

Project Number: 3-WW021.02

Eastern Hills Reservoir

Social Impact Assessment

31 October 2023






EASTERN HILLS RESERVOIR Social Impact Assessment

Wellington Water

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Executive Summary

Wellington Water Ltd proposes the construction of the Eastern Hills Reservoir, adjacent to the existing Naenae Reservoir, in Lower Hutt. This Social Impact Assessment (SIA) has been undertaken to inform the Resource Management Act, 1991 resource consent and Notice of Requirement applications necessary for the proposed project to proceed. The intention of the study is to ensure that social impacts are identified, understood, and effectively avoided, remedied, or mitigated, and that the potential project benefits are identified.

The SIA process started with a scoping phase which sought to understand the project, the social context in which the project is proposed to take place and identify the potential social impacts. Engagement was undertaken to ensure the identification and assessment of social impacts was informed by local knowledge and an understanding of the interests, concerns, and perceptions of the local community. Engagement activities included an online survey, intercept survey and two street events.

In addition, a “social lens” was applied to a number of specialist studies and to ensure that the social effects identified were being addressed through mitigation measures applied by the traffic, noise and vibration, landscape and visual, and recreation specialists.

The social impacts of the project have been analysed using the International Association for Impact Assessment (IAIA) framework.

During construction, the majority of the social impacts will be experienced by residents in close proximity to the construction works – Tilbury Street, Summit Road (and associated cul-de-sacs), and Balgownie Grove. Some social impacts will remain of moderate significance post mitigation, namely:

- Restricted traffic movement
- Disruption to daily movements due to a loss of parking
- Reduced quality of the environment as a result of traffic, noise, vibration, air emissions and visual effects on amenity

Social impacts associated with loss of access to recreational facilities, increased road safety risk due to heavy construction vehicle movements, and reduced wellbeing can be reduced or maintained at a low significance with the application of identified mitigation measures.

The mitigation measures identified in the relevant specialist reports were supported in their entirety. In addition to the mitigation recommended in those reports, this report recommends mitigation to address the social effects assessed, these are summarised as follows:

- The Construction Traffic Management Plan is to ensure prioritisation of emergency vehicles requiring access to Tilbury Street, Summit Road, and Balgownie Grove.
- Development of a Communication Plan for affected residents to advise them, ahead of each stage of construction, of the anticipated heavy vehicle traffic movements (extent and duration), impact on on-street parking, and likely traffic, noise and vibration effects.
- Procedures to be provided for public enquiries and complaints during the construction phase. Complaints are to be recorded, investigated and the outcomes reported back to the complainant.
- Provision of details of likely effects to affected residents based on the outcomes of the Construction Traffic Assessment, Construction Noise and Vibration Impact Assessment, and Landscape and Visual Assessment.



- Provision of quality technical information on earthquake and flood risk to the finished reservoir to residents affected by proximity, in a form that is suitable for lay people to allay fears and concerns.

The operational phase of the project is characterised by positive social effects, most significantly the reservoir will result in improved future water security and resilience for the region, which is rated as an extreme positive impact of the project. With the application of post construction mitigation measures proposed by the Recreation Assessment, the enhanced enjoyment of the reserve area is rated as a positive impact of high significance. There is also an opportunity to achieve an overall positive visual impact based on the mitigation identified in the Landscape and Visual Assessment, and as such the anticipated change in the character of the area is rated as being of low positive significance.



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Abbreviations

AEE	Assessment of Environmental Effects
CNVIA	Construction Noise and Vibration Impact Assessment
CTA	Construction Traffic Assessment
HCV	Heavy Construction Vehicle
IAIA	International Association for Impact Assessment
LVA	Landscape and Visual Assessment
NoR	Notice of Requirement
NSRs	Noise Sensitive Receptors
RMA	Resource Management Act, 1991
SIA	Social Impact Assessment
WSP	WSP New Zealand Limited
WWL	Wellington Water Limited

1 Introduction

Wellington Water Ltd (WWL) proposes the construction of the Eastern Hills Reservoir, adjacent to the existing Naenae Reservoir, in Lower Hutt. For the proposed project to proceed, Resource Management Act, 1991 (RMA) resource consent and Notice of Requirement (NoR) applications will be required. The accompanying Assessment of Environmental Effects (AEE) requires inputs from multiple disciplines, including from social experts.

WSP New Zealand Limited (WSP) has been appointed to undertake an independent Social Impact Assessment (SIA) to inform the RMA requirements necessary for the proposed project to proceed.

1.1 Purpose and Scope of the Study

The purpose of this SIA is to identify and fully consider the potential positive and negative impacts of the proposed Eastern Hills Reservoir on the local and regional social environment. The intention of the SIA is to ensure that the impacts are identified, understood, and effectively avoided, remedied, or mitigated, and that the potential benefits of the project are identified.

The scope of this assessment includes:

- Development of an understanding of the proposed project and the social context in which the proposed project will take place.
- Review of feedback from the public consultation process, particularly the social concerns raised by the community at drop-in sessions and via the project website and social media platforms.
- Collection of primary data from the local community through an online survey, an infield intercept survey, and two neighbourhood street events.
- Review of relevant specialist and technical studies through a 'social lens'.
- Identification and assessment of social impacts of the project.
- Identification of appropriate mitigation, avoidance and remedial strategies.

The SIA is part of a wider suite of technical reports informing the AEE and, while it overlaps with topics which are the focus of other technical studies, it examines these from a social perspective.

1.2 Assumptions, Exclusions and Limitations

The following assumptions, exclusions and limitations apply to this SIA study:

- The assessment is based on the project description and specialist studies available at the time of writing this report – September 2023.
- Cultural impacts and potential effects on culture, land, water, and air are not addressed in this SIA. These have been addressed separately by other experts through involvement of, and in consultation with, mana whenua.
- Technical assessments have separately considered a range of specialist areas that are affected, or require consideration, for this project. These assessments of effects have been carried out by the relevant specialist and their findings relied upon. Technical reports have been reviewed in this assessment from a social perspective only.
- The assessment undertaken assumes that the mitigation measures recommended within the Construction Traffic Assessment, Recreation Assessment, Construction Noise and Vibration Assessment and Landscape and Visual Assessment are adopted.
- The intercept survey that sought to gather data from those using the reserve area for recreation or other uses took place in July 2023, which is considered a limitation of the survey given use of the area would be expected to be lower during winter months.

2 Methodology

2.1 Assessment Framework

The methodology used for this SIA is based on an internationally recognised approach provided for by the International Association for Impact Assessment (IAIA) in the SIA Guidance Note (*Social Impact Assessment: Guidance for Assessment and Managing the Social Impacts of Project, April 2015*).

The IAIA SIA framework is well recognised in New Zealand and internationally, and it provides a sound and robust framework for the identification and assessment of social effects.

2.2 Methodology Overview

The SIA process comprised 3 key steps that are largely sequential (**Figure 2-1**), however the process was an iterative one of review and revision as new information arises and preliminary understandings were validated.



Figure 2-1 : SIA Methodology.

2.2.1 Scoping

The SIA process started with understanding the project, the social context in which the project is proposed to take place, and the preliminary identification of potential social impacts. The following activities were undertaken during scoping:

- A site visit was attended on 15 March 2023.
- Review of the technical information to obtain an understanding of the proposed project, identify the key activities proposed, and identify the potential social impacts that may result from these activities.
- Relevant data was sourced from Census 2018 and analysed to develop an understanding of the social context in which the proposed project will take place.
- Review of the themes raised during the public consultation process for residents and ratepayers undertaken by Latitude Strategy & Communication in March 2023.
- Identification of a defined area of analysis for the SIA, identification of stakeholders relevant to the proposed project, and preliminary identification of social impacts.

2.2.2 Impact Identification and Assessment

Impact Identification

The SIA Guidance Note (IAIA, 2015) describes social impacts as changes to one or more of the following:

- People's **way of life** - how people live, work, play and interact with one another on a daily basis.
- Their **culture** - shared beliefs, customs, values, and language.
- Their **community** - cohesion, stability, character, services, and facilities.

- Their **political systems** - extent to which people are able to participate in decisions that affect their lives, level of democracy, and resources provided for this purpose.
- Their **environment** - the quality of the air and water people use, the availability and quality of the food they eat, the level of hazard or risk, dust, and noise they are exposed to, the adequacy of sanitation, physical safety, and access to / control over resources.
- Their **health and wellbeing** - physical, mental, social, and spiritual wellbeing.
- Their **personal and property rights** - whether people are economically affected, or personally disadvantaged including violation of civil rights.
- Their **fears and aspirations** - perceptions of safety, fears about the future of their community, aspirations for the future and future of their children.

When considering the applicability of the IAIA framework to the proposed Eastern Hills Reservoir project, the following were identified as not relevant to the study for the reasons stated below:

- Political systems: people have the ability to participate in decisions that affect their lives, and in this particular case, the NoR will be publicly notified.
- Culture: cultural matters are excluded from the scope of this SIA as these have been addressed separately by other experts.
- Health: health related impacts have been excluded from the assessment, however individual and community wellbeing has been considered.
- Personal and property rights: no property acquisition is proposed, and personal and property rights will not be infringed by the project.

Engagement

Engagement ensured the identification and assessment of social impacts was informed by local knowledge and an understanding of the interests, concerns, and perceptions of the local community.

The engagement methods that were used to collect primary data in support of the SIA are summarised in **Table 2-1**.

Table 2-1: Summary of Engagement Methods.

ENGAGEMENT METHOD	DESCRIPTION
Online survey	The online survey was designed specifically to target interested and affected parties in the local community, in particular the residents of Naenae and Fairfield suburbs. The survey sought to gather local information and perspectives about the proposed project.
Intercept (infield) survey	The intercept survey was used to gather data in-person from those using the reserve area.
Street events	Two street events were held; one in Naenae and one in Fairfield, to specifically target residents in close proximity to the proposed project site who are most likely to experience construction phase effects. Residents were invited to these events, where they were provided with an opportunity to discuss the project and to raise any concerns they may have.

A description of the engagement undertaken is provided in **Section 5**.

Review of Specialist Studies

A range of specialist studies have been undertaken to inform the AEE. The following studies were identified to be of relevance to the SIA and were reviewed with a “social lens” (i.e. in terms of the impacts described at 2.2.2 above) to inform the identification and assessment of the social impacts of the Eastern Hills Reservoir project:

- Construction Traffic Assessment (Rev 1, August 2023)
- Recreation Assessment (Rev 1, September 2023)
- Construction Noise and Vibration Assessment (Rev 1, September 2023)
- Landscape and Visual Assessment (Rev 1, September 2023)

Impact Assessment

To evaluate the potential social impacts of the proposed project, impacts have been described and assessed according to the following:

- 1 The cause of the impact.
- 2 The stakeholder / stakeholder group to be impacted and in particular, any potentially vulnerable groups, directly affected people, or indirectly affected people; and their ability to adapt to change.
- 3 Whether the impact is positive or negative.
- 4 The consequence of the impact, which is determined following consideration of the following aspects:
 - Extent of the impact: whether the impact is limited to the site and surrounding area, local area, region, or whether it will be national.
 - Duration of the impact: consideration of whether the impact will be temporary (0-1 year), short term (1-5 years), medium term (5-15 years) or permanent (> 15 years).
 - Magnitude of the impact: this considers whether the impact will be on the wider community (many affected); the local community (moderate number) or directly affected owners, occupiers and users of properties (few affected).
- 5 The likelihood of the impact: an estimation of the probability of the impact occurring, ranging from rare to almost certain.

The IAIA recommended risk assessment methodology, which considers the likelihood and consequence of an impact, was used to determine overall significance of the impact (**Figure 2-2**).

An assessment of the significance of the social impacts has been undertaken based on the assumption that the recommended mitigation measures included in the relevant specialist studies will be adopted. A further ‘post-mitigation’ scenario has been assessed to reflect the extent to which the additional social mitigation identified in this report will be effective in reducing the overall significance of the social impacts.

Impact Mitigation

During the process of understanding and assessing the potential social impacts, appropriate social mitigation and management measures to avoid, remedy, or mitigate negative outcomes were identified.

Significance Rating (Likelihood / Consequence)

		Consequence Level				
		1	2	3	4	5
Likelihood Level	Descriptor	Insignificant	Minor	Moderate	Major	Catastrophic
A	Almost certain	A1	A2	A3	A4	A5
B	Likely	B1	B2	B3	B4	B5
C	Possible	C1	C2	C3	C4	C5
D	Unlikely	D1	D2	D3	D4	D5
E	Rare	E1	E2	E3	E4	E5





Risk Rating	 Low	 Moderate	 High	 Extreme
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Figure 2-2: Risk Assessment Framework (SIA Guidance Note, IAIA, 2015).

3 Project Description

The Eastern Hills Reservoir will be a circular 15ML, above ground concrete reservoir with a 55.2m external diameter and an above-ground height of 8.35m. It will be located adjacent to the existing Naenae 1 Reservoir at the top of Summit Road, Fairfield, Lower Hutt (Figure 3-1).

The reservoir will be constructed at the same bottom water level and top water level elevation as the existing reservoir and will require earthworks volumes of approximately 85,000 m³ (in-ground volume), with erosion and sediment control measures required during construction.

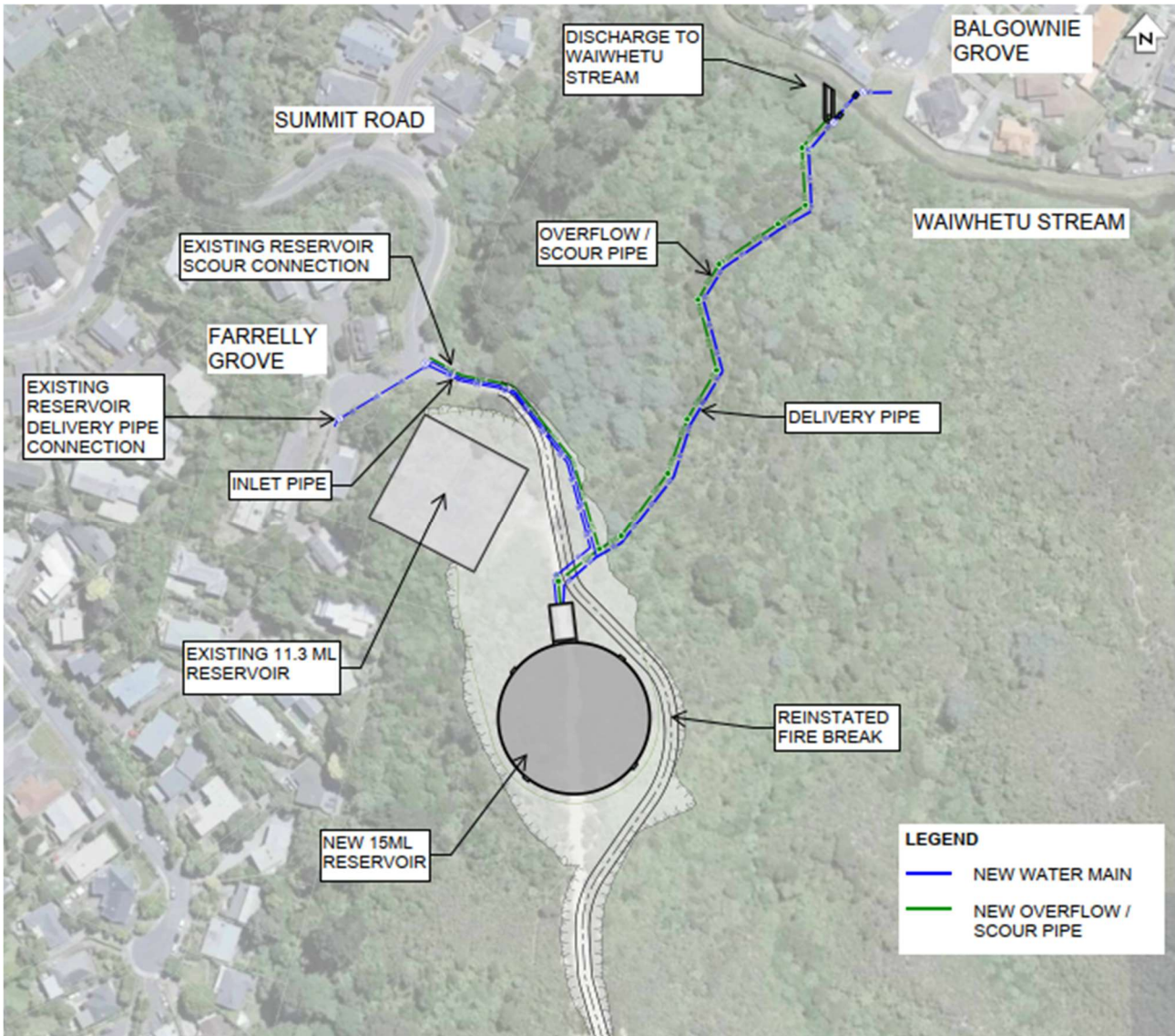


Figure 3-1: Eastern Hills Reservoir Site Plan.

A new inlet pipe supplying water to the Reservoir will be constructed in a trench from a connection with the existing Naenae reservoir inlet pipe. This new connection is located at the intersection of Summit Road and Farrelly Grove with the proposed alignment then running along the current vehicle access to the Reservoir. Both reservoirs will be supplied via the same existing bulk main from the Waterloo water treatment plant.

A new 750mm diameter delivery pipe supplying water to the potable water network will run from the Reservoir down the hill to the north and across Waiwhetū Stream and into the potable water network along local roads. The new Waiwhetū Stream pipe crossing will be trenched. A 500mm diameter pipe will connect the existing Naenae Reservoir outlet to this new delivery pipe (Figure 3-1).

An overflow/scour pipe from the reservoir will be constructed adjacent to the delivery pipe down the hill, before discharging into the Waiwhetū Stream near Balgownie Grove. The purpose of the pipe is for emergency discharges or when the reservoir needs to be drained for maintenance or inspections. The pipe will discharge via scour protection, such as rip-rap or baffles, directly to Waiwhetū Stream. In addition, the existing reservoir overflow pipe will be constructed to tie-in to the proposed reservoir overflow pipe (Figure 3-1).

3.1 Construction Methodology

There are five main construction stages expect to start from approximately July 2024 and finish in April 2026. The five construction stages are outlined in Table 3.1 and include the expected durations periods for each task.

Table 3.1: Construction Stages and Expected Duration.

CONSTRUCTION STAGE DESCRIPTION		EXPECTED DURATION	
1	Site establishment	1-2 months	
2	Earthworks for reservoir	9-10 months	
3a	Pipeline construction	Enabling works	1 month
3b		Installation and connection	6-7 months
3c		Stream pipe crossing and outfall	1-2 months
4a	Reservoir and valve house construction	Piling works	Where necessary
4b		Structural and concrete works	8-9 months
4c		Valve house construction	2-4 months
5	Landscape and reinstatement	1-2 months	

3.2 Working Hours

Construction working hours are expected to be Monday to Saturday, 7am-6pm. There will be no work on Sundays or public holidays.

There may be limited occasions where site access will be required prior to 7am.

There will be approximately four nights of night works (starting around 3am) for large concrete pours and curing activities associated with the reservoir construction.

4 Social Environment

4.1 Area of Analysis

The social environment associated with the Eastern Hills Reservoir project is defined in **Table 4-1**. The SIA has focussed primarily on the social impacts that are likely to be experienced within the residential areas immediately surrounding the site, with reference to the local and regional areas where relevant.

Table 4-1: Area of Analysis – Social Environment.

AREA	DESCRIPTION
Site and surrounding area	The site and surrounding area is defined as the area that falls within 500m radius of the proposed reservoir site. Statistical Area 2 units, used by Statistics New Zealand, that fall within approximately 500m radius from the proposed reservoir site (excluding non-residential area) were used when reporting statistical information (Figure 4-1).
Local area	The local area is defined as the areas that fall into the Central and Eastern Wards of Hutt City Council (Figure 4-2).
Regional area	The regional area is defined by the Lower Hutt City boundary, within the Wellington Region (Figure 4-3). This area corresponds with Lower Hutt Water Storage Area (Figure 4-4), which is the broader area within which the new Eastern Hills Reservoir will be located to contribute to future water storage requirements.

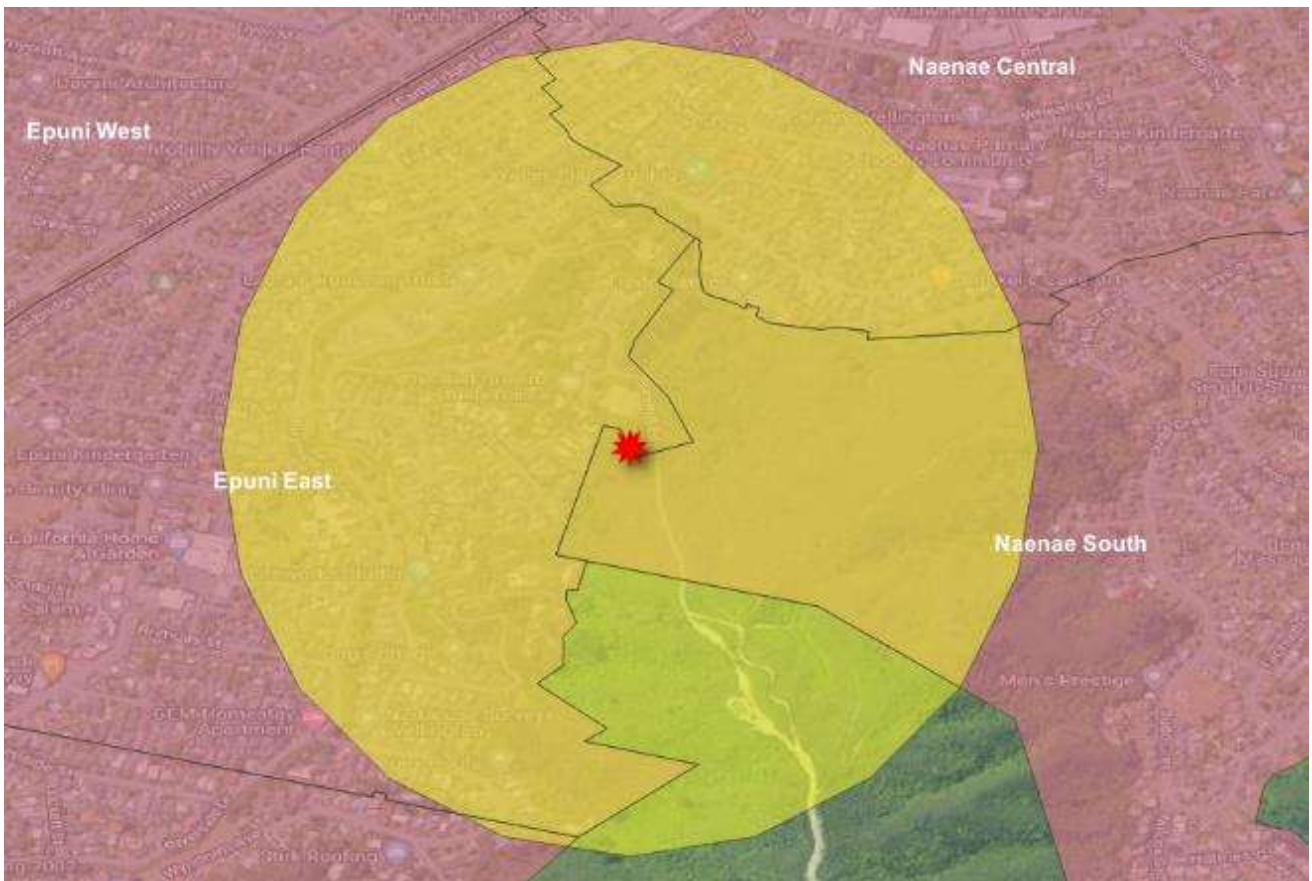


Figure 4-1: Site and Surrounding Area (500m radius from proposed reservoir shown in yellow).

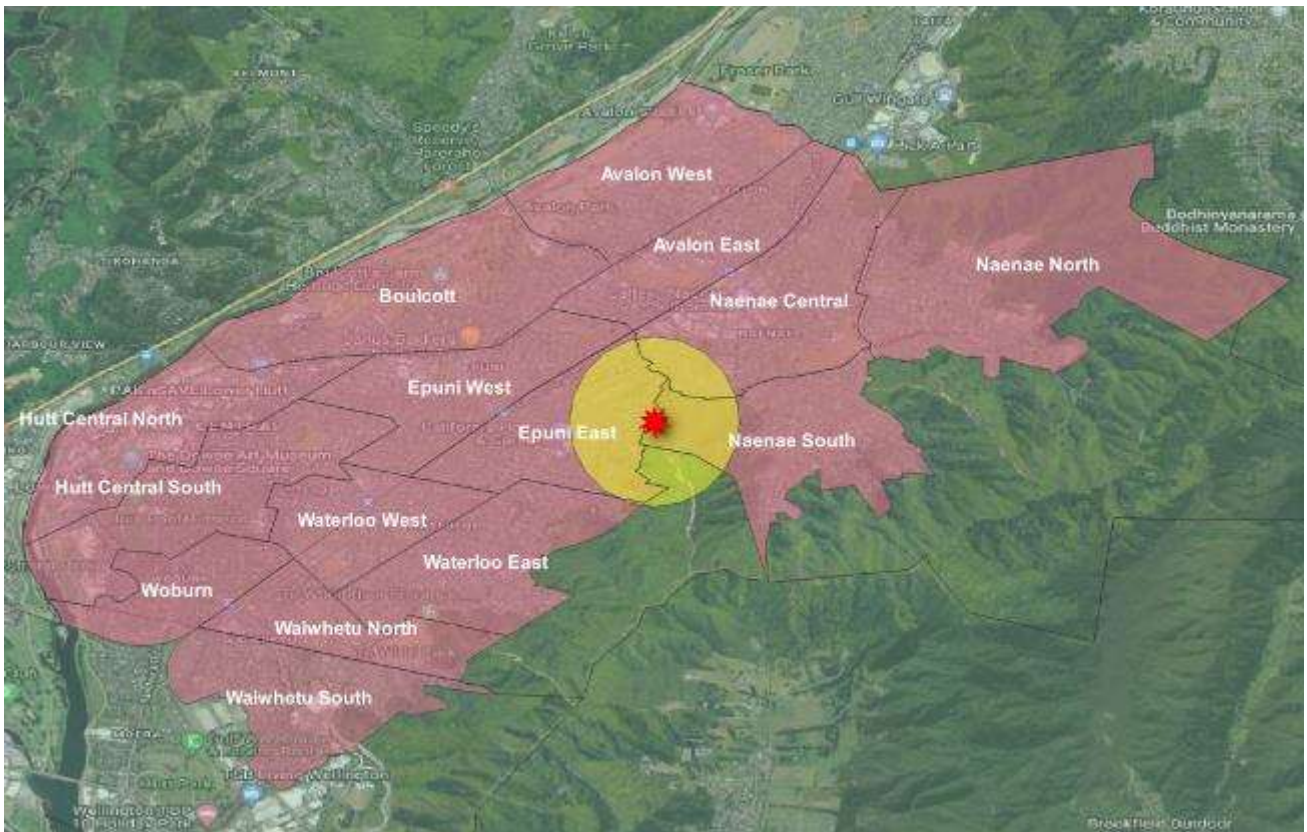


Figure 4-2 : Ward Area – Central and Eastern Wards of Hutt City Council¹



Figure 4-3 : Local Area – Lower Hutt (based on SA1 units for Lower Hutt)



Figure 4-4 : Lower Hutt Water Storage Areas

¹ Note: The ward area statistics include Waiwhetu South (which falls outside of the ward area) as the data for the area is not separated in Waiwhetu North and South within the Statistical Area 2 data.

4.2 Local Community Profile

The existing social environment associated with the Eastern Hills Reservoir project is described in the sections below, including demographics, a profile of the community, and a description of land uses and community facilities. Feedback from the local community engagement has contributed to the land use and community infrastructure profile descriptions.

4.2.1 Demographics

Relevant demographic data from Stats NZ has been analysed, including population trends, age groups, employment figures and income, to contribute to an understanding of social context in which the project is proposed (**Appendix A**). A summary of the key outcomes from the demographic review are summarised below.

- **Age profile**

The median age for the area surrounding the site is 35.2 years, which is similar to the median age for the local area (36.9 years) and for New Zealand (37.4 years). There were no notable differences in relation to the age groups living in the site and surrounding area as this matches closely to the ward area, local area and New Zealand population. The largest difference was that the area surrounding the site has a slightly lower population of those over 65+ (11.8%) compared to the local area (13.6%) and New Zealand population (15.2%).

- **Education and qualifications**

The residents in the surrounding area have a lower level of qualification held with 14.8% of people having no qualifications compared to the local (11.2%) and New Zealand population (11.6%). In the surrounding area, there are fewer residents holding professional and managerial roles (23.5% and 11.2% respectively) compared with the local area.

- **Economics**

Unemployment in the area surrounding the site is 5.9%, which is somewhat higher compared to the local area (4.8%) and New Zealand total (4.0%). This is further reflected in the level of employment, which is 48.1% in the area surrounding the site, compared to the local area (52.2%) and New Zealand (50.1%).

The median income for the surrounding area was notably lower (\$65,500) than the local area (\$82,200) and the New Zealand median (\$75,700), which may be explained by the lower percentage of residents holding professional and managerial roles in the surrounding area at 34.7% (combined), compared with the local area (42.5%) and New Zealand (41.0%).

The most prominent difference is in relation to household income where 24.5% of working age residents within the area surrounding the site earn less than \$30,000 per annum compared to 17.9% at the local level and 18.8% at the New Zealand level.

- **Car ownership**

Given the loss of parking proposed in the area surrounding the site, consideration has been given to car ownership. In the Fairfield surrounding area, 38.6% have one vehicle and 32.8% have two vehicles, which is higher than local area (one vehicle = 36.9%; two vehicles = 33.7%) but commensurate with the Wellington Region (one vehicle = 38.2%; two vehicles = 32.6%). In the Naenae surrounding area, 39.9% have one vehicle and 22.8% have two vehicles, which represents approximately 10% less than Fairfield. No vehicle ownership is higher in Naenae than Fairfield. It would be expected that there would be more available on-street parking in Naenae, which was confirmed by residents during engagement.



4.2.2 Land use

The project is proposed to take place in the Eastern Hills Reserve area, that is characterised as being steep, and highly vegetated. The Summit Road Firebreak Track within the reserve area is well used for recreation, exercise, and enjoyment by local community members with walking, running and cycling/mountain-biking activities being the most common but is also used by individuals for foraging (mushrooms). Strava data shows the firebreak paths are used by people to access the mountain area and join to the wider walking and biking network nearby, including the popular Te Whiti riser.

There are residential suburbs adjacent to the proposed project site, with Fairfield to the west and Naenae to the north-east. These areas are characterised by cul-de-sacs nearest to the works and borders on the reserve area. For those located in Naenae, the Waiwhetū Stream passes behind the residential properties and has flooded in the past, most notably in 2004. The reserve area has multiple access routes from various points, including Balgownie Grove where people have been reported creating their own informal tracks and crossings near the stream and reserve area.

4.2.3 Community Infrastructure

The immediate area surrounding the site is largely residential. The closest school is located approximately 500m to the east of the site, within the suburb of Naenae. This school has a church onsite and functions as the Community Emergency Hub. This school / community facility is not expected to be affected by the reservoir construction or operation.

There are no other churches, maraes, medical centres or libraries within the 500m study area.

5 Engagement Outcomes

5.1 Online Survey

Local community members were provided a link to participate in an online survey that sought feedback on the impacts the proposed project may have on their way of life during the construction and operational phase of the project (**Appendix B**).

The online survey ran from 29 June to 23 July 2023. The survey was posted on WWL’s website, on the Eastern Hills Reservoir Project site page. Regular social media posts on the WWL Facebook page and WWL Neighbourly site were used to encourage participation. The survey link was also shared on the Naenae Community Notice Board and other community Facebook pages and with key community representatives including the community environmental group, ‘Friends of Waiwhetū Stream’ and encourage to share widely.

Local community members that participated in the intercept survey and street events were also encouraged to complete the survey. The data collected from the survey is included in **Appendix B**.

The key engagement outcomes from the online survey are summarised below in **Table 5-1**.

Table 5-1: Online Survey - Engagement Outcomes.

LOCATION	SUMMARY OF ENGAGEMENT AND POTENTIAL IMPACTS IDENTIFIED
<p>Online Survey 25 respondents started the survey, with 22 complete responses.</p>	<ul style="list-style-type: none"> • Approximately half (48%) the respondents were residents who lived within 500m of the site. • Most respondents (66.67%) supported the development, with 27.78% neither agreeing or disagreeing, and only 1 respondent (5.56%) disagreeing with the proposal. • Reported use of the Summit Road Firebreak Track was for recreational purposes. The most common activity was walking, and to a less extent other activities such as running, cycling/mountain biking, and gathering mushrooms. It was also common for people to mention taking their dogs to the area. • Respondents’ use of the reserve area differed, with 23% indicating use of the area on a weekly basis, while others tended to be occasional / infrequent users which access the area a few times a year or less. • Most respondents (80%) reported they would use an alternative route to access the area or a different recreation area while the Summit Road Firebreak Track is inaccessible. • Once the track is reopened, most respondents said they would return to their typical usage, with some having plans to increase their use of the track. • Key construction phase concerns were impacts on recreational use and enjoyment of the reserve, noise, dust, vibration, and changes to the character of the area. With the least concern being the potential impact on property prices. • Concerns were raised regarding construction noise and vibration impacting on sleep, reduced road and reserve access, and potential traffic delays. • The most prominent concern identified in respect of the operational phase was the potential change to the character of the area/visual changes.

LOCATION	SUMMARY OF ENGAGEMENT AND POTENTIAL IMPACTS IDENTIFIED
	<ul style="list-style-type: none"> There were positive ratings in relation to respondents' perceptions of the project's effect on security of water supply associated with the operational phase.

5.2 Intercept Survey

The intercept survey sought to gather data on the use of the Eastern Hills Reserve area by the local community (**Appendix B**). The survey was undertaken on 19 and 22 July 2023, the outcomes of which are summarised in **Table 5-2**.

Table 5-2: Intercept Survey - Engagement Outcomes.

LOCATION	SUMMARY OF ENGAGEMENT AND EFFECTS IDENTIFIED
<p>Intercept Survey – Reserve Area</p> <p>Three respondents were intercepted on or near the reserve area.</p>	<ul style="list-style-type: none"> Intercepted respondents were in the reserve area for recreation and fitness purposes. The three respondents used the area with varying frequencies (from 3-4 days a week to a few times a month) Two of the respondents enjoyed the hilly terrain to push their fitness. The Summit Road Firebreak Track was described as difficult to use when wet as the track becomes muddy and slippery which poses a hazard for slips and falls. People enjoyed the peacefulness and nature area, with not many other people around. All three respondents said they would return to using the track when it is reopened after the construction phase. Each respondent enjoyed the track as is. One resident would make use of seating on the track if made available as they typically only walk as far as the existing reservoir area before returning down (older individual) while another individual said they do not stop on this section as they use it as part of the wider walking network and would use other seating available later in their walk if needed.

5.3 Street Events

Street events were held to target groups of residents who were identified as being close proximity residents. Identified residents were invited by letter drop notification to attend an event in their neighbourhood. Two events were held on 11 and 12 July 2023, from 4:30-6:30pm with the following groups (**Figure 5-1**):

- Fairfield proximity residents (11 July 2023):
 - Residents invited: section of Tilbury Street, Summit Road and Farrelly Grove
 - Event location: opposite 485 Riverside Drive, Fairfield
- Naenae proximity residents (12 July 2023):
 - Residents invited: section of Waddington Drive and Balgownie Grove
 - Event location: Balgownie Grove



Figure 5-1: Street Event Target Areas and Event Locations (Fairfield in yellow, Naenae in blue)

A summary of the engagement outcomes from the street events is provided in **Table 5-3**. This includes feedback received by email from residents unable to attend the street events.

Table 5-3: Street Events - Engagement Outcomes.

LOCATION	SUMMARY OF ENGAGEMENT AND EFFECTS IDENTIFIED
<p>Fairfield Proximity Residents Number of participants: 15</p>	<ul style="list-style-type: none"> • People were understanding of the increased need for water security with little to no questioning about the reasoning for the proposed site location – one resident commented that works like this are to be expected as they were aware when they moved to the area that there was a reservoir nearby. • The frequency of work vehicles on the road and the disruption of this was a concern to residents – concern was raised that this may make the road essentially a one-way street due to trucks accessing the area and this could result in delays to residents who want to enter and exit their properties. • Residents were concerned about road safety in the area due to the large and frequent truck movements and potential for truck to speed down the road and that the corners on Summit Road would make it difficult to see drivers. • People work from home and are concerned about the noise and vibration levels of the works and vehicles passing. • It was also mentioned that the road restrictions and trucks may impact the access of emergency vehicles to Farrelly Grove. • Some residents have cars on the street and are unable to park on their property so the parking restrictions will directly affect them or their neighbours. Concern was raised for their visitors who may not have somewhere to park (especially for those with shared driveways).

LOCATION	SUMMARY OF ENGAGEMENT AND EFFECTS IDENTIFIED
	<ul style="list-style-type: none"> • A resident was concerned about the risk of reservoir failure during an earthquake and the impact of vibrations on the bank below their property. • Some residents were concerned about the condition of the road as a result of the heavy vehicles, and potential dust generation from the site. • There was some concern about the aesthetics of the work during and after completion (currently a white handrail that contrasts with the nature area colours). • Questions were asked about what would happen to the fill removed from the site. • Recommendations to reduce potential traffic related impacts were suggested, including limiting truck movements during main peak times (7:30-8:30) to allow residents to leave their homes with less or no delay, and the potential to add mirrors to corners to allow for more visibility of vehicles on the road.
<p>Naenae Proximity Residents Number of participants: 7</p>	<ul style="list-style-type: none"> • Limited concern over parking restrictions as on-street parking is available on the neighbouring road. • A number of home businesses are run from the small grove area. Concern around reduced access to the area making business related truck deliveries difficult. • Concern was raised regarding the extent that the nature area will be affected and about discharge into the stream. • Residents were worried about an increase in flooding risk as a result of the water pipe being above ground/crossing the stream and potentially causing a damming affect (this option is no longer being progressed, as the pipe is proposed to be below ground). • Given the water pipe work requires digging up the roading to access the area, there was some concern about the replacing of the road seal when work for the pipeline under the road has been complete (this feedback relates to the reticulation of water which is not included in the scope of this NoR). • Residents' fence backs up against the stream area, so they have concerns about this as they have plans to replace the fence. • Questions regarding the decision not to route the pipeline down Waddington Drive. • Questioned whether an access bridge will be added across the Waiwhetū Stream - they viewed this as a positive addition as there is currently only an informal crossing in place. • Questioned about water pressure to the area during/after the work has been completed.
<p>Email correspondence from residents</p>	<ul style="list-style-type: none"> • Concern in relation to the road surface after the work has been completed. The preference would be to have the whole cul-de-sac resealed rather than a patchwork of just the affected area (this feedback relates to the reticulation of water which is not included in the scope of this NoR). • Concern about the Waiwhetū Stream flooding if the new pipeline creates a dam during heavy rain fall. This concern stems from residents being present when the stream had flooded in the past. • Questions on the accessibility to Balgownie Grove for delivery vehicles for their business that they run from home.

LOCATION	SUMMARY OF ENGAGEMENT AND EFFECTS IDENTIFIED
	<ul style="list-style-type: none"> • Questions about the reasoning for the pipeline route and reasons for not routing the pipeline down Waddington Drive.

6 Assessment

With an understanding of the project and social context, and following analysis of the primary data, the potential social impacts associated with the construction phase (**Table 6-1**) and the operational phase (**Table 6-2**) of the Eastern Hills Reservoir Project have been identified.

Table 6-1: Potential Construction Phase Social Impacts

IAIA CRITERIA	POTENTIAL CONSTRUCTION PHASE SOCIAL IMPACTS
Way of life	<ul style="list-style-type: none"> • Change in the way people go about their daily activities and move from place to place due to construction related traffic i.e. traffic delays and congestion, reduced road access and loss of parking on the local road network.
Community	<ul style="list-style-type: none"> • Loss of access to a local community recreational facility for recreational use and enjoyment.
Environment	<ul style="list-style-type: none"> • Road safety due to heavy traffic movements in residential areas. • Potential impact on the quality of the environment from traffic, noise, vibration, air emissions (dust), and visual effects.
Wellbeing	<ul style="list-style-type: none"> • Potential impact on wellbeing as a result of (i) anxiety (due to uncertainty associated with the potential effects of the project), (ii) a change in the quality of the environment, (iii) loss of access to the reserve area for recreational use and enjoyment.

Table 6-2: Potential Operational Phase Social Impacts

IAIA CRITERIA	POTENTIAL OPERATIONAL PHASE SOCIAL IMPACTS
Community	<ul style="list-style-type: none"> • Improved future water security and resilience for the local area. • Change to character of the area and the visual landscape with the addition of a reservoir. • Enhanced enjoyment of the reserve as a recreational facility
Fears and Aspirations	<ul style="list-style-type: none"> • Risk of reservoir failure due to an earthquake • Increased risk of flooding associated with the Waiwhetū Stream

6.1 Construction Phase Impacts

6.1.1 Way of Life

Within the local area surrounding the construction site, there will be changes to the way people go about their daily activities, and the way people move from place to place as a result of construction activities. This will largely be a result of construction related traffic that has the potential to cause delays and congestion, reduced road access and loss of parking on the local road network.

6.1.1.1 Restricted traffic movement

The construction of the proposed reservoir and associated pipelines will result in the generation of construction related traffic movements. The primary access to the site will be via Summit Road (Fairfield) for the reservoir construction and some of the pipeline construction activities. To a lesser extent, there will be some construction traffic via Balgownie Grove (Naenae) to support the construction of the new pipelines.

The local roads likely to be affected by construction traffic movements are presented in **Figure 6-1**.



Figure 6-1: Local Roads Associated with Construction Traffic Movements.

The Construction Traffic Assessment (CTA) notes that the local road network within the vicinity of the proposed site is characterised by low traffic volumes and for the most part the streets are used for access to residential properties. The residents that are likely to be most affected are those in close proximity to the construction site:

- Fairfield: Tilbury Street, Summit Road and the two cul-de-sacs that come off Summit Road i.e. Farrelly Grove and Laura Ferguson Grove
- Naenae: Balgownie Grove.

There are several home businesses in Naenae which require regular traffic movements to and from the properties.

During engagement, most residents that responded to the online survey and those that attended street events indicated that they were concerned about the impacts associated with construction traffic. The majority of respondents to the online survey (83.36%) indicated that their most significant traffic related concern was the impact on residential traffic movement and potential traffic congestion. Other concerns raised in response to the online survey included the ease at which residents would be able to enter/exit their properties, the potential impacts on access to properties for deliveries and services (i.e. garbage collection), and the potential need to leave home early to avoid delays caused as a result of increased traffic.

At the street event held with Fairfield residents, the following concerns relating to traffic movement and access were raised:

- Frequency of construction vehicles and the associated disruption, including concern that the Summit Road would essentially become a one-way street due to heavy vehicle movements which would cause delays for residents entering and exiting their properties.
- Ability for emergency vehicles to access Farrelly Grove due to road access restrictions and truck movements.

The Naenae residents raised the following traffic movement and access concern:

- Ability for truck deliveries to be made to home business.

Summit Road and Surrounds

According to the CTA, the current traffic volume on Summit Road is 200 vehicles per day of which the existing heavy traffic volume is 3% (6 vehicles per day). The expected total heavy construction vehicle (HCV) movements on Summit Road and the immediate local road network will be greatest during the earthworks stage (Stage 2) with an expected 100 movements per day proposed over a 9–10-month period. This represents a peak movement of 120 HCVs per day. The installation of the pipelines (Stage 3b) and reservoir construction (Stage 4) will generate 100 and 120 movements a day respectively over a 7–9-month period per stage, the majority of which will be via Summit Road. The CTA has assessed the traffic effects on Summit Road and the local road network as being of minor significance.

Due to the width of Summit Road (approximately 8 meters), currently vehicles are often restricted to one-way traffic flow (CTA, 2023), largely due to constraints as a result of vehicles parked on one or both sides of the road. The construction phase of the project will result in an increased volume of HCVs, as such there will be an increase in one-way traffic flow and the need for vehicles to stop and wait for oncoming vehicles. The removal of on-street parking will enable improved two-way traffic flow for light vehicles.

The CTA concluded that the local streets have the capacity to absorb the additional traffic volume without causing unacceptable delays. In addition, it was confirmed that residents will have access to their properties throughout the construction phase. Road closures or restricted property access will not be required (CTA, 2023). The mitigation identified in the CTA is supported, which includes the implementation of a Traffic Management Plan (TMP).

1. Balgownie Grove

Balgownie Grove is a short (~80m) cul-de-sac with current traffic volumes being very low (CTA, 2023). The anticipated HCV movements accessing the construction site through Naenae are much fewer resulting in less significant potential effects on Balgownie Grove and the immediate local road network compared with Summit Road. According to the CTA, the maximum HCV movement on Balgownie Grove is expected to be 10 movements per day. This represents a total of approximately 60 HCV movements that will take place during the construction of the stream pipe crossing and stream outfall (Stage 3c) over a period of 1-2 months.

Due to the low traffic volume on Balgownie, the CTA concluded that there is capacity to absorb the additional traffic volume resulting from construction activities. Whilst HCV's may restrict vehicle movements in the cul-de-sac, driveway access will be maintained at all times. The footpath between No. 5 and No. 6 Balgownie Grove will be closed during site works. Overall, the CTA has assessed the implications the traffic effects on Balgownie Grove as having a negligible impact on the local road network. The mitigation identified in the CTA is supported, which includes the implementation of a TMP.

Impact Description

During the construction phase there will be a significant increase in heavy vehicle traffic on Summit Road and the immediate local road network leading to the Summit Road access. The peak of HCV movements (120 per day) represents a significant increase from the current heavy traffic experienced on Summit Road. This has the potential to result in disruptions to traffic

movements and traffic flow (wait times and one-way traffic) resulting in delays and extended travel times of residents living in Tilbury and Summit Road, and others entering the area (service providers, emergency services, delivery companies).

There will be heavy vehicle traffic on Balgownie Grove during the construction phase. As there is limited to no heavy vehicle traffic currently, this represents a significant change to the traffic environment in this road. The presence of HCVs has the potential to restrict the traffic movements within Balgownie Grove, having the greatest effect on residents of the 11 properties. The traffic movements associated with the businesses operating from Balgownie Grove may be affected, particularly those that receive regular truck deliveries.

Impact Statement

The extent of the impact on traffic movements and access will largely be on the residents of Tilbury Street, Summit Road and Balgownie Grove, and the residents living in the cul-de-sacs that are accessed via Summit Road, that being Farrelly Grove and Laura Ferguson Grove. Fairfield residents in close proximity to the construction site will experience these impacts in varying degrees for the duration of the construction phase (2.5 years); whilst the impact on Naenae residents in close proximity will be more temporary in nature (i.e. less than 1 year). The impact will be experienced by directly affected owners, occupiers and users of property. Given that the number of affected parties is few, over a temporary to short period of time, the consequence of the impact is considered minor. The probability of the impact taking place is likely, resulting in the overall impact being rated as being of **high** significance.

Mitigation

Over and above the mitigation recommended by other specialists, additional mitigation is recommended to address the social effects associated with restricted traffic movement and access:

- The TMP is to ensure prioritisation of emergency vehicles requiring access to Tilbury Street, Summit Road (including associated cul-de-sacs), and Balgownie Grove.
- Development of a Communication Plan for affected residents to advise them, ahead of each stage of construction, of the anticipated HCV movements, the time of day these would be experienced and for how long. This will allow residents to plan and adjust their behaviours to reduce the potential impacts on their everyday movements.
- Procedure to be provided for public enquiries and complaints during the construction phase. Complaints relating to the traffic delays, disruptions and access are to be recorded, investigated and the outcome reported back to the complainant.

Impact Assessment

Restricted traffic movement	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Local area (Tilbury and Summit Roads; Balgownie Grove)	Local area (Tilbury and Summit Roads; Balgownie Grove)
Duration	Short term	Short term
Magnitude	Few affected	Few affected
Consequence	Minor	Minor
Likelihood	Likely	Possible
Significance	High	Moderate

The implementation of the identified mitigation, namely the development of a Communication Plan and implementation of an enquiries and complaints procedures, will result in a reduction in the likelihood of the impact, resulting in the overall impact of restricted traffic movements being reduced to a **moderate** significance.

6.1.1.2 Disruption to daily movements due to a loss of parking

During the construction phase, temporary traffic management measures will be put in place on the local road network in both Naenae and Fairfield. As a result, there will be a loss of parking to ensure the safe movement of large vehicles to and from the site.

During engagement, those that participated in the online survey were asked to indicate the extent to which they would be affected by the parking restrictions. Most of the respondents (77.8%) indicated that they would not be affected, 16.7% indicated they would be affected, and 5.6% were unsure whether they would be affected by the loss of parking. When rating the extent of the effect of loss of parking, 29.41% of respondents (2 respondents) identified that the loss of on-street parking would have a major negative effect on them.

In addition, the loss of street parking was raised by residents who attended the two street events. Fairfield residents identified the loss of on-street parking on Tilbury Street and Summit Road as a concern with several residents stating that they park on the street as they are unable to park on their properties due to lack of space or shared driveways. Residents noted that the loss of on-street parking would make it difficult for them to have visitors as there would be nowhere for them to park. Loss of parking in Balgownie Grove was raised by Naenae residents but was not considered to be a significant concern as on-street parking was said to be plentiful in the immediate area.

Summit Road and Surrounds

The CTA states that due to the width and nature of Tilbury and Summit Road, it will not be possible to accommodate HCV's whilst retaining all on-street parking. It is estimated that 68% of on-street parking on Tilbury and Summit Road will be removed for the duration of the construction phase i.e. 2.5 years (**Figure 6-2**). The CTA states that it is expected that the remaining on-street parking spaces will be able to cater for the demand, and as such this effect has been rated as having a minor construction traffic effect.



Figure 6-2: Proposed Parking Removal (red lines) in Fairfield (CTA, 2023)

Balgownie Grove and Surrounds

According to the CTA, parking removal is required at the end of the Balgownie Grove cul-de-sac to accommodate site access requirements. The result will be the loss of approximately 4 on-street parking spaces, which represents approximately 27% of the available on-street parking on Balgownie Grove. The CTA has assessed the implications of parking removal on Balgownie Grove as negligible.



The loss of parking on Balgownie Grove is unlikely to result in disruptions to residents' way of life and daily movements, and therefore the overall social impact is considered negligible. The CTA identifies the need to communicate with affected residents regarding the loss of parking on Balgownie Grove. This mitigation is supported.

Impact Description

During the construction phase, residents of Tilbury and Summit Road will experience a loss of on-street parking. As several residents have identified that there are challenges with off-street parking, it is likely that the loss of on-street parking will create an inconvenience to residents during the construction phase. Residents may need to find alternative parking some distance from their home. The lack of parking may make it difficult for friends and family to visit which may reduce potential social interactions over the construction phase. In addition, service providers (utility providers such as meter readers, or contractors) may find it more challenging to services residents' needs without adequate on-street parking. The result may be that residents, visitors and service providers need to park in surrounding local roads, which may put additional pressure on on-street parking availability adjacent to the roads directly affected by the parking removal. Overall, the loss of on-street parking does have the potential to disrupt residents' daily movements and their interactions with other people.

Impact Statement

The extent of the loss of parking is limited to Tilbury and Summit Roads, in Fairfield. The duration of the impact will be for the construction phase which is estimated to be for a period of 2.5 years. The impact will be experienced by directly affected owners, occupiers and users of property. With consideration of the extent, duration and magnitude of the impact, and consequence has been determined to be minor. The probability of the impact taking place is likely. Overall, the social impact associated with the loss of parking is of **high** significance.

Mitigation

Over and above the mitigation recommended by other specialists, additional mitigation is recommended to address the social effects associated with the loss of parking on Tilbury and Summit Road:

- Development of a Communication Plan for affected residents to advise them of the anticipated impact on on-street parking including the areas where parking will be removed and the duration of this removal. This will allow residents to plan in advance and make alternative parking arrangements.
- Procedure to be provided in the Construction Environmental Management Plan (CEMP) for public enquiries and complaints during the construction phase. Complaints relating to the loss of parking are to be recorded, investigated, and the outcomes reported back to the complainant.

Impact Assessment

Disruption to daily movements as a result of loss of parking	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Site and surrounding area (Tilbury and Summit Roads)	Site and surrounding area (Tilbury and Summit Roads)
Duration	Short term	Short term
Magnitude	Few affected	Few affected
Consequence	Minor	Minor

Likelihood	Likely	Possible
Significance	High	Moderate

With the implementation of the recommended social mitigation there is the potential to reduce the likelihood of disruption due to loss of parking to possible, resulting in an overall impact rating of **medium** significance.

6.1.2 Community

The potential loss of access to a local community reserve area for recreational use and enjoyment due to construction related activities has been identified as a potential community impact.

6.1.2.1 Loss of access to recreational facilities

The proposed reservoir and associated pipeline infrastructure is proposed to be constructed within the Eastern Hills Reserve. The Recreation Assessment identifies that the tracks within the reserve, including the Summit Road firebreak track near the existing reservoir and the proposed reservoir site, are used for a variety of activities including walking, running and mountain biking. The tracks provide access for adjacent residents and those seeking a wider recreational experience within the Naenae parks network (Recreation Assessment, 2023). A portion of the Summit Road firebreak track will be temporarily closed to the public during the 2.5-year construction period. The construction of the pipeline infrastructure will temporarily disrupt recreation use of the grassed area where the Waiwhetū Stream intersects with the Balgownie Grove cul-de-sac.

The online survey undertaken as part of the SIA sought feedback on the current use of the reserve area and the potential impact of the loss of access to this facility. Survey data indicates that the reserve is used primarily for recreational enjoyment and fitness. All survey respondents indicated that they walk in the reserve, with running, cycling or mountain biking and foraging being identified as other uses. Respondents to the online survey reporting using the Summit Road track for recreational purposes. The majority (72%) of respondents indicated there would be either a major or minor negative effect on recreational use and enjoyment during the construction of the reservoir. A large proportion (61.11%) of those responding to the survey anticipate a negative impact (major or minor) on recreational use and enjoyment during the construction of the pipeline. Respondents indicated that they would reduce their use of the reserve area during construction. Half of the respondents stated they are likely to access the reserve area using an alternative route, whilst others reported they would use a different area for recreation whilst the summit road track was inaccessible to the public.

An intercept survey included three respondents that were interviewed whilst using the reserve area. The respondents used the reserve with varying frequencies, but all reported to enjoying the area for both the fitness challenge it offers (steep terrain) and the peacefulness of being in nature. The survey identified that there were some risks associated with using the track during wet conditions as it becomes muddy and slippery.

The Recreation Assessment evaluated the potential adverse effects on existing recreation use and values during the construction phase to be of minor significance.

Impact Description

During the construction phase, access to the Eastern Hills Reserve for recreation and fitness will be disrupted by the closure of the Summit Road firebreak track for the duration of the work (2.5 years) and due to pipeline related works at the end of Balgownie Grove for a period of 7-9 months. Residents adjacent to the reserve area are likely to be the most affected, however there may be a small number of other users affected.

Impact Statement

The extent of the loss of access to recreation facilities is limited to the local area, primarily the areas immediately adjacent to the reserve areas affected by construction. The duration of the impact will be temporary (7-9 months) for the Balgownie Grove area, and short term (2.5 years) for the Summit Road Firebreak Track area. The impact will be experienced most by those residents living immediately adjacent to the areas, as such the number of people affected is likely to be few. The probability of the loss of access to the recreation and fitness facilities occurring is considered unlikely as there are other access routes that can be used to access the reserve and alternative recreational areas in the local area. Overall, the social impact associated with the loss of the Summit Road Firebreak track access to the reserve is of **low** significance.

Mitigation

The mitigation identified in the Recreation Assessment is supported, which includes communication both prior and during construction so recreation users can plan their use of the wider Eastern Hills and Naenae recreational network. No additional mitigation is recommended by this SIA.

Impact Assessment

Loss of access to recreational facilities	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Local area	Local area
Duration	Temporary / Short term	Temporary / Short term
Magnitude	Few affected	Few affected
Consequence	Minor	Minor
Likelihood	Unlikely	Unlikely
Significance	Low	Low

6.1.3 Environment

6.1.3.1 Increased road safety risk

The increase in HCVs on Tilbury Street, Summit Road and Balgownie Grove has the potential to increase road safety risk to other vehicles and to road users such as cyclists, pedestrians and motorcyclists which are particularly vulnerable.

During engagement, road safety for people who walk, cycle or drive was identified as the most significant concern related to construction phase traffic, with a total of 88.23% of respondent identifying this as either a major or minor negative impact. Residents who attended the Fairfield Street event identified road safety concerns, particular relating to speeding trucks along Summit Road and that, given that there are many corners on this road, it may be difficult for the truck drivers to see other drivers on the road. Residents recommended that mirrors placed on the road corners would allow improved visibility of vehicles on Summit Road.

The CTA states that at the busiest time during construction, there will be 120 HCV movements per day on Summit Road i.e. a HCV movement every 5-10 minutes throughout the working day. HCV's pose a greater risk to road users, particularly when travelling downhill, due to momentum. Several mitigation measures have been identified in the CTA, including the recommended that a TMP be implemented which will include the requirement that two HCVs are not to travel in the opposite direction at the same time on Summit Road or Tilbury Street. There will be a 30km/hour speed limited imposed.

On Balgownie Grove there will be 10 HCV movements per day for a relatively short period (1-2 months) during Stage 5 of the construction phase (WSP, 2023). Whilst the volume of HCV's is relatively low, the CTA identifies that HCV's will be required to reverse on to or off site which poses an additional risk. Mitigation has been identified, including traffic management and the presence of a spotter to assist with HCV movements to ensure road user safety.

Impact Description

During the construction phase, there will be an increase in HCV's which has the potential to increase road safety risk for road users on Tilbury Street, Summit Road and Balgownie Grove.

Impact Statement

The potential for an increase in road safety risk is likely to be experienced by residents in close proximity to the construction works i.e. residents of Tilbury Street, Summit Road, and Balgownie Grove. The duration of the impact will be temporary (7-9 months) for the Balgownie Grove area, and short term (2.5 years) for Tilbury Street and Summit Road. The impact will be experienced most by directly affected owners, occupiers and users of property (i.e. few affected). The consequence of the impact is considered minor, and the likelihood of the impact occurring is unlikely (given the mitigation recommended within the CTA), as such the overall assessment of increased road safety risk is a rating of **low** significance.

Mitigation

Over and above the mitigation recommended by other specialists, additional mitigation is recommended to address the social effects associated with the potential increase in road safety risk are:

- Development of a Communication Plan for affected residents to advise them, ahead of each stage of construction, of the anticipated HCV movements, the time of day these would be experienced and for how long.
- Procedure to be provided for public enquiries and complaints during the construction phase. Complaints relating to the speed of HCV's and road safety risks are to be recorded, investigated, and outcomes reported back to the complainant.

Impact Assessment

Increased Road Safety Risk	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Site and surrounding area (Tilbury Street, Summit Road, Balgownie Grove)	Site and surrounding area (Tilbury Street, Summit Road, Balgownie Grove)
Duration	Temporary / Short term	Temporary / Short-term
Magnitude	Few affected	Few affected
Consequence	Minor	Minor
Likelihood	Unlikely	Rare
Significance	Low	Low

With the implementation of the recommended social mitigation there is the potential to further reduced the likelihood of increased road safety risk to rare, with the overall impact rating remaining as being of **low** significance.

6.1.4 *Reduced quality of the environment*

The construction of the reservoir and associated pipelines has the potential to reduce the quality of the environment for those residents living in close proximity to the site. Increased traffic movements (Section 6.1.1.1), construction noise and vibration, dust generation, and changes to the landscape and visual impacts have the potential to have a negative effect on the amenity that individuals value in their residential environment.

Respondents to the online survey indicated the following in respect to the quality of their environment:

- Noise, dust, visual impacts, and vibration were identified as significant potential negative impacts of the construction of the reservoir.
- Noise, visual impacts (i.e. change in the character of the area) and dust were identified as the significant negative impacts of the construction of the pipeline infrastructure.

Residents that attended the street events identified the following concerns related to the quality of their environment:

- Frequency of work vehicles on the road
- Noise and vibration and potential disruption to those working from home
- Dust generation

The increase in HCV movements, which has the potential to reduce the quality of the environment for residents in close proximity to the construction site, is discussed in Section 6.1.1.1. The movement of vehicles has the potential to generate dust on the immediate road network.

Construction activities are likely to generate noise and vibration. The Construction Noise and Vibration Impact Assessment (CNVIA) has identified that Noise Sensitive Receptors (NSRs) surrounding the proposed construction works include Tilbury Street, Summit Road, Farrelly Grove, Balgownie Grove and Waddington Drive. The CNVIA predicts the noise impacts associated with the various stages of construction to be acceptable to reasonable (low impact), with the exception of piling activities and night-time concrete pouring which was predicted to be obvious which is likely to have a low or medium impacts on adjacent receptors. Given the timing, location, hours of operation and application of mitigation, the level of noise impact on NSR's is not considered unreasonable. The CNVIA states that all NSRs are located beyond the vibration standoff distances which cosmetic building damage may occur. Whilst it is anticipated that vibration criteria will be achieved, some NSRs may lie within the set-back distance for human annoyance (WSP, 2023).

The construction of the reservoir and associated pipelines has the potential to change the visual landscape and to change the nature of the local area as a result of the introduction of construction related activities into a quiet residential area. The Landscape and Visual Assessment (LVA) provides an assessment of the landscape, natural character and visual effects associated with the project. During the construction phase, landscape effect, natural character effects and visual effects have been rated as being low to moderate after mitigation (LVA, 2023). Residents in close proximity are not likely to experience visual effects due to the steep topography. Of the viewpoints assessed, the view from the centre of Naenae Park looking west towards the proposed site will experience the most significant visual effect, rated as low to moderate with mitigation (LVA, 2023).

Impact Description

Residents in close proximity to the construction works may experience a change in the quality of the environment that they enjoy due to traffic volume increases, noise, vibration, and dust generation as a result of construction activities. Visual effects may be experienced, however due to the topography of the local area, these impacts are not likely to be experienced by those located within the immediate area surrounding the site.

Impact Statement

The potential for a reduction in the quality of the environment is likely to be experienced by residents in close proximity to the construction site. The duration of the impact will be temporary (7-9 months) for the Balgownie Grove area, and short term (2.5 years) for Tilbury Street, Summit Road and surrounds. The impact will be experienced most by directly affected owners, occupiers and users of property (i.e. few affected). The consequence of the impact is considered minor, and the likelihood of the impact occurring is likely, as such the overall assessment of the potential change to quality of the environment is rated as a **high** significance.

Mitigation

Over and above the mitigation recommended by other specialists, the following social mitigation is recommended to address reduced quality of the environment are:

- Provision of details of likely effects to affected residents based on the outcomes of the Construction Traffic Assessment, Construction Noise and Vibration Impact Assessment, and Landscape and Visual Assessment.
- Development of a Communication Plan for affected residents to advise them, ahead of each stage of construction, of the likely traffic, noise and vibration that may be experienced.
- Procedure to be provided for public enquiries and complaints during the construction phase. Complaints relating to the traffic, noise, vibration, dust, and visual effects are to be recorded, investigated, and outcomes reported back to the complainant.

Impact Assessment

Reduced quality of the environment	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Site and surrounding area	Site and surrounding area
Duration	Temporary – short term	Temporary – short term
Magnitude	Few affected	Few affected
Consequence	Minor	Minor
Likelihood	Likely	Possible
Significance	High	Moderate

With the application of the recommended mitigation, the likelihood of the quality of the environment being reduced is likely to be lowered to possible, resulting in the overall assessment rating reducing to a **moderate** significance.

6.1.5 Wellbeing

6.1.5.1 Reduced wellbeing

Wellbeing includes positive emotions (i.e. contentment and happiness), satisfaction with life and positive functioning, in the absence of negative emotions such as depression and anxiety.

During the construction phase, the potential impact on wellbeing on individuals is anticipated to be a result of the following:

- Anxiety – due to the uncertainty associated with the potential effects of the construction phase.

- Change in the quality of the environment – changes in the amenity associated with the environment in which people live, particularly relating to aspects that people value about their lifestyle and where they live.

During engagement, residents in close proximity to the proposed construction site identified a range of concerns relating to the anticipated change in the quality of their environment and voiced some uncertainty relating to the extent to which they will be affected by the project.

Impact Description

Leading up to and during construction, residents in close proximity to the site may experience reduced wellbeing as a result of stress and anxiety regarding the extent to which they may be affected by construction related activities. In addition, residents' wellbeing may be affected by a change in the quality of the environment, given that construction activities will be in stark contrast to the current lifestyle that they value.

Impact Statement

The extent of the impact of reduced wellbeing is likely to be experienced by residents in close proximity to the construction site. The Fairfield residents are likely to experience this impact for the duration of construction (2.5 years) which is considered short term, whilst for Naenae residents this impact is likely to be for a temporary duration given the length of the construction phase associated with the pipeline construction. The impact will be on directly affected owners, occupiers and users of properties (i.e. few affected). The consequence of the impact is therefore considered minor. Given the likelihood of the impact is considered possible, the overall significance of reduced wellbeing is rated to be of **moderate** significance.

Mitigation

Over and above the mitigation identified by specialists that will reduce impacts on the quality of the environment, the following social mitigation has been identified to reduce the potential for reduced wellbeing:

- Development of a Communication Plan for residents affected by proximity to ensure the provision of information prior to and during construction.
- Procedure to be provided for public enquiries and complaints during the construction phase. Complaints are to be recorded, investigated and the outcomes reported back to the complainant.

Impact Assessment

Reduced wellbeing	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Site and surrounding area	Site and surrounding area
Duration	Temporary – short term	Temporary – short term
Magnitude	Few affected	Few affected
Consequence	Minor	Minor
Likelihood	Possible	Unlikely
Significance	Moderate	Low

With the application of the recommended mitigation, namely the development of a Communication Plan and provision of a procedure for public enquiries and complaints during

construction, will result in the likelihood reduced wellbeing being lowered to unlikely, resulting in the overall impact being rated as being of low significance.

6.2 Operational Phase Social Impacts

6.2.1 Community

6.2.1.1 Improved future water security and resilience

The objective of the proposed Eastern Hills Reservoir project is to address the current water storage shortfall and to ensure sufficient storage for future requirements due to population growth. Currently the storage deficit leaves the area vulnerable to bulk water supply interruptions. The proposed reservoir will allow Wellington Water to provide a reliable water storage solution to the Lower Hutt Central and Taita water storage areas. The provision of additional water storage ensures the water supply system is resilient.

During engagement, respondents to the online survey recognised the benefits of the proposed project with 61.11% recognising that the project will have a major positive impact on the security of water supply in the region, with an additional 16.67% noting a minor positive impact. During the street events, residents acknowledged the need for, and importance of, the project.

Impact Description

The proposed Eastern Hills Reservoir will contribute to a reliable and resilient water storage and supply system for Lower Hutt.

Impact Statement

The extent of the improved future water security and resilience will be experienced at a regional scale, with many affected for a permanent duration. The consequence of this impact is assessed as major, and the likelihood of the impact occurring is almost certain, as such the overall significance is rated as being of **extreme** significance (positive).

Mitigation

None required.

Impact Assessment

Improved future water security and resilience	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Region	
Duration	Permanent	
Magnitude	Many affected	
Consequence	Major	
Likelihood	Almost certain	
Significance	Extreme (positive)	

6.2.1.2 Change to character of the area

With the introduction of a new reservoir into the local landscape, there is a potential for a change to the current character and visual landscape of the local area.

During the online survey, respondents were asked to indicate the extent to which they would expect the operation of the reservoir to result in a change in the character of the area (visual changes). Half of the respondents identified there would be no effect, 1 respondent (5.5%)

indicated a major effect, and 5 respondents (27.8%) stated there would be a minor negative effect on the character of the area as a result of the introduction of a new reservoir. During the operational phase of the pipeline component of the project, 38% of respondents identified there would be a minor negative effect on the character of the area based on visual changes, with the remaining respondent stating there would be no effect or they were not sure of the effect. As the pipeline will be, for the most part, below ground; it is assumed the concern relates specifically to the pipeline stream crossing over the Waiwhetū Stream.

During the street events, residents did not raise concerns or comment on the potential change in visual landscape or character of the area, or any other potential operational phase impacts.

The LVA provides an assessment of the landscape, natural character and visual effects associated with the project. During the operational phase, the adverse landscape effects were rated as being low after mitigation due to a number of factors including that the reservoir will be located within a modified landscape and adjacent to an existing reservoir within an existing urban environment. According to the LVA, the potential impact on natural character during the operational phase was rated as being low after mitigation given the existing urban environment, modifications to the Waiwhetū Stream, clearance of vegetation and the close proximity of residential houses. Visual effects were assessed from 4 viewpoints and the LVA concluded that the visual effects would be adverse given the addition of a built structure into these views, however the natural character of the landscape is relatively degraded and from most viewpoints the structure will be obscured (due to topography). Mitigation measures will result in an improvement in natural character and visual effects, having been rated as being of low positive significance.

Impact Description

The completion of the reservoir and pipeline infrastructure has the potential to result in a change in the character of the area and visual changes throughout the operational phase. Based on the outcomes of the LVA, it is highly unlikely that residents in close proximity will experience visual changes based on the steep topography. Given the existing urban environment, the change to the landscape, natural character and visual effect can be accommodated. There is an opportunity for an improvement in natural character and visual effects with planting and other management measures.

Impact Statement

The extent of the change to the character of the area will be experienced by the local area, with a moderate number of people affected for a permanent duration. The consequence of this impact is assessed as minor, and the likelihood of the impact occurring is unlikely given the existing urban environment in which the project is taking place. The overall significance is rated as being of **low** significance (positive), on the assumption that the mitigation measures proposed by the LVA are implemented.

Mitigation

No additional mitigation has been identified from a social perspective.

Impact Assessment

Change to the character of the area	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Local	
Duration	Permanent	
Magnitude	Moderate number affected	
Consequence	Minor	
Likelihood	Unlikely	
Significance	Low (positive)	

6.2.1.3 Enhanced enjoyment of the reserve as a recreational area

On completion of the reservoir and associated pipeline infrastructure, there is the potential for residents' enjoyment of the Eastern Hills reserve to increase. The Summit Road Firebreak Track will be reinstated to the eastern side of the Eastern Hills Reservoir post construction.

The Recreation Assessment provides recommendations to ensure existing recreation activities and values are maintained or replaced, so that existing reserve users, as well as future recreation users can continue to enjoy the reserve and its connections to the surrounding parks network. In addition, this study identifies the opportunity to create positive outcomes through the reinstatement of sections of the track to a higher level of service. This includes provision of improved surfaces, signage, seating, and rest areas (Recreation Assessment, 2023). Mitigation measures identified in the Recreation Assessment will result in an overall positive effect on recreation use and values.

During engagement, 60% of the residents responding to the online survey indicated they would return to their typical use of the reserve once the reservoir is operational, with 20% of respondents stating they were likely to increase their use of the Summit Road Firebreak Track. The remaining respondents were unsure (13.3%) as to whether their use of the reserve would change, with 6.7% stating that their use of the area would decrease.

Intercept survey respondents stated they would return to using the Summit Road Firebreak Track when it is re-opened post construction. The track was described as hazard for slips and fall following wet weather by those participating in the intercept survey. One of the residents identified they would make use of seating on the track if it were made available.

Impact Description

There is the potential to enhance the enjoyment of the Eastern Hills Reserve during the operational phase of the project. The Summit Road Firebreak Track will be reinstated, and the recommendations identified in the Recreation Assessment, if adopted, will result in improved recreational outcomes for local residents using this facility.

Impact Statement

The enhanced enjoyment of the Eastern Hills Reserve will be experienced by the local area, with a moderate number of people affected for a permanent duration. The consequence of this impact is assessed as moderate, and the probability of the impact occurring is likely, resulting in an overall positive rating of **high** significance (positive).

Mitigation

There is no additional social mitigation identified.

Impact Assessment

Enhanced enjoyment of the reserve as a recreational area.	Assessment (Assumes other specialist mitigation applied)	Assessment with social mitigation
Extent	Local area	
Duration	Permanent	
Magnitude	Moderate number affected	
Consequence	Moderate	
Likelihood	Likely	
Significance	High (positive)	

6.2.2 Fears and Aspirations

6.2.2.1 Fears of reservoir failure and risk of flooding

Under the IAIA framework, the consideration of fears includes perceptions of safety, and fears about the future. In the context of the proposed Eastern Hills Reservoir project, the fears associated with the operational phase of the project as identified by residents who attended the street events include:

- Safety of people and property as a result of the risk of reservoir failure during an earthquake.
- Increase flood risk due the potential discharge of water from the reservoir to the Waiwhetū Stream.
- Increased flood risk as a result of the water pipe being above ground / crossing the Waiwhetū Stream and potentially causing a damming affect during heavy rain events (this option is no longer being progressed, as the pipe is proposed to be below ground).

A few residents noted they had experienced the flooding of the Waiwhetū Stream in the past.

It is noted that the fears identified are limited to one or two individuals and are not likely to be representative of all residents living in close proximity to the reservoir site. Given the subjective nature of personal fears, an assessment of the significant of fears has not been undertaken. The reservoir has been designed for reliance, which include consideration of earthquake and flooding related risks.

Mitigation

Social mitigation has been identified to reduce fears as far as possible:

- Provision of quality technical information on earthquake and flood risk to residents affected by proximity in a form that is suitable for lay people to allay fears and concerns.

6.3 Assessment Summary

A summary of the pre- and post-mitigation assessment of potential construction and operational phase social impacts are presented in **Table 6-3**. The table presents the effectiveness of the social mitigation identified during the assessment process.

Table 6-3: Summary of Impact Assessment

IMPACT / EFFECT	PHASE	POSITIVE / NEGATIVE	SIGNIFICANCE	SIGNIFICANCE WITH SOCIAL MITIGATION
Restricted traffic movement	Construction Phase	Negative	High	Moderate
Disruption to daily movements due to a loss of parking	Construction Phase	Negative	High	Moderate
Loss of access to recreational facilities	Construction Phase	Negative	Low	Low
Increased road safety risk	Construction Phase	Negative	Low	Low
Reduced quality of the environment	Construction Phase	Negative	High	Moderate
Reduced wellbeing	Construction Phase	Negative	Moderate	Low
Improved future water security and resilience	Operational Phase	Positive	Extreme (positive)	
Change in the character of the area	Operational Phase	Positive	Low (positive)	
Enhanced enjoyment of the reserve as a recreational area	Operational Phase	Positive	High (positive)	

7 Conclusions

During construction, the majority of the social impacts will be experienced by residents in close proximity to the construction works – Tilbury Street, Summit Road (and associated cul-de-sacs), and Balgownie Grove. Some impacts will remain of ‘moderate’ significance post mitigation, namely:

- Restricted traffic movement
- Disruption to daily movements due to a loss of parking
- Reduced quality of the environment as a result of traffic, noise, vibration, air emissions and visual effects on amenity

Loss of access to recreational facilities, increased road safety risk and reduced wellbeing can be reduced or maintained at a low significance with the application of identified mitigation measures.

Over and above the mitigation recommended by other specialists, additional mitigation identified to address social impacts is summarised as follows:

- The TMP is to ensure prioritisation of emergency vehicles requiring access to Tilbury Street, Summit Road, and Balgownie Grove.
- Development of a Communication Plan for affected residents, ahead of each stage of construction, of the anticipated heavy vehicle traffic movements (extent and duration), impact on on-street parking, and likely construction related (traffic, noise and vibration) effects.
- Procedure to be provided for public enquiries and complaints during the construction phase. Complaints are to be recorded, investigated and outcomes reported back to the complainant.
- Provision of details of likely effects to affected residents based on the outcomes of the Construction Traffic Assessment, Construction Noise and Vibration Impact Assessment, and Landscape and Visual Assessment.

Provision of quality technical information on earthquake and flood risk to residents affected by proximity in a form that is suitable for lay people to allay fears and concerns.

The operational phase is characterised by positive social effects, most significantly the reservoir will result in improved future water security and resilience for the region, which is rated as an extreme positive impact of the project. With the application of mitigation measures proposed by the Recreation Assessment, the enhanced enjoyment of the reserve area is rated as a positive impact of high significance. There is an opportunity to achieve an overall positive visual impact based on the mitigation identified in the LVA, as such a potential change in the character of the area is rated as being of low positive significance.

8 Limitations

This report (‘Report’) has been prepared by WSP New Zealand Limited (‘WSP’) exclusively for Wellington Water (‘Client’) in relation to this Eastern Hills Reservoir Social Impact Assessment (‘Purpose’) and in accordance with the Wellington Water Consultant Project Engagement form dated 10th March 2023 (‘Agreement’). The findings in this Report are based on and are subject to the assumptions specified in the Report and Offer of Services dated 10th March 2023. WSP accepts no liability whatsoever for any use or reliance on this Report, in whole or in part, for any purpose other than the Purpose or for any use or reliance on this Report by any third party.



Appendix A – Demographic Data

Eastern Hills Reservoir - Baseline Data

Social Environment - Area of Analysis:

Area	Description
Site and surrounds	Statistical Area 2 units that fall within approximately 500m radius from the site. (excluded forest area/non-residential that fall within the zone)
Ward area	Central and Eastern Wards of Hutt City Council
Local area	Lower Hutt

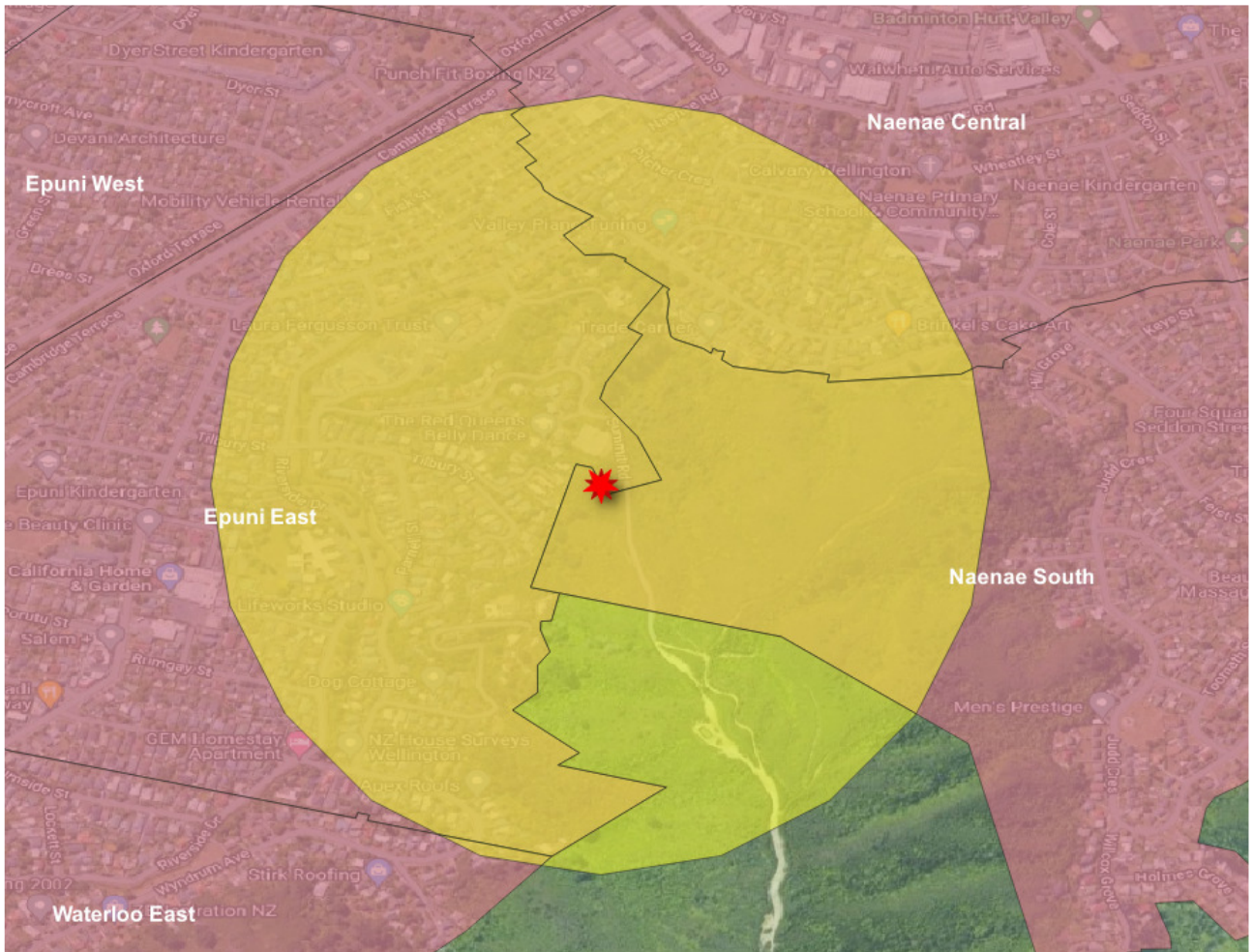


Figure 1 Site and surround area (500m radius from approximate location)

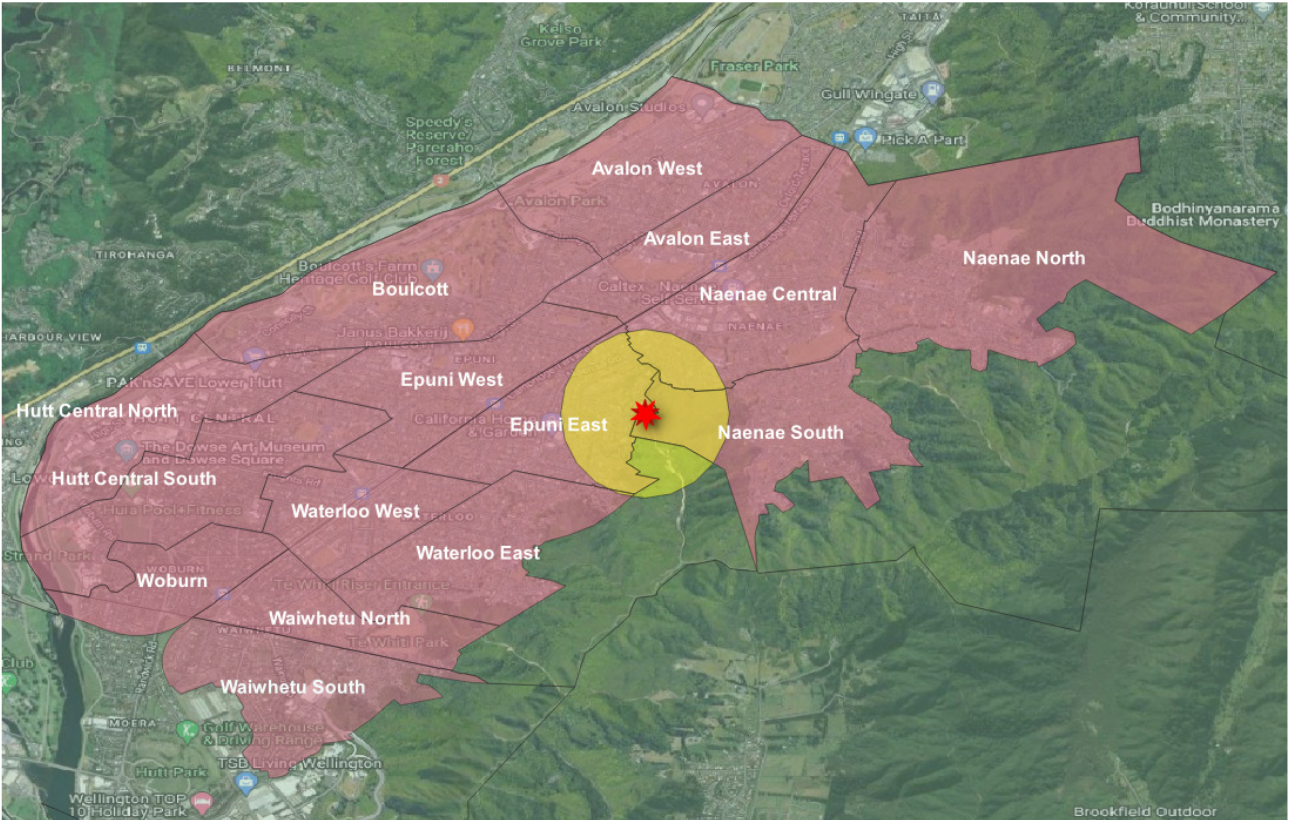


Figure 2 Central and Eastern Wards of Hutt City Council

Note: Includes Waiwhetu South (which fall outside of the ward) as the data for the area is not separated in Waiwhetu North and South.

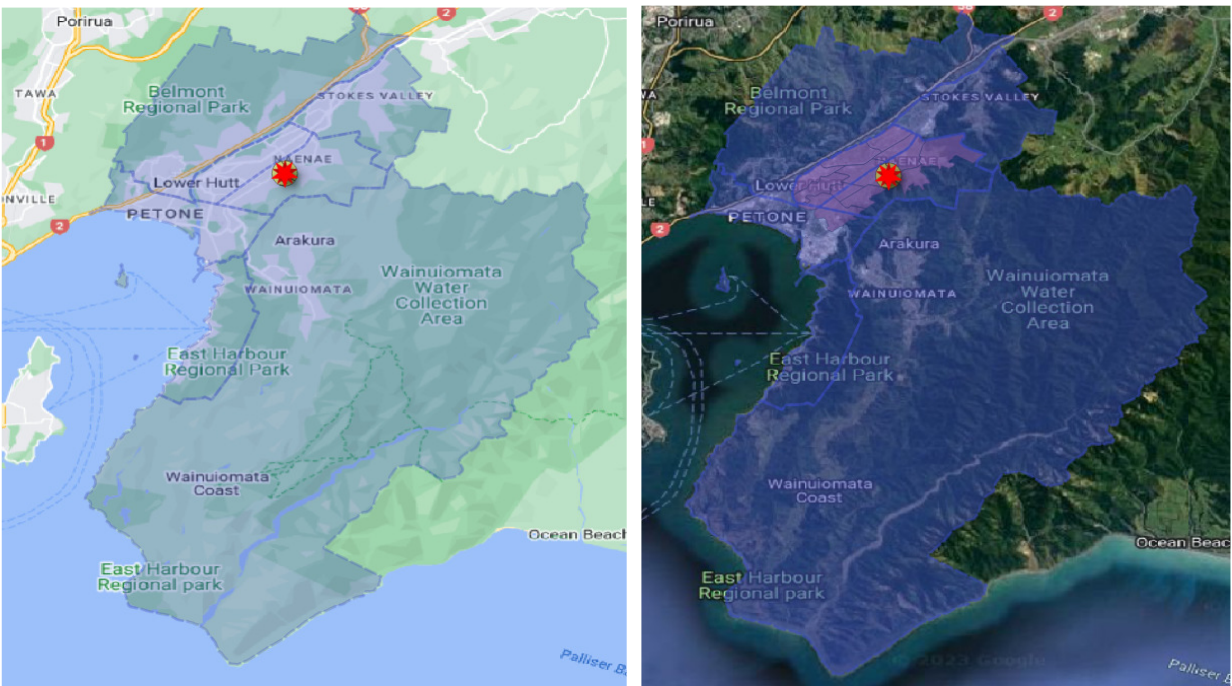


Figure 3 Local area: Lower Hutt



Baseline data to develop a social profile

- **Demographics**

Population by age (site area / suburbs, ward area, local area) were examined to determine if there were any notable differences in the age of people who were living in the site and surrounding area.

Table 1: Age groups across the site and surrounds, ward area, Local area, and New Zealand total. ¹

Area	Site and surrounds	Ward area	Local area	NZ Total
Under 15	21.1%	20.1%	20.2%	19.7%
15-24 years	13.5%	12.8%	12.5%	13.2%
25-64 years	53.8%	53.1%	53.7%	52.0%
65+ years	11.8%	14.1%	13.6%	15.2%
Total people	6,369	52,902	104,532	4,699,755
Median age	35.2	37.2	36.9	37.4

- Distribution of education and qualifications (site area, ward area)

Table 2: Residential population count aged 15 and over: Highest qualification for the areas of interest ²

Area	No qualification	Level 1-4 certificate	Level 5-6 diploma	Bachelor degree and level 7 qualification	Postgraduate (Honours, Masters, Doctorate)	Overseas secondary school qualification	Total people stated	Not elsewhere included
Site and surrounds	435	1,290	270	486	342	117	2,934	189
Ward area	1,944	7,539	1,881	3,645	2,712	813	18,534	852
Local area	5,871	22,398	5,451	9,453	7,053	2,202	52,434	2,466
NZ Total	266,421	978,936	248,661	407,571	289,197	113,823	2,304,606	140,532

- **Economics and Employment**

- Income range / median income (site area, ward area, local area)

¹ Age and sex by ethnic group (grouped total responses), for census usually resident population counts, 2006, 2013, and 2018 Censuses (RC, TA, SA2, DHB) <https://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE8277>

² Highest qualification and occupation (ANZSCO major group) by sex, for the employed census usually resident population count aged 15 years and over, 2006, 2013, and 2018 Censuses (RC, TA, SA2, DHB) <https://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE8277>



Table 3: Median income and income breakdown

Area	Median income \$	Less than \$30,000	\$30,000- \$50,000	\$50,000- \$70,000	\$70,000- \$100,000	\$100,000- \$150,000	\$150,000+	Total households stated	Not stated
Site and surrounds	60,951	516 24.5%	318 15.1%	288 13.7%	318 15.1%	402 19.1%	261 12.4%	2,103	256
Ward area	77,932	2,829 21.7%	1,749 13.4%	1,572 12.1%	1,884 14.5%	2,505 19.2%	2,469 19.0%	13,026	879
Local area	82,200	6,219 17.9%	4,539 13.1%	4,413 12.7%	5,433 15.6%	7,359 21.2%	6,777 19.5%	34,743	2,421
NZ Total	75,700	287,382 18.8%	225,390 14.8%	204,597	242,262	295,119	272,208	1,526,961	126,831

Unemployment rate / % residents unemployed (site area, ward area, local area)

Naenae central census data from 2018 shows the proportion of the people living in the area that are employed full-time was 46.6%, with an unemployment rate of 7.1%.³ Epuni East had an employment full-time rate of 49.7%, with unemployment at 4.7%.⁴ Lower Hutt city had a full-time rate of 2.2% and a unemployment rate of 4.8%⁵, which was similar to the wider Wellington region with a rate of full-time employment of 52.6%, and 4.4% for unemployment⁶.

Occupational groups were also examined to look at worker occupations for each of the areas of interest (site area, ward area, local area).

Table 4: Occupational groups for each of the areas of interest

Occupational groups	Total people stated	Most common occupations	Median income
Site and surrounds	4,362	Professionals: 1,023 (23.45%) Clerical/Administrative: 579 (13.27%) Managers: 489 (11.21%)	\$59,804
Ward area	19,152	Professionals: Managers: Clerical/Administrative:	\$77,932
Local area	54,900	Professionals: 14,781 (26.9%) Managers: 8,580 (15.6%) Clerical/Administrative: 7,395 (13.5%)	\$82,200
NZ Total	2,445,141	Professionals: 562,269 Managers: 441,087 Technicians and Trades: 294,882	\$75,700

Youth NEET by regional council by age

The Youth Not in Employment, Education or Training (NEET) calculates the rate of New Zealanders aged 15 to 24 years who are not currently in employment, education, or training.

³ <https://www.stats.govt.nz/tools/2018-census-place-summaries/naenae-central>

⁴ <https://www.stats.govt.nz/tools/2018-census-place-summaries/epuni-east>

⁵ <https://www.stats.govt.nz/tools/2018-census-place-summaries/lower-hutt-city>

⁶ <https://www.stats.govt.nz/tools/2018-census-place-summaries/wellington-region>



The Regional Council of Wellington was examined for the year ending 2022, with an average NEET rate of 8.4%⁷. Approximately 6,425 people from the 76,3750 or 8.4% of individuals ages 15-24 years.

Table 5: Approximate NEET rates for the Wellington region

	Working age population	Not in employment, education or training (NEET)	NEET rate
Aged 15-19 years	34,800	2,700	7.7%
Aged 20-24 years	41,600	3,700	9.0%
Total aged 15-24 years	76,400	6,400	8.4%

Community Infrastructure – site and surrounds:

The immediate area surrounding the site is largely residential. The closest school is located approximately 500m to the east of the site, within the suburb of Naenae. This school has a church onsite and functions as the Community Emergency Hub. This school / community facility is not expected to be affected by the reservoir construction or operation. There are no other churches, maraes, medical centres or libraries inside the 500m study area.

Statistical Area 2 – Waiwhetu (north and south have been combined into one SA2 as of 2023)

Other community assets such as the local Naenae library were approximately 1.2km from the proposed site. Closest medical centre was just over 900m from the site, with two others between 1 - 1.2 km from the site.

⁷ <https://infoshare.stats.govt.nz/> At URL provided, select 'Work income and spending > Household Labour Force Survey - HLF > Youth NEET by Regional Council by Age (Qrtly-Mar/Jun/Sep/Dec)'. All variables were selected to create this dataset.



Table 6: Site and surround area

SA2 codes	Area names
245400	Naenae Central
245600	Epuni East

Table 7: Ward areas

SA2 codes	Area names
244200	Boulcott
245500	Waterloo West
246001	Waiwhetu North
244300	Hutt Central North
244400	Avalon West
244800	Hutt Central South
245100	Epuni West
245200	Avalon East
245300	Woburn
245400	Naenae Central
245600	Epuni East
246100	Waterloo East
246200	Naenae North
246400	Naenae South

Table 8: Local area: Lower Hutt

SA2 codes	Area names
046:	Lower Hutt City
243100:	Belmont Park
243200:	Maungaraki
243300:	Korokoro
243400:	Kelson
243500:	Normandale
243600:	Belmont (Lower Hutt City)
243700:	Petone Central
243800:	Tirohanga
243900:	Manor Park
244000:	Alicetown-Melling
244100:	Taita North



244200:	Boulcott
244300:	Hutt Central North
244400:	Avalon West
244500:	Stokes Valley Central
244600:	Taita South
244700:	Petone East
244800:	Hutt Central South
244900:	Stokes Valley North
245000:	Petone Esplanade
245100:	Epuni West
245200:	Avalon East
245300:	Woburn
245400:	Naenae Central
245500:	Waterloo West
245600:	Epuni East
245700:	Gracefield
245800:	Moera
245900:	Delaney
246000:	Waiwhetu
246100:	Waterloo East
246200:	Naenae North
246300:	Manuka
246400:	Naenae South
246500:	Towai
246600:	Arakura
246700:	Eastern Bays
246800:	Pencarrow
246900:	Wainuiomata West
247000:	Glendale
247100:	Wainuiomata Central
247200:	Eastbourne
247300:	Homedale East
247400:	Homedale West



Appendix B – Engagement

Online Survey Questions

Online Survey Responses

Intercept Survey Questions

Eastern Hills Reservoir

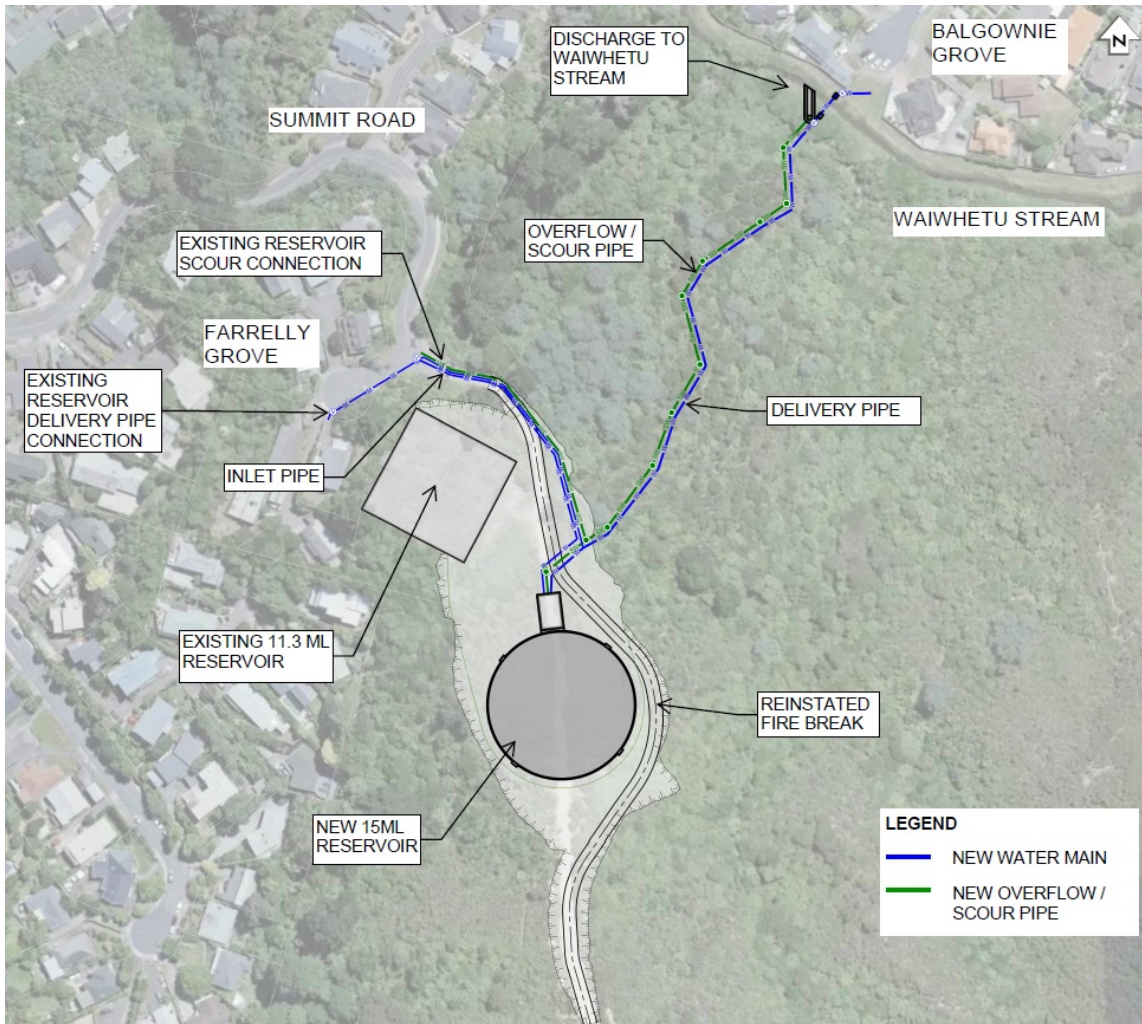
Eastern Hills Reservoir.

Design of the Eastern Hills Reservoir project is currently underway and consists of the two following components:

- (1) Reservoir: capable of holding 15 million litres of water
- (2) Associated pipelines, which consists of:
 - an inlet pipe to supply water to the reservoir
 - a delivery pipe to supply water to the network
 - an overflow pipe (constructed adjacent to the delivery pipe)

Currently, there is one reservoir in the Eastern Hills area. The new reservoir has been proposed to prepare for future growth and increase water supply resilience in the Te Awa Kairangi ki Tai, Lower Hutt area. It is important to understand what impacts this project may have within the local area during the construction period and after construction when the reservoir is functioning.

The purpose of the survey is to gather information from local residents to better understand the impacts this project may have on people and their way of life. The survey includes questions about the construction and operation of the proposed reservoir, traffic management and parking restrictions, and use of the area for recreation.



Eastern Hills Reservoir

The following image shows the proposed reservoir site in red and highlights a 500m radius from the site.

Please take a moment to look at this before moving on to the first question.



* 1. Do any of the following apply to you? (select all that apply)

- I live within (approximately) 500m of the proposed reservoir site
- I am a local resident who lives near the area, outside of the 500m
- I work near the area
- I live in Fairfield
- I live in Naenae
- None of the above: I do not live or work near the area

Eastern Hills Reservoir

The following questions will ask you about the impact you believe the proposed reservoir may have during construction and when the project is operational.

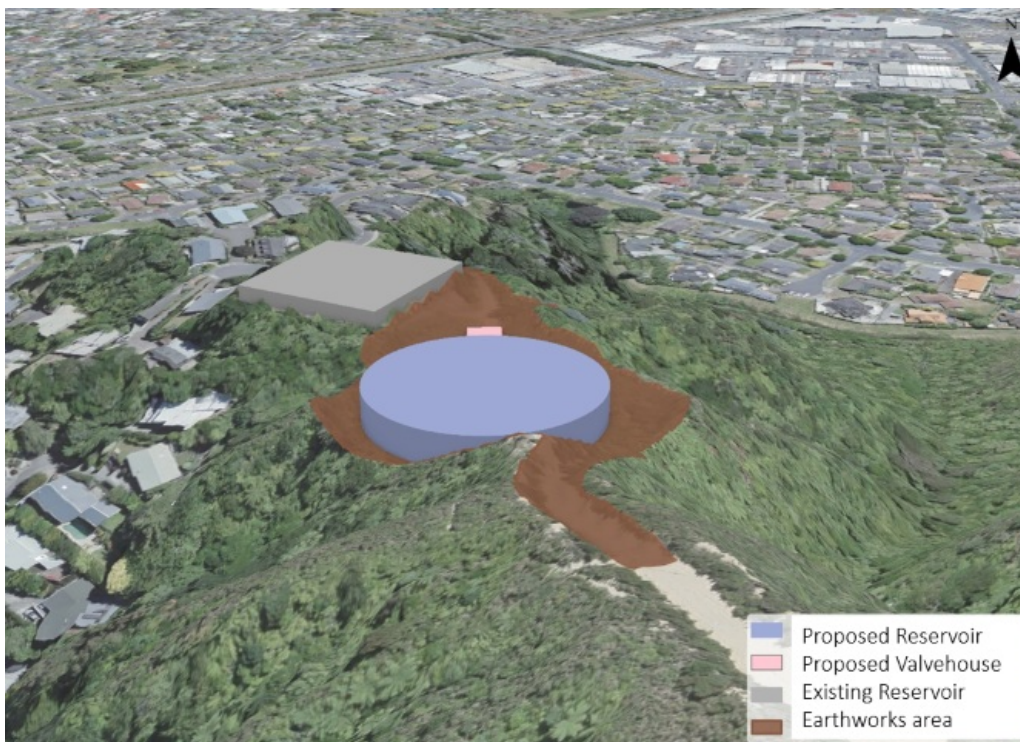
Construction of the reservoir

The construction of the reservoir will take 2 – 3 years and involves clearing the reservoir site of vegetation and making a level platform on the site using excavators to

remove excess soil. The reservoir site will be compacted using rollers. Excess material (soil, cleared vegetation) will be transported off-site using trucks down Summit Road. Parking along Summit Road will be affected. The reservoir structure will require concrete deliveries to the site and transporters delivering large pre-cast concrete panels. These will be installed using on-site cranes. The construction site will be contained to the reserve area adjacent to the existing reservoir.

Operation of the reservoir

The operation of the new reservoir will be the same as the existing Naenae reservoir. It is a large tank of drinking water that supplies water under gravity to the water network. This is an unmanned site with Wellington Water operators visiting once every two weeks or so. As the reservoir operates under gravity there are no pumps or noisy machinery.



2. During construction of the reservoir component of the project, what potential impacts do you think this may have on you?

	Major negative affect	Minor negative effect	No effect	Minor positive effect	Major positive effect	Not sure
Dust levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vibration levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Noise levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Property prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes in character of the area/visual changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security of water supply	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreation use and enjoyment of the reserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

3. During the construction of the reservoir component of the project, would you change the way you go about your day-to-day activities?

No

Yes (please explain)

4. During operation (after construction has been completed), what potential impacts do you think the reservoir component may have on you?

	Major negative affect	Minor negative effect	No effect	Minor positive effect	Major positive effect	Not sure
Vibration levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Noise levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Property prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes in character of the area/visual changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Security of water supply	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

5. During the operational phase of the reservoir, would you change the way you go about your day-to-day activities?

No

Yes (please explain)

Eastern Hills Reservoir Pipeline

The second component of the project is the pipeline, which includes the construction of delivery and overflow pipes within the reserve area. A new 750mm diameter delivery pipe supplying water to the potable water network will run from the Reservoir down the hill to the north and across Waiwhetu Stream. The overflow pipe will run adjacent to the delivery pipe; its purpose is to provide for discharge during an emergency or maintenance events that require the reservoir to be emptied.

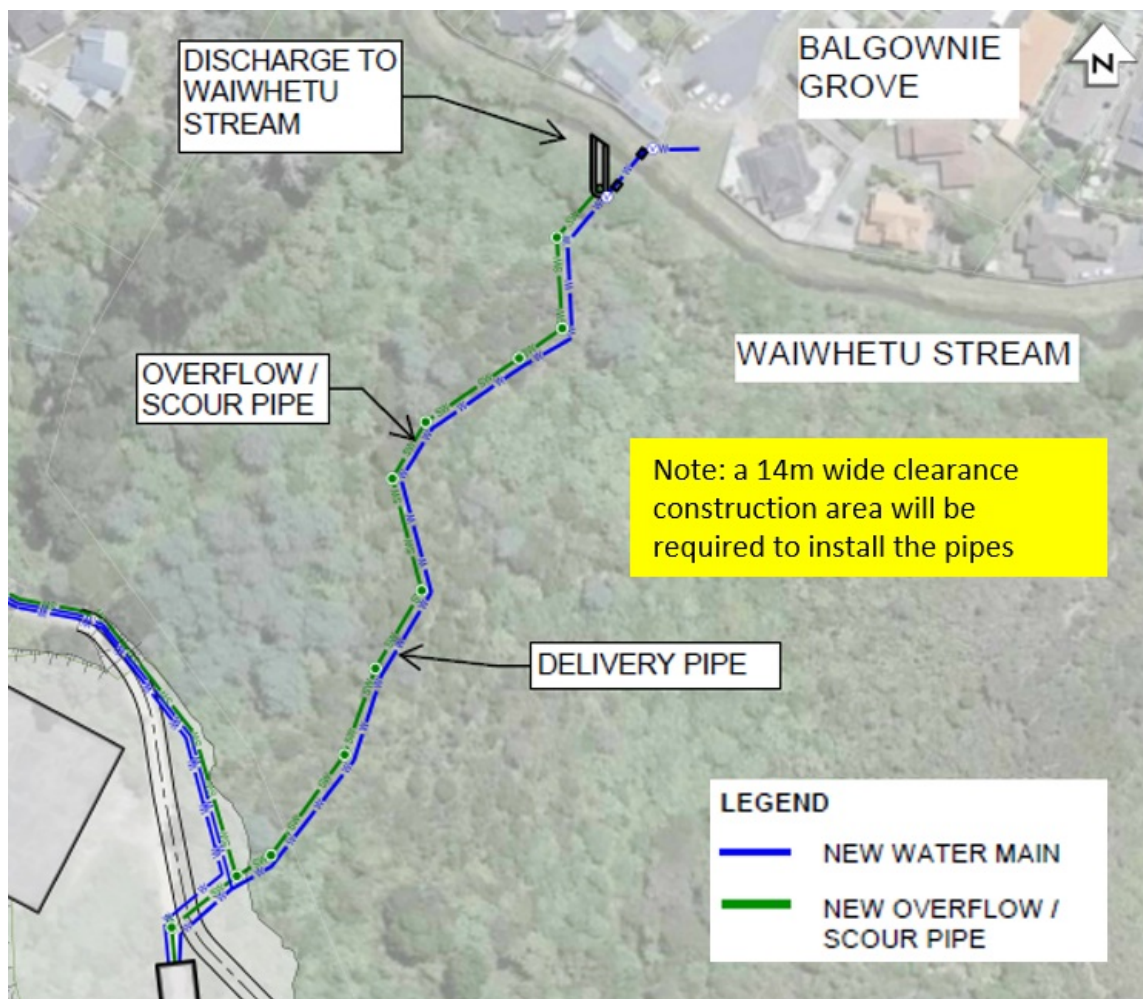
Construction of the pipeline

The construction of the two pipelines down the reserve to Waiwhetu Stream will take approximately 7 – 8 months, occurring at the same time as the reservoir construction, and will involve clearing vegetation in a 14m wide strip and excavating a 2m deep trench to install the pipes. The majority of the construction will be accessed from the reservoir site, down the hill to the stream. Some materials and machinery will be located in the road reserve at the end of Balgownie Grove, between numbers 5 and 6. Parking and the footpath may be closed at the end of Balgownie Grove during construction. Some material deliveries and machinery such as drilling rigs and cranes

will access the site via Waddington Drive and Balgownie Grove.

Operation of the pipeline and stream outfall

The two pipelines down the hill will be buried with low ground-cover vegetation planted over the trench. There is an outfall to the Waiwhetu Stream which will have erosion and scour protection to prevent erosion of the stream bank. The drinking water delivery pipe will cross the stream above-ground and connect to the bulk supply network underground at the end of Balgownie Grove.



6. The following questions will ask about the impact you believe the pipeline construction may have.

During construction of the pipeline component of the project, what potential impacts do you think this would have on you?

	Major negative affect	Minor negative effect	No effect	Minor positive effect	Major positive effect	Not sure
Dust levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vibration levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Noise levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Property prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes in character of the area/visual changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreation use and enjoyment of the reserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

7. After construction of the pipeline component of the project, what potential impacts do you think this would have on you?

	Major negative affect	Minor negative effect	No effect	Minor positive effect	Major positive effect	Not sure
Vibration levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Noise levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Property prices	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Changes in character of the area/visual changes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recreation use and enjoyment of the reserve	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

Eastern Hills Reservoir

Work truck access and parking restrictions

The Eastern Hills Reservoir Project would require temporary traffic management with restrictions to parking to allow for safe movements of work truck through the streets.



8. Do you currently use any of the above routes that will be affected by routes used for construction traffic?

- Yes - I use these routes regularly
- Yes - I use these routes occasionally
- No - I do not use these routes
- Unsure



9. Will you be affected by parking restrictions?

- Yes
- No
- Unsure

10. During construction, what potential impacts do you think this project may have on you?

	Major negative affect	Minor negative effect	No effect	Minor positive effect	Major positive effect	Not sure
Traffic movements and congestion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of on-street parking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Road safety for people who walk, cycle or drive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Access to recreational areas for recreational use and enjoyment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

Eastern Hills Reservoir Recreation

The firebreak tracks near the existing reservoir site and proposed Eastern Hills reservoir site are currently used for a variety of activities including walking, running, and mountain biking.

We'd like to understand how your recreational use and enjoyment of the tracks may be affected during construction and once construction has been completed and the track is reinstated.



* 11. How often do you currently use the reserve area accessed from Summit Road?
(please select the closest option).

- Most days
- At least once a week
- Once a month
- A few times a year
- Less than once a year
- I don't access the reserve area using the Summit road track

Eastern Hills Reservoir

The firebreak track from the top of Summit Road is popular with walkers and cyclists. It will be necessary to temporarily close this portion of the track so the proposed works can be completed safely and efficiently. This would be for a 2-3 years construction period. However, there are alternative access points to the ridge tracks via Judd Crescent, Seddon Street and Te Whiti Park and these will be highlighted on public signage in the area during the works.

Public access will be reinstated upon completion of the work.



12. What activities do you undertake at the reserve area? (select all that apply)

- Walking
- Running
- Cycling/mountain biking
- Other (please specify)

13. What are the purpose of the activities you undertake?

- Recreational
- Commuting
- Other (please specify)

- None of the above

14. When the construction is underway and detours are in place to access the wider walking network, how would you expect your use of the reserve area to change?

- I will no longer use the reserve area
- My use of the area will decrease
- My use of the area will stay about the same as it is now
- My use of the area will increase
- Unsure

15. When the construction has been completed and the Summit Road access to the reserve reinstated, compared to your current usage - how would you expect your use of the reserve area to change?

- I will no longer use the reserve area even when access is reinstalled
- My use of the area will decrease
- My use of the area will stay about the same as it is now
- My use of the area will increase
- Unsure

* 16. Would you like to answer a few more questions about your use of the Summit Road fire break track?

- Yes
- No

17. How important is the Summit Road Firebreak Track to your recreational or fitness routine?

- Not at all important
- Not so important
- Somewhat important
- Very important
- Extremely important
- Unsure

18. Are there any specific features or aspects of the Summit Road Firebreak Track that you particularly enjoy or find valuable?

19. How long do you typically spend on the Summit Road Firebreak Track during each visit?

- Less than 30 mins
- 30-44 mins
- 45-59mins
- 1 hour +
- Unsure

20. Do you typically use the Summit Road Firebreak Track with others?

- Yes - all or most times
- No - but I do use the track with others occasionally
- No - I use the track alone
- Unsure

21. How important is the social aspect of using the Summit Road Firebreak Track to you?

- Not at all important
- Not so important
- Somewhat important
- Very important
- Extremely important
- Unsure

22. Are there any specific events or organized activities that take place on the Summit Road Firebreak Track that you are aware of? If so, what are they?

23. If you couldn't access the Summit Road Firebreak Track, what track would you use instead?

- I would access via one of the alternative routes to use the reserve area
- I would use a different area or track for recreation

- I would not access the reserve area or an alternative area for recreation

24. Is your use of the Summit Road Firebreak Track part of a wider connected recreation experience? If so, please describe this.

Eastern Hills Reservoir

To make sure that we can make improvements to the site where possible, we need to understand what behaviours are currently occurring at the reservoir area and near the Summit Road firebreak trails and how these may change as a result of the project.

25. Do you think the presence of any of these behaviours will change during the construction phase?

Thinking about the reserve area near the reservoir site, please select your level of agreement with the following questions.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	Unsure
There are undesirable activities or anti-social behaviors taking place within the reserve area currently.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
During the construction, there is likely to be an increase in undesirable activities within the reserve area.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Once complete, there is likely to be an increase in undesirable activities within the reserve area.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Eastern Hills Reservoir

26. Please select your level of agreement with the following:

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I support the development of the proposed Eastern Hills Reservoir	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The project will have positive affects for the local community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The construction of the reservoir will not directly affect me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
After construction has been completed, the new reservoir will not directly affect me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Finally, is there anything else that you would like to add related to this project?

28. What is your current age? (optional)

- Under 18
- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+
- Prefer not to say

29. What is your gender? (optional)

- Female
- Male
- Gender diverse
- Prefer not to say

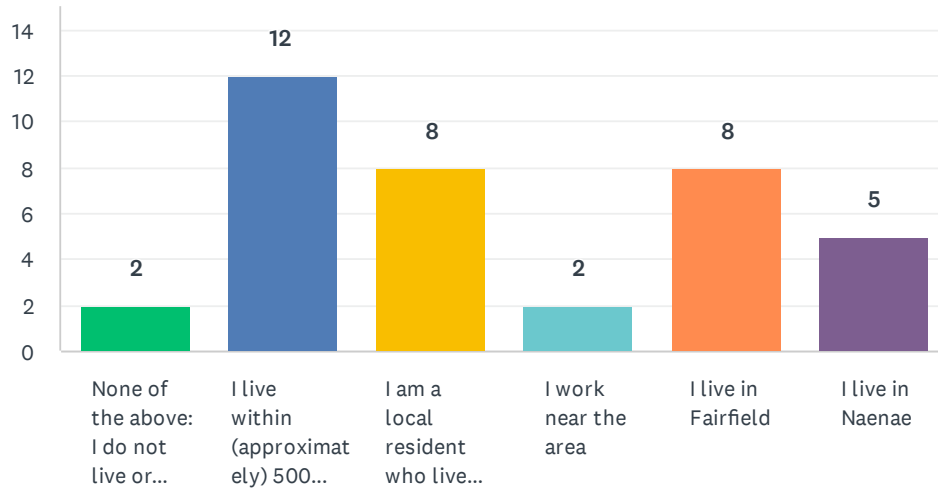
Eastern Hills Reservoir

Thank you

If you'd like to know more about the project you can [click here](#) to read the frequently asked questions or contact info@wellingtonwater.co.nz

Q1 Do any of the following apply to you? (select all that apply)

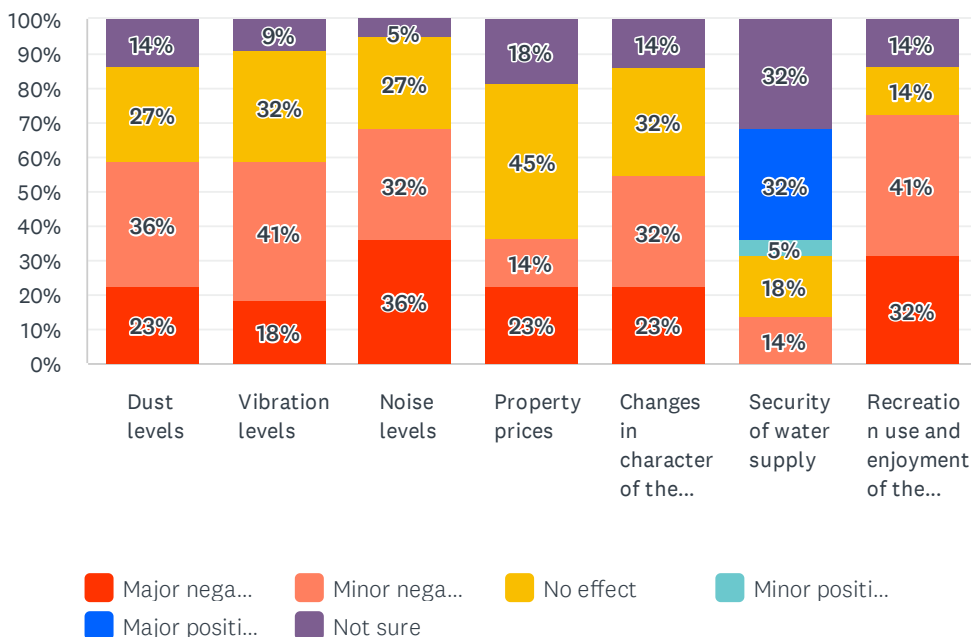
Answered: 25 Skipped: 0



ANSWER CHOICES	RESPONSES	
None of the above: I do not live or work near the area	8%	2
I live within (approximately) 500m of the proposed reservoir site	48%	12
I am a local resident who lives near the area, outside of the 500m	32%	8
I work near the area	8%	2
I live in Fairfield	32%	8
I live in Naenae	20%	5
Total Respondents: 25		

Q2 During construction of the reservoir component of the project, what potential impacts do you think this may have on you?

Answered: 22 Skipped: 3



	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Dust levels	23% 5	36% 8	27% 6	0% 0	0% 0	14% 3	22	2.05
Vibration levels	18% 4	41% 9	32% 7	0% 0	0% 0	9% 2	22	2.15
Noise levels	36% 8	32% 7	27% 6	0% 0	0% 0	5% 1	22	1.90
Property prices	23% 5	14% 3	45% 10	0% 0	0% 0	18% 4	22	2.28
Changes in character of the area/visual changes	23% 5	32% 7	32% 7	0% 0	0% 0	14% 3	22	2.11
Security of water supply	0% 0	14% 3	18% 4	5% 1	32% 7	32% 7	22	3.80
Recreation use and enjoyment of the reserve	32% 7	41% 9	14% 3	0% 0	0% 0	14% 3	22	1.79

#	OTHER (PLEASE SPECIFY)	DATE
1	I'm with the Friends of Waiwhetu Stream and the patch of stream that I clean each month ends near Balgownie Gr. I don't know what effect construction will have on this part of the stream, or whether I'll still have access to it. Also, I enjoy the Waddington Winder trail sometimes, and don't know whether this will now be off-limits.	7/5/2023 12:05 AM
2	Traffic and traffic noise and safety	7/4/2023 9:45 PM

Q3 During the construction of the reservoir component of the project, would you change the way you go about your day-to-day activities?

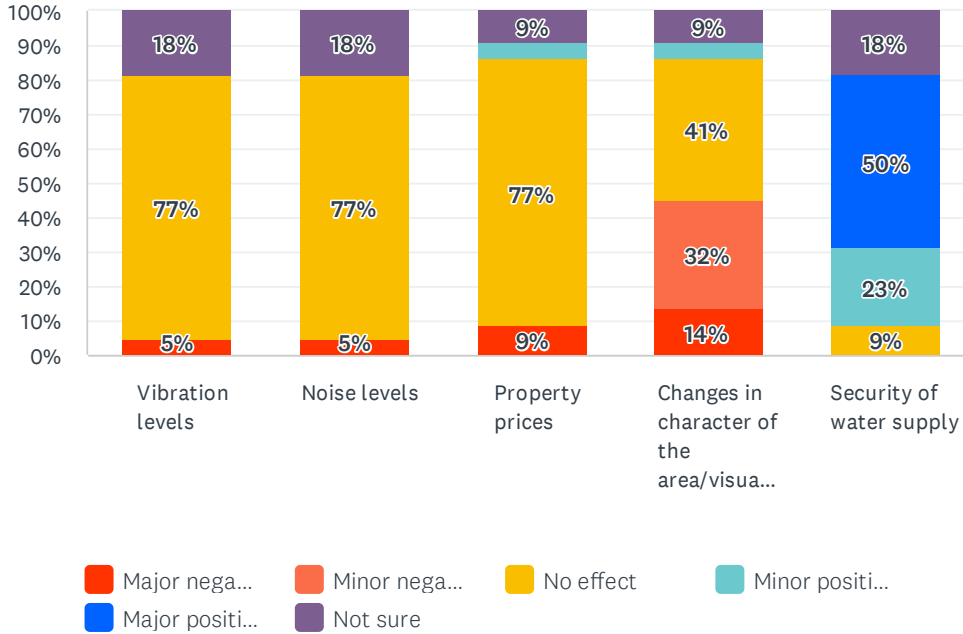
Answered: 14 Skipped: 11

ANSWER CHOICES	RESPONSES	
No	100.00%	14
TOTAL		14

#	YES (PLEASE EXPLAIN)	DATE
1	Noise and vibration may affect sleep	7/16/2023 10:39 PM
2	If there is to be pipe construction equipment, trucks and excavators etc. operating at any time in Balgownie Grove, it will severely impact the lives of residents. There is a number of businesses operating in this Grove which depend on pickups and deliveries daily, including large trucks(Mainfreight etc.) Also the weekly garbage collection trucks who have to attend to quite a large number of residents bins. There is growing anger and frustration arising in this street as the ramifications of this proposed development is really starting to bite.	7/15/2023 9:50 AM
3	Yes. How will I be able to get out of my driveway & Balgownie Grove???	7/13/2023 4:41 PM
4	I regularly walk the track past the existing reservoir and would like to continue doing this	7/7/2023 1:58 PM
5	Normally drive down part of Tilbury Street passing the entrance to Summit Road to access the Waiwhetu road/Naenae road. Likely to choose a different route.	7/5/2023 2:58 PM
6	I often catch a bus, the 130, that passes through the radius. I assume truck movements will hinder the timeliness of public transport. So I may have to start trying to catch earlier buses and allow more time to reach my destinations.	7/5/2023 12:05 AM
7	Depends on traffic	7/4/2023 9:45 PM
8	We will have to do different walks with the dogs to our usual ones.	7/4/2023 9:30 PM
9	I will not be able to carry on walking the Summit firebreak. What's this about the overflow into the Waiwhetu stream. This would have a major impact on the health of the stream. Fish, invertebrate & vegetation.	7/4/2023 9:07 PM

Q4 During operation (after construction has been completed), what potential impacts do you think the reservoir component may have on you?

Answered: 22 Skipped: 3



	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Vibration levels	5% 1	0% 0	77% 17	0% 0	0% 0	18% 4	22	2.89
Noise levels	5% 1	0% 0	77% 17	0% 0	0% 0	18% 4	22	2.89
Property prices	9% 2	0% 0	77% 17	5% 1	0% 0	9% 2	22	2.85
Changes in character of the area/visual changes	14% 3	32% 7	41% 9	5% 1	0% 0	9% 2	22	2.40
Security of water supply	0% 0	0% 0	9% 2	23% 5	50% 11	18% 4	22	4.50

Q5 During the operational phase of the reservoir, would you change the way you go about your day-to-day activities?

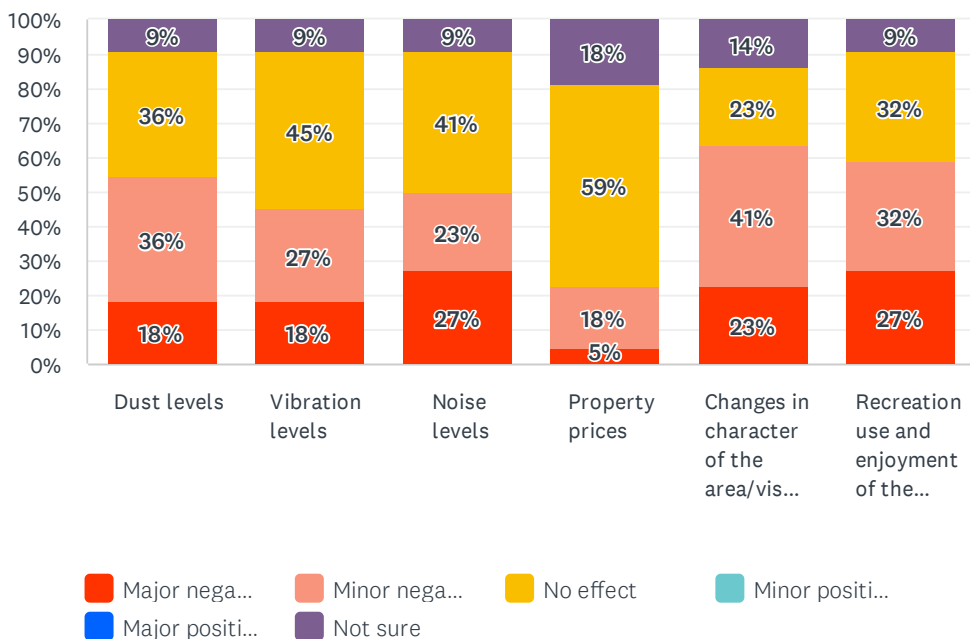
Answered: 18 Skipped: 7

ANSWER CHOICES	RESPONSES
No	100.00% 18
TOTAL	18

#	YES (PLEASE EXPLAIN)	DATE
1	Yes if noise and traffic an issue	7/16/2023 10:39 PM
2	We, as residents, would need to further enlightened as to how this new development could potentially affect us in a negative sense.	7/15/2023 9:50 AM
3	Concern at the number of trucks going up and down Summit Rd. Unlikely to spend time in front garden as I do now	7/12/2023 6:59 PM
4	Beauty of the area up Summit firebreak altered. State of Waiwhetu stream if u have over flows. Not happy about this.	7/4/2023 9:07 PM

Q6 The following questions will ask about the impact you believe the pipeline construction may have. During construction of the pipeline component of the project, what potential impacts do you think this would have on you?

Answered: 22 Skipped: 3



	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Dust levels	18% 4	36% 8	36% 8	0% 0	0% 0	9% 2	22	2.20
Vibration levels	18% 4	27% 6	45% 10	0% 0	0% 0	9% 2	22	2.30
Noise levels	27% 6	23% 5	41% 9	0% 0	0% 0	9% 2	22	2.15
Property prices	5% 1	18% 4	59% 13	0% 0	0% 0	18% 4	22	2.67
Changes in character of the area/visual changes	23% 5	41% 9	23% 5	0% 0	0% 0	14% 3	22	2.00
Recreation use and enjoyment of the reserve	27% 6	32% 7	32% 7	0% 0	0% 0	9% 2	22	2.05

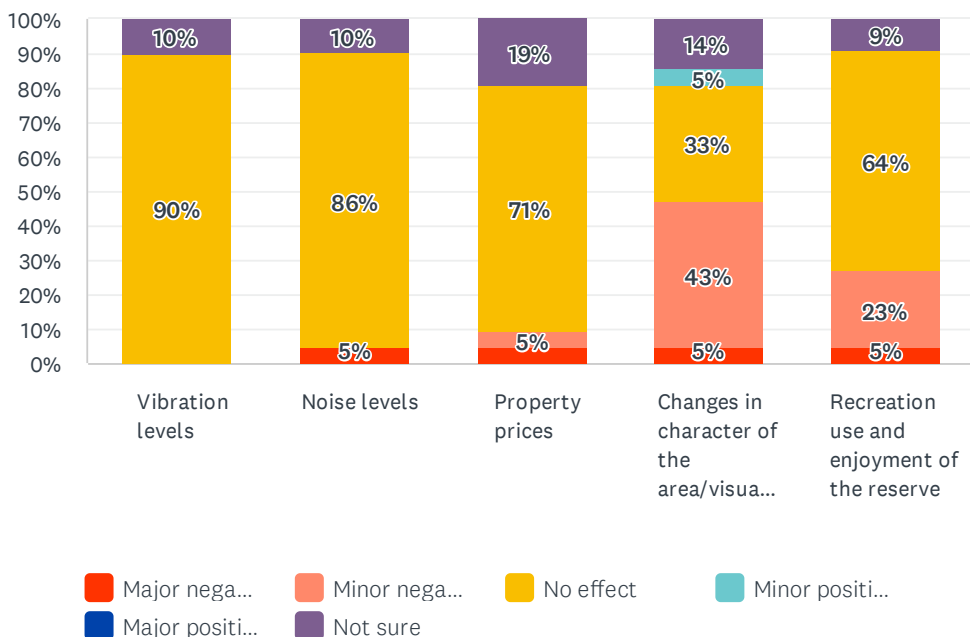
#	OTHER (PLEASE SPECIFY)	DATE
1	This will make life hell during construction and exacerbate flooding in the stream due to further blockage.	7/15/2023 9:55 AM
2	I walk my dogs 4 or 5 time a week in the area where the pipe will come across Waiwhetu steam & 259 meters each side of the small area at the end of Balgownie Gr. Basically I walk them regularly along the Waiwhetu stream.	7/13/2023 4:52 PM
3	Don't know if I'm going to get a chance to mention this elsewhere so I'll say it here: If you have to clear a 14m band of vegetation, why not do us a huge favour and remove that	7/5/2023 12:19 AM

Eastern Hills Reservoir

thicket of wattle trees that your current pipeline design is skirting around? They are not precious natives but an introduced invasive pest tree. The circle of grey-blue trees (visible in Google Maps as grey-blue), which are immediately to the left of the "Delivery Pipe" arrow on your map here, are pest wattles. You could clear them and run the pipeline through there, as long as you route back towards Balgownie Gr after. It's true that mechanical disturbance can cause wattle seeds to burst into growth but if you are taking away 2m depth of soil as well then you probably won't add more wattle trouble than you deduct.

Q7 After construction of the pipeline component of the project, what potential impacts do you think this would have on you?

Answered: 22 Skipped: 3

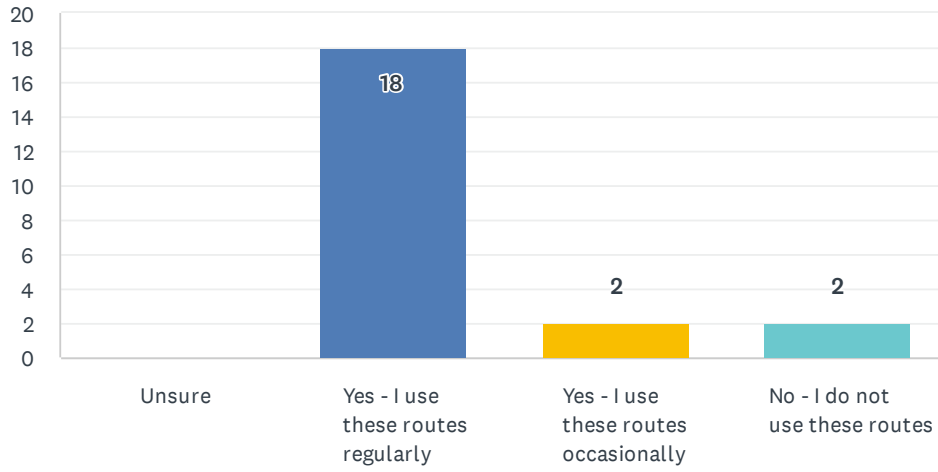


	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Vibration levels	0% 0	0% 0	90% 18	0% 0	0% 0	10% 2	20	3.00
Noise levels	5% 1	0% 0	86% 18	0% 0	0% 0	10% 2	21	2.89
Property prices	5% 1	5% 1	71% 15	0% 0	0% 0	19% 4	21	2.82
Changes in character of the area/visual changes	5% 1	43% 9	33% 7	5% 1	0% 0	14% 3	21	2.44
Recreation use and enjoyment of the reserve	5% 1	23% 5	64% 14	0% 0	0% 0	9% 2	22	2.65

#	OTHER (PLEASE SPECIFY)	DATE
1	A lot depends on the standard the council re-seals the Grove. I have little faith that the council will restore the seal to it's current standard. Eg; just resealing just the area that has been dug up, rather than the whole Grove.	7/13/2023 4:52 PM
2	Same as above, I'd rather you clear as much weedy vegetation as possible rather than clear the native scrub and bush.	7/5/2023 12:19 AM

Q8 Do you currently use any of the above routes that will be affected by routes used for construction traffic?

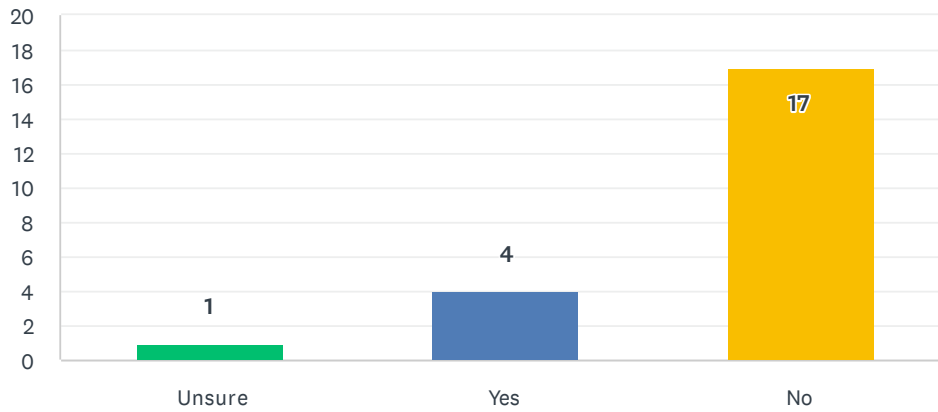
Answered: 22 Skipped: 3



ANSWER CHOICES	RESPONSES	
Unsure	0.00%	0
Yes - I use these routes regularly	81.82%	18
Yes - I use these routes occasionally	9.09%	2
No - I do not use these routes	9.09%	2
TOTAL		22

Q9 Will you be affected by parking restrictions?

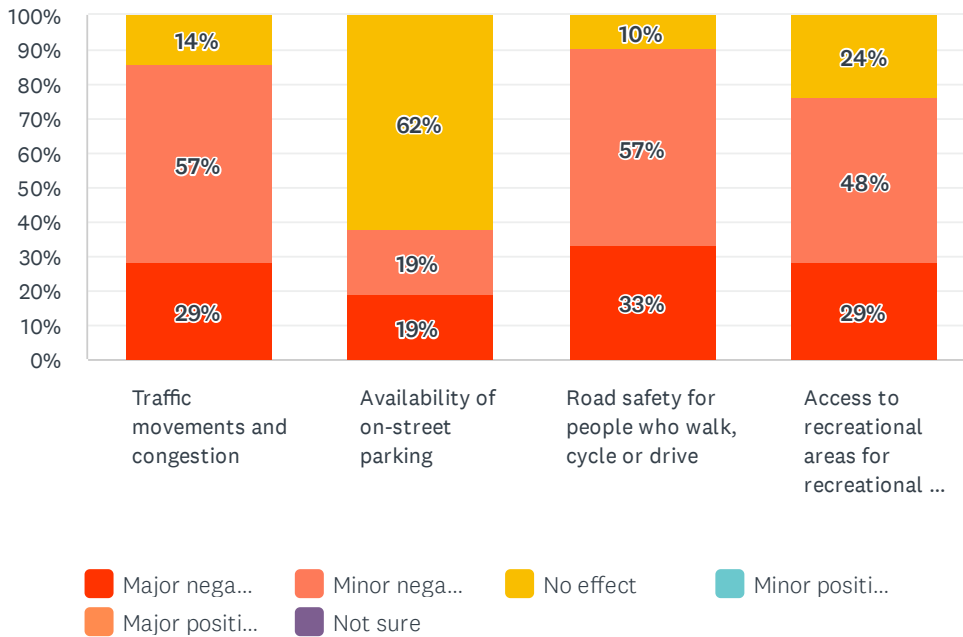
Answered: 22 Skipped: 3



ANSWER CHOICES	RESPONSES	
Unsure	5%	1
Yes	18%	4
No	77%	17
TOTAL		22

Q10 During construction, what potential impacts do you think this project may have on you?

Answered: 21 Skipped: 4

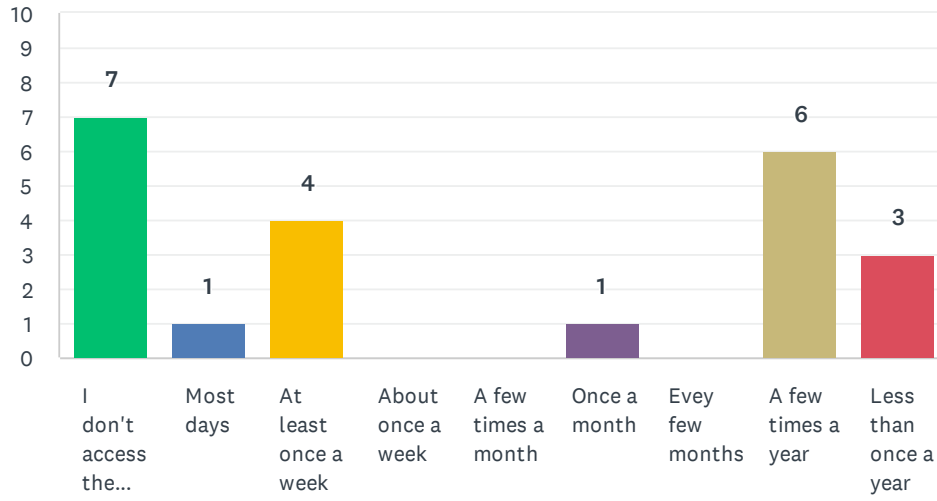


	MAJOR NEGATIVE AFFECT	MINOR NEGATIVE EFFECT	NO EFFECT	MINOR POSITIVE EFFECT	MAJOR POSITIVE EFFECT	NOT SURE	TOTAL	WEIGHTED AVERAGE
Traffic movements and congestion	29% 6	57% 12	14% 3	0% 0	0% 0	0% 0	21	1.86
Availability of on-street parking	19% 4	19% 4	62% 13	0% 0	0% 0	0% 0	21	2.43
Road safety for people who walk, cycle or drive	33% 7	57% 12	10% 2	0% 0	0% 0	0% 0	21	1.76
Access to recreational areas for recreational use and enjoyment	29% 6	48% 10	24% 5	0% 0	0% 0	0% 0	21	1.95

#	OTHER (PLEASE SPECIFY)	DATE
1	Balgownie Grove/Waddington Drive area.	7/13/2023 4:56 PM
2	It's difficult to express a view on these questions without knowing exactly what is going to happen and how often. You should probably telling us about dust, noise, vibration, etc., for all of the previous questions.	7/4/2023 9:22 AM

Q11 How often do you currently use the reserve area accessed from Summit Road? (please select the closest option).

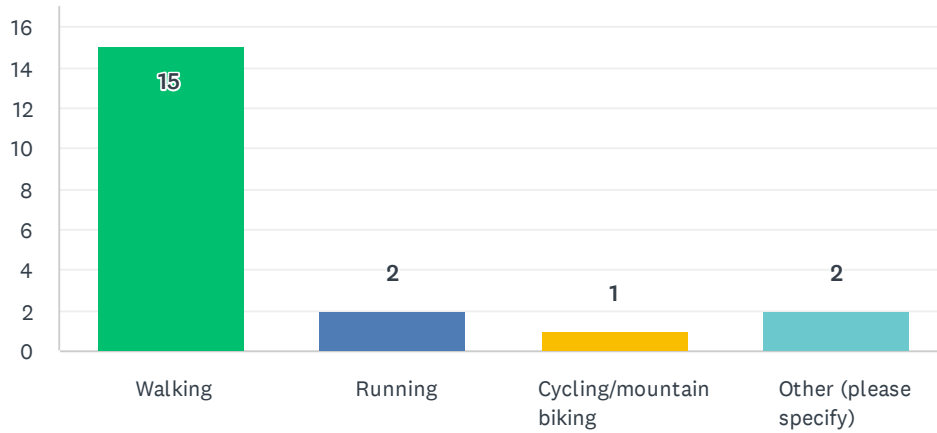
Answered: 22 Skipped: 3



ANSWER CHOICES	RESPONSES	
I don't access the reserve area using the Summit road track	31.82%	7
Most days	4.55%	1
At least once a week	18.18%	4
About once a week	0.00%	0
A few times a month	0.00%	0
Once a month	4.55%	1
Evey few months	0.00%	0
A few times a year	27.27%	6
Less than once a year	13.64%	3
TOTAL		22

Q12 What activities do you undertake at the reserve area? (select all that apply)

Answered: 15 Skipped: 10

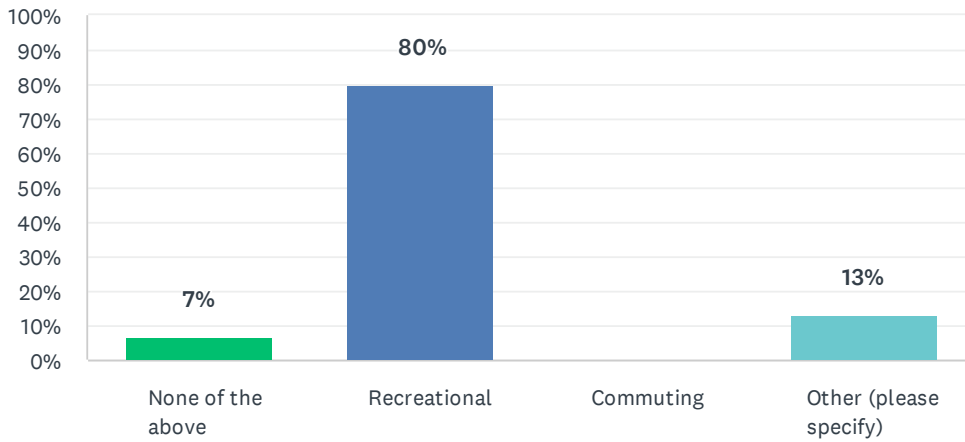


ANSWER CHOICES	RESPONSES
Walking	100.00% 15
Running	13.33% 2
Cycling/mountain biking	6.67% 1
Other (please specify)	13.33% 2
Total Respondents: 15	

#	OTHER (PLEASE SPECIFY)	DATE
1	Walking my dogs usually only once or twice a month, up the fire break at the top of Sumit road. Probably 15 - 18 a year.	7/13/2023 5:02 PM
2	I go mushrooming in the hills from the Waddington Winder trail, which rises from the next cul-de-sac over from Balgownie Grove. There are four kinds of edible bush mushroom that fruit in those hills.	7/5/2023 12:27 AM

Q13 What are the purpose of the activities you undertake?

Answered: 15 Skipped: 10

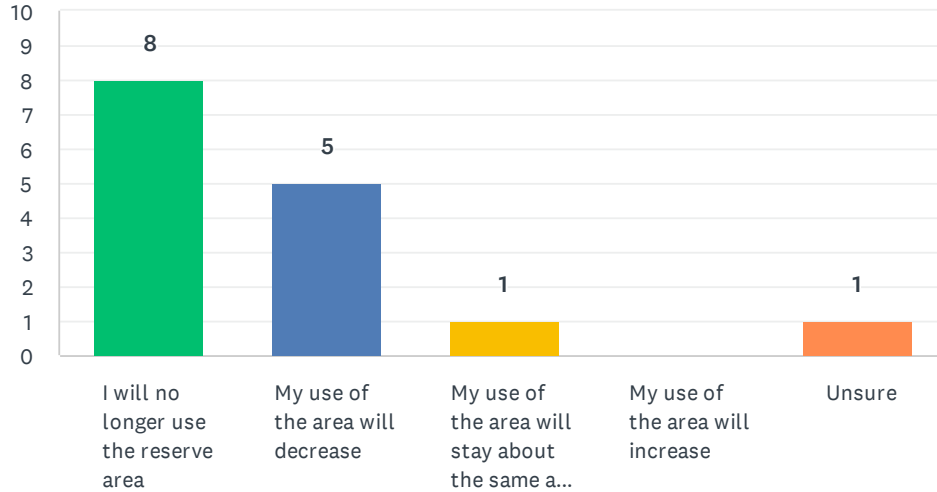


ANSWER CHOICES	RESPONSES	
None of the above	7%	1
Recreational	80%	12
Commuting	0%	0
Other (please specify)	13%	2
TOTAL		15

#	OTHER (PLEASE SPECIFY)	DATE
1	Dog walking.	7/13/2023 5:02 PM
2	Excercise and food gathering.	7/5/2023 12:27 AM

Q14 When the construction is underway and detours are in place to access the wider walking network, how would you expect your use of the reserve area to change?

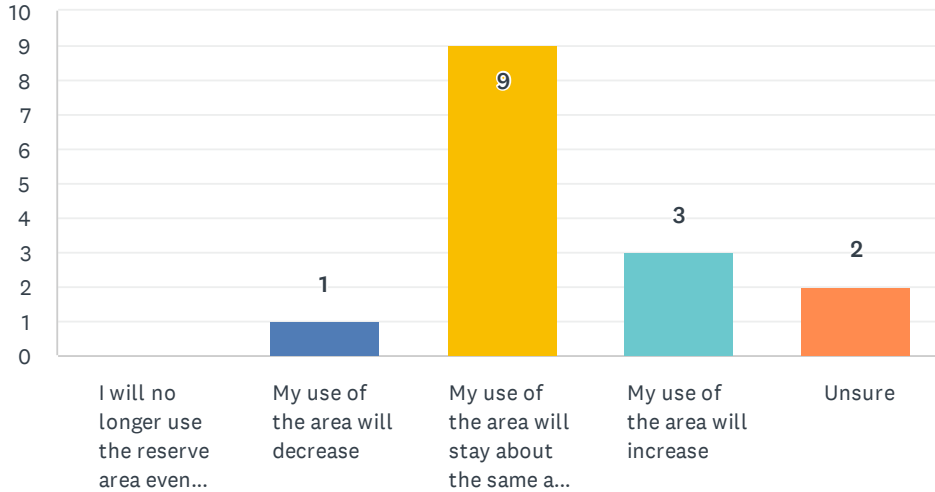
Answered: 15 Skipped: 10



ANSWER CHOICES	RESPONSES	
I will no longer use the reserve area	53.33%	8
My use of the area will decrease	33.33%	5
My use of the area will stay about the same as it is now	6.67%	1
My use of the area will increase	0.00%	0
Unsure	6.67%	1
TOTAL		15

Q15 When the construction has been completed and the Summit Road access to the reserve reinstated, compared to your current usage - how would you expect your use of the reserve area to change?

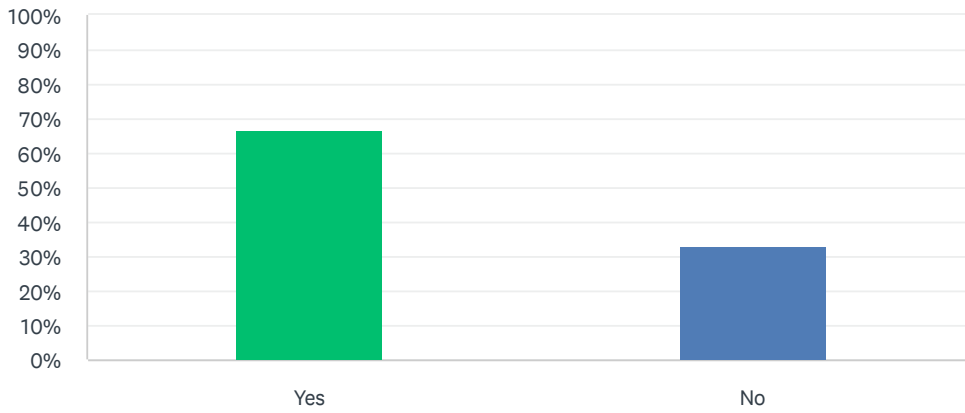
Answered: 15 Skipped: 10



ANSWER CHOICES	RESPONSES	
I will no longer use the reserve area even when access is reinstated	0.00%	0
My use of the area will decrease	6.67%	1
My use of the area will stay about the same as it is now	60.00%	9
My use of the area will increase	20.00%	3
Unsure	13.33%	2
TOTAL		15

Q16 Would you like to answer a few more questions about your use of the Summit Road fire break track?

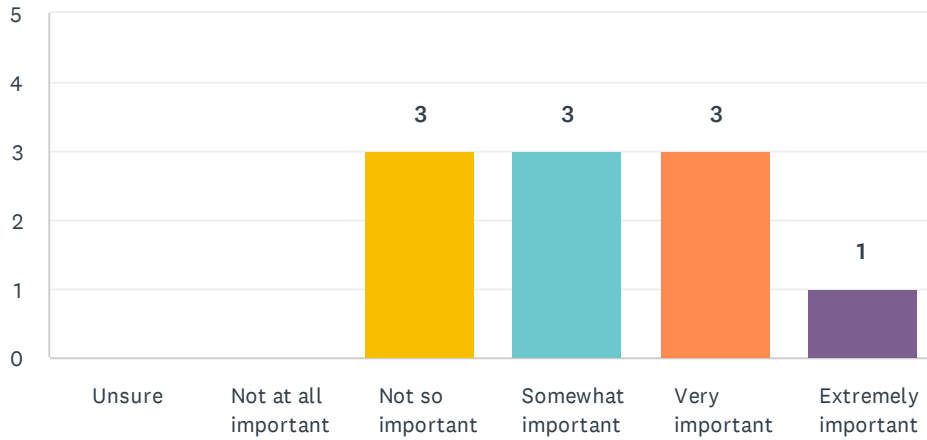
Answered: 15 Skipped: 10



ANSWER CHOICES	RESPONSES
Yes	66.67% 10
No	33.33% 5
TOTAL	15

Q17 How important is the Summit Road Firebreak Track to your recreational or fitness routine?

Answered: 10 Skipped: 15



ANSWER CHOICES	RESPONSES
Unsure	0% 0
Not at all important	0% 0
Not so important	30% 3
Somewhat important	30% 3
Very important	30% 3
Extremely important	10% 1
TOTAL	10

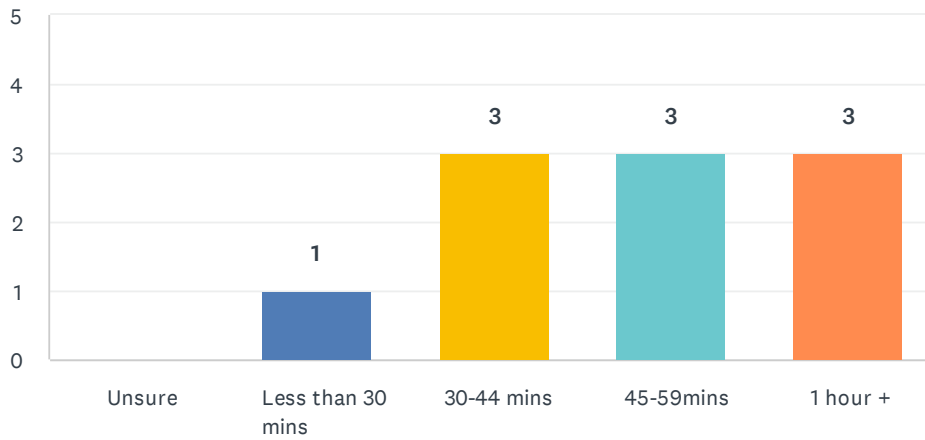
Q18 Are there any specific features of aspects of the Summit Road Firebreak Track that you particularly enjoy or find valuable?

Answered: 8 Skipped: 17

#	RESPONSES	DATE
1	The view it provides.	7/13/2023 5:08 PM
2	Location to my house	7/11/2023 6:58 PM
3	The different options eg. Steep or less steep in areas	7/7/2023 2:02 PM
4	The views from the trigg marker	7/7/2023 9:30 AM
5	The view.	7/5/2023 10:22 PM
6	Dog friendly, walkable 15 min from my home so I can access the reserve without driving, fun for running up and down.	7/4/2023 9:40 PM
7	The options to get to the picnic table - depending if you are feeling fit or not so.	7/4/2023 9:24 PM
8	I can do a circuit from home up the Te Whiti Riser Track and down the Summit Rd Track (or the reverse) back home without needing to use a car.	7/2/2023 8:47 PM

Q19 How long do you typically spend on the Summit Road Firebreak Track during each visit?

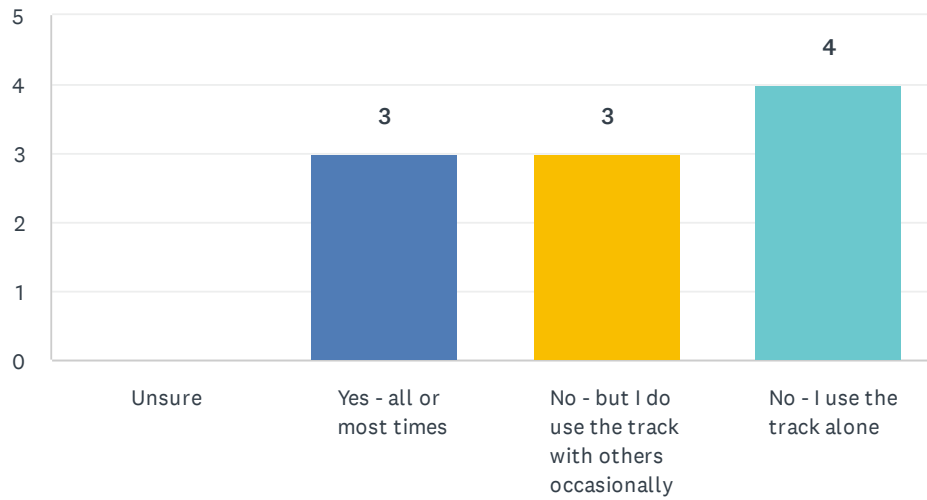
Answered: 10 Skipped: 15



ANSWER CHOICES	RESPONSES
Unsure	0% 0
Less than 30 mins	10% 1
30-44 mins	30% 3
45-59mins	30% 3
1 hour +	30% 3
TOTAL	10

Q20 Do you typically use the Summit Road Firebreak Track with others?

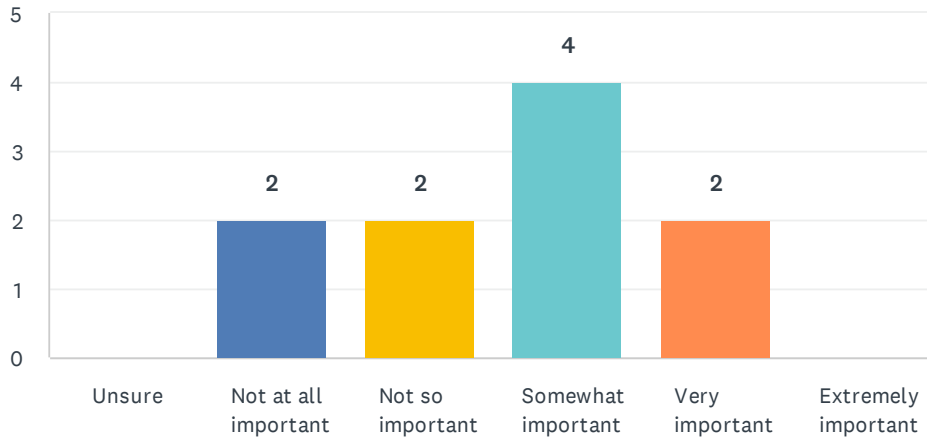
Answered: 10 Skipped: 15



ANSWER CHOICES	RESPONSES	
Unsure	0%	0
Yes - all or most times	30%	3
No - but I do use the track with others occasionally	30%	3
No - I use the track alone	40%	4
TOTAL		10

Q21 How important is the social aspect of using the Summit Road Firebreak Track to you?

Answered: 10 Skipped: 15



ANSWER CHOICES	RESPONSES	
Unsure	0%	0
Not at all important	20%	2
Not so important	20%	2
Somewhat important	40%	4
Very important	20%	2
Extremely important	0%	0
TOTAL		10

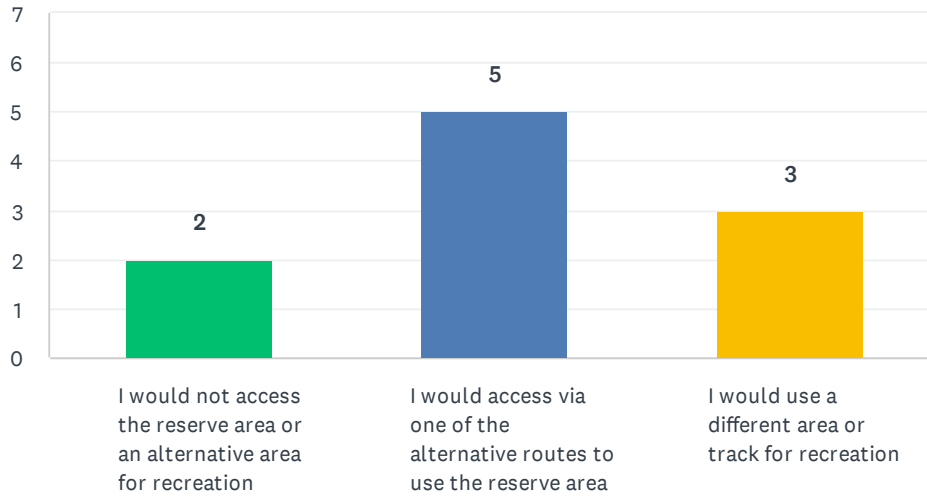
Q22 Are there any specific events or organized activities that take place on the Summit Road Firebreak Track that you are aware of? If so, what are they?

Answered: 3 Skipped: 22

#	RESPONSES	DATE
1	N/A	7/13/2023 5:08 PM
2	Don't know	7/4/2023 9:24 PM
3	Our walking group occasionally uses this track	7/4/2023 9:25 AM

Q23 If you couldn't access the Summit Road Firebreak Track, what track would you use instead?

Answered: 10 Skipped: 15



ANSWER CHOICES	RESPONSES
I would not access the reserve area or an alternative area for recreation	20.00% 2
I would access via one of the alternative routes to use the reserve area	50.00% 5
I would use a different area or track for recreation	30.00% 3
TOTAL	10

#	I WOULD USE A DIFFERENT AREA OR TRACK FOR RECREATION	DATE
1	Riverbank	7/11/2023 6:58 PM
2	I need to drive to get to any other access to the reserve do is probably visit other places instead more often.	7/4/2023 9:40 PM
3	I already use Te Whiti firebreak but it would be boring to only having this option for 2-3 years.	7/4/2023 9:24 PM

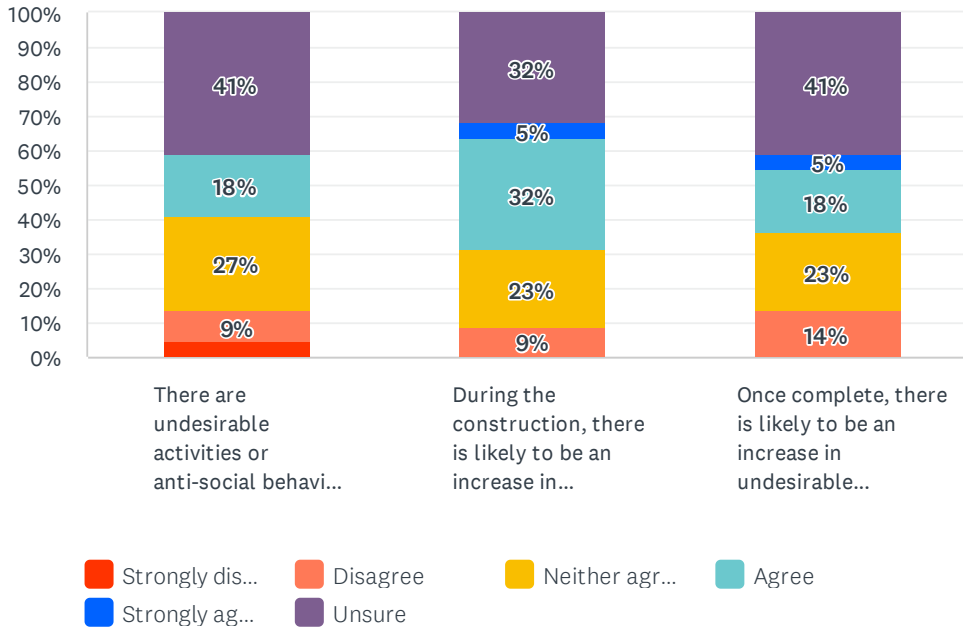
Q24 Is your use of the Summit Road Firebreak Track part of a wider connected recreation experience? If so, please describe this.

Answered: 5 Skipped: 20

#	RESPONSES	DATE
1	My dogs luv the area. They can run around off their leads, without me worrying that they might get run over.	7/13/2023 5:08 PM
2	A loop to the Te Whiti riser. It increases my use of both. I have young kids and so my use of that area is limited but once construction is complete, I would like to take them up there.	7/5/2023 10:22 PM
3	Access to summit road and walking to wainui, gracefield, Eastbourne. Also the mountain bike park in wainui	7/4/2023 9:40 PM
4	Yes then along ECNZ track and along any others that join and come down near Wainui or elsewhere.	7/4/2023 9:24 PM
5	Yes, it is usually part of a round walk in connection with the Te Whiti Riser Track.	7/2/2023 8:47 PM

Q25 Do you think the presence of any of these behaviours will change during the construction phase? Thinking about the reserve area near the reservoir site, please select your level of agreement with the following questions.

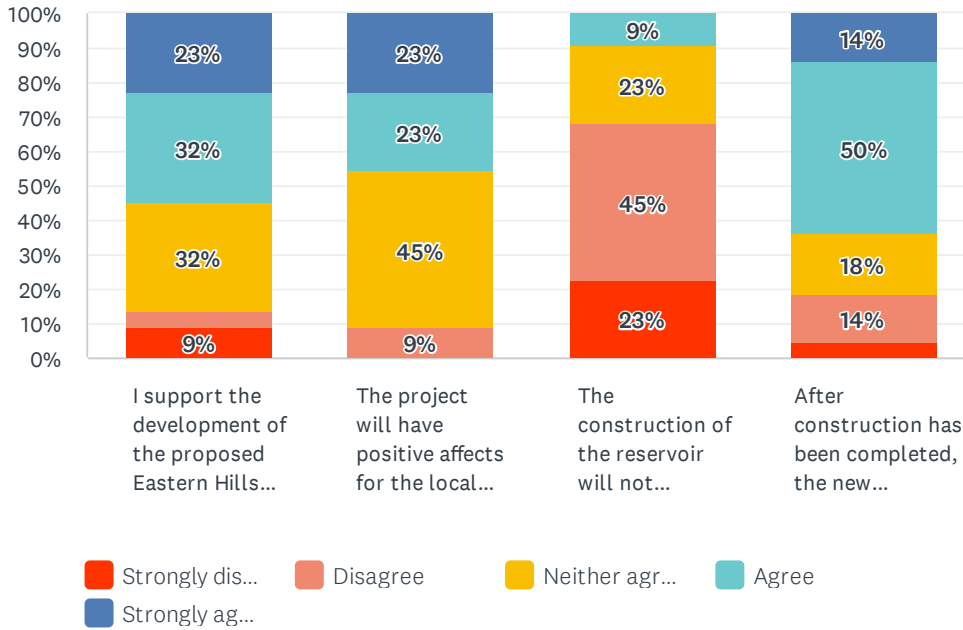
Answered: 22 Skipped: 3



	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	UNSURE	TOTAL	WEIGHTED AVERAGE
There are undesirable activities or anti-social behaviors taking place within the reserve area currently.	5% 1	9% 2	27% 6	18% 4	0% 0	41% 9	22	3.00
During the construction, there is likely to be an increase in undesirable activities within the reserve area.	0% 0	9% 2	23% 5	32% 7	5% 1	32% 7	22	3.47
Once complete, there is likely to be an increase in undesirable activities within the reserve area.	0% 0	14% 3	23% 5	18% 4	5% 1	41% 9	22	3.23

Q26 Please select your level of agreement with the following:

Answered: 22 Skipped: 3



	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE	TOTAL	WEIGHTED AVERAGE
I support the development of the proposed Eastern Hills Reservoir	9% 2	5% 1	32% 7	32% 7	23% 5	22	3.55
The project will have positive affects for the local community	0% 0	9% 2	45% 10	23% 5	23% 5	22	3.59
The construction of the reservoir will not directly affect me	23% 5	45% 10	23% 5	9% 2	0% 0	22	2.18
After construction has been completed, the new reservoir will not directly affect me	5% 1	14% 3	18% 4	50% 11	14% 3	22	3.55

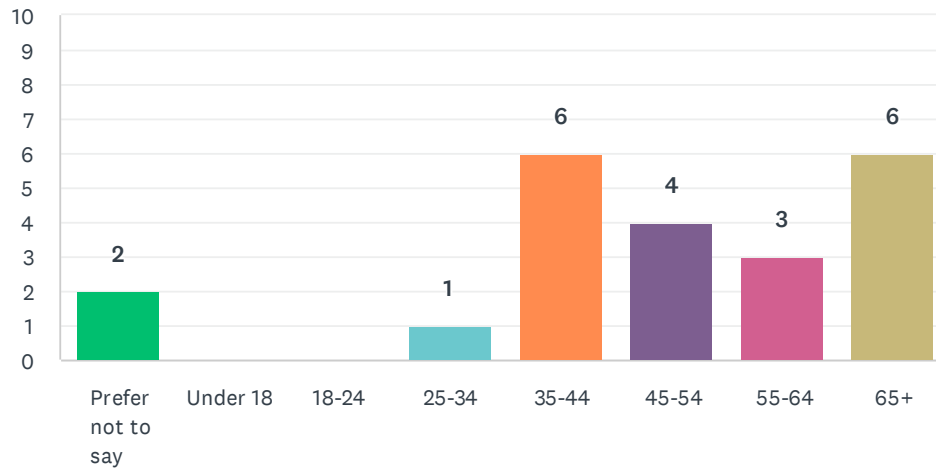
Q27 Finally, is there anything else that you would like to add related to this project?

Answered: 8 Skipped: 17

#	RESPONSES	DATE
1	I would strongly suggest that you go back to the drawing board regarding the route of the outlet pipe. If the pipe could instead, track south beside the stream and then cross over and go the through the council reserve towards Waddington Drive, opposite McEnroe Grove this would keep everyone happy, through less disruption, and probably save you a lot of money. Neighbours are FULLY SUPPORTING this route .	7/15/2023 10:20 AM
2	35 year Balgownie Gr resident. Very concerned about the impact and the disruption it is going to have on this tightly knitted little community. Luv progress, but having often seen entities promise the earth, but deliver sweet bugger all. Especially gov't's, councils, regional councils & water boards., etc...	7/13/2023 5:22 PM
3	Want assurance that truck drivers will drive slowly up and down Summit Rd and any road damage will be promptly fixed	7/12/2023 7:05 PM
4	Why not use the pipes on summit rd to fill the new tank?	7/7/2023 9:32 AM
5	Yes, please just look at the area or look from Google Maps and consider my suggestion that you remove the wattles and put the pipeline partially through their patch instead of the proposed route. They are a real invasive weed tree and clearing them out is one way you could mitigate the negative impacts your project will have on native vegetation. Good PR for you! Also, wattle makes good firewood so another cool thing you could do for the community, after felling the trees, is spend half a day in there with chainsaws, then let the community in to collect free firewood from the site, before you excavate and cart away the rest. Free Firewood Day.	7/5/2023 12:36 AM
6	Would like more consideration to the overflow being directed into the Waiwhetu stream	7/4/2023 9:29 PM
7	Will be interested to see if construction uncovers any heritage artifacts.	7/3/2023 1:28 PM
8	No	7/2/2023 8:48 PM

Q28 What is your current age? (optional)

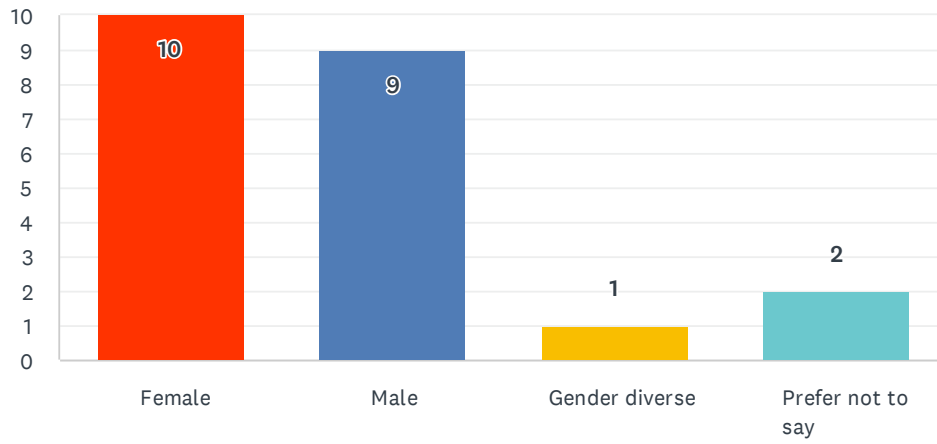
Answered: 22 Skipped: 3



ANSWER CHOICES	RESPONSES	
Prefer not to say	9%	2
Under 18	0%	0
18-24	0%	0
25-34	5%	1
35-44	27%	6
45-54	18%	4
55-64	14%	3
65+	27%	6
TOTAL		22

Q29 What is your gender? (optional)

Answered: 22 Skipped: 3



ANSWER CHOICES	RESPONSES	
Female	45%	10
Male	41%	9
Gender diverse	5%	1
Prefer not to say	9%	2
TOTAL		22

Intercept Survey – Eastern Hills Reservoir

- **Purpose:** designed to gather data from those using the reserve area. Approximately 5 questions specifically relating to recreational use of the reserve will be asked.
- **Implementation:** 2 visits to the reserve, preferably on a good weather day, at a time we would expect people to be using this space (weekday afternoon, weekend). Time in field (3-4 hours) to be shared across the locations.



Capture Observations:

Interviewer to document observations relating to their interaction with users of the reserve:

- **Date and time**
- **Location of survey:**
 - Location 1: Summit Rd firebreak track intersection
 - Location 2 = Waiwhetu open space (start of Waddington Winder Trail)
- **Individual or group?** If a group, nature of the group – couple, family with young kids, exercise group etc.
- **Activity** being undertaken – walking, running, cycling, other?



Intercept Survey Questions:

Introduction: Wellington Water are proposing a new reservoir adjacent (adjacent to the existing reservoir) and associated pipelines. We are conducting a quick survey to gather information on the use of this reserve by the local community. Please can you give 5 minutes of your time to answer a few questions.

1. How often do you use this track / area? _____

2. What is the main reason you use this area? (select all that apply)

Recreational enjoyment,

Commuting

Fitness

Other. _____

3. What do you enjoy most about using this track / area?

4. Is there anything that prevents you from enjoying this area / any improvements?

Prompts: Do you feel safe? Is signage suitable? Connectivity to the wider track network? Are the rest points adequate?

5. During construction of the new reservoir, the Summit Road firebreak track will be temporarily closed for 2-3 years. What impact will this have on you?

Prompts: What alternative routes, tracks, areas will you use?

6. When construction is complete, and the track is reinstated, will you return to using this track and the reserve area?

Closing: Direct people to complete the online survey if they would like to provide further feedback on their use of the reserve / Summit Rd track.

In field observations

Date _____

Time _____

Location of survey:

- Location 1: Summit Rd firebreak track intersection
- Location 2 = Waiwhetu open space (start of Waddington Winder Trail)
- Other _____

Notes for those observed using the area:

- **Individual or group?** If a group, nature of the group – couple, family with young kids, exercise group
- **Activity** being undertaken – walking, running, cycling, other?

Individual, couple or Group?	Activity undertaken (eg. Walking dog, running, cycling)	Other notes
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

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