closure such as:

- Sumner and New Brighton beaches were accessible by tram
- Hagley Park obtained a swimming pool
- Sewage and other waste was being discharged from the hospital (Davidson, K., et al, 2019).

Appendix B: Ethics/questions format.



Learning from the past in developing our urban landscapes Information Sheet for participants

Kia ora,

You are invited to participate in a research study on *“What is the potential of incorporating historical knowledge to plan for future urban landscapes in Ōtautahi.* This study is being conducted by Rebekha Appleton, Ellen Donaldson, Jaz King and Ben Magson from the University of Canterbury | Te Whare Wānanga o Waitaha (UC). The study is being carried out as a requirement for *GEOG309: Research for Resilient Environments and Communities.*

What is the purpose of this research?

This research aims to determine how historical knowledge, such as past maps, have been used to develop Christchurch city so far, and how it will continue to be used.

Why have you received this invitation?

You are invited to participate in this research because you have, or continue to play a role in the planning and development of Christchurch city.

Your participation is voluntary (your choice). If you decide not to participate, there are no consequences. Your decision will not affect your relationship the University of Canterbury, or any member of the research team.

What is involved in participating?

If you choose to take part in this research, you will participate in an interview. This interview will take place online via Zoom. We will contact you to arrange a suitable time and location. The interview will involve members of the research team introducing ourselves, answering any questions you have, and confirming your consent to participate. Then, we will begin the interview and will ask you questions about your field of expertise. We estimate the interview will take no longer than one hour.

Will the interview be recorded?

With your permission, the interview will be audio-recorded using Zoom’s audio-recording feature. The recording will be used to create a written transcript of the interview, which we will analyse as part of the research. If you choose to review a copy of the interview transcript, we will provide this to you following the interview. We will ask you to provide any amendments or additions via email if required.

What if you change your mind during or after the study?

You are free to withdraw at any time. To do this, please let me know either during the interview or after the interview has finished. We will remove any information you have provided up to that point from the data set if it is still possible.

What will happen to the information you provide?

The results of the interview may be used in our GEOG309 final group report, and included in our conference presentation. For credibility we request permission for the use of names and job titles when presenting this work.

Who can you contact if you have any questions or concerns?

If you have any questions or concerns about the research, please contact our research supervisor: **Jillian Frater** : jillian.frater@canterbury.ac.nz.

What happens next?

Please review the consent form. If you would like to participate, please sign, scan/take a photo of, and return the consent form to **Ellen Donaldson** : edo35@uclive.ac.nz.

Background about topic

Email format

We are a group of University of Canterbury students in the GEOG309 class working alongside local landscape architect Di Lucas on a research project called “Learning from the past in developing our urban landscapes. As a group, we have come up with the research question **“What is the potential of incorporating historical knowledge to plan future urban landscapes in Ōtautahi?”**. This project will require us to look at how historical knowledge, such as past maps, have been used to develop Christchurch city so far, and how it will continue to be used.

In order to gather this information, we are reaching out to prominent figures who have (and continue to) contribute to the development of Christchurch to provide us with expertise and experience. We believe your work in (**name what their field is**) can provide us with an understanding of what the planning of Christchurch involves, and how it may or may not have used historical knowledge in doing so.

We would appreciate the opportunity to speak to you and gather some valuable insight about this topic. Because of the current climate, we understand meeting in person is not an option during this time, if convenient for you, we would love to arrange a Zoom meeting to ask some questions in an interview-style context with a couple of members of the group and have an informative chat about this topic. These would involve questions about your role as an (**role**) and your involvement in the development of Christchurch city that we can send you ahead of the meeting once agreed upon.

We look forward to hearing back from you.

Questions

- Ask preference for Zoom or email
- Need consent to record zoom
- Send questions in beforehand

About 10 questions each

- About their background to link why they are relevant
- What they consider historical knowledge
- Why it is important to use
- How they personally think it could be used to benefit Christchurch’s future urban landscape