WAIMAKARIRI DISTRICT COUNCIL

MEMO

FILE NO AND TRIM NO:	CON201960-02 / 200310032919
YOUR REF:	PD001618
DATE:	18/05/2020
MEMO TO:	Kees Swanink, Acting Drainage and Waterways Manager
FROM:	Claudia Button, Graduate Engineer
SUBJECT:	Ashley Street Stormwater Pipe Upgrade – Alignment and Pipe Size Concept Options Assessment

The purpose of this memo is to confirm the findings from previous reports about the Kingsbury Avenue, Golding Avenue and Good Street intersection and outline potential options to reduce the risk of flooding at this location during the 1 hour critical duration 20% AEP and 2% AEP storm events. The memo recommends potential options for the Ashley Street Stormwater Pipe Upgrade.

1. BACKGROUND

During Cyclone Gita in 2017, there was a large amount of flooding covering the road in a low spot on the Kingsbury Avenue, Golding Avenue and Good Street intersection, making this section of road unsafe to traverse. See Figure 1 for the flooding location and current stormwater pipe configuration and sizes. Cyclone Gita was a 1 in 50 year storm event.

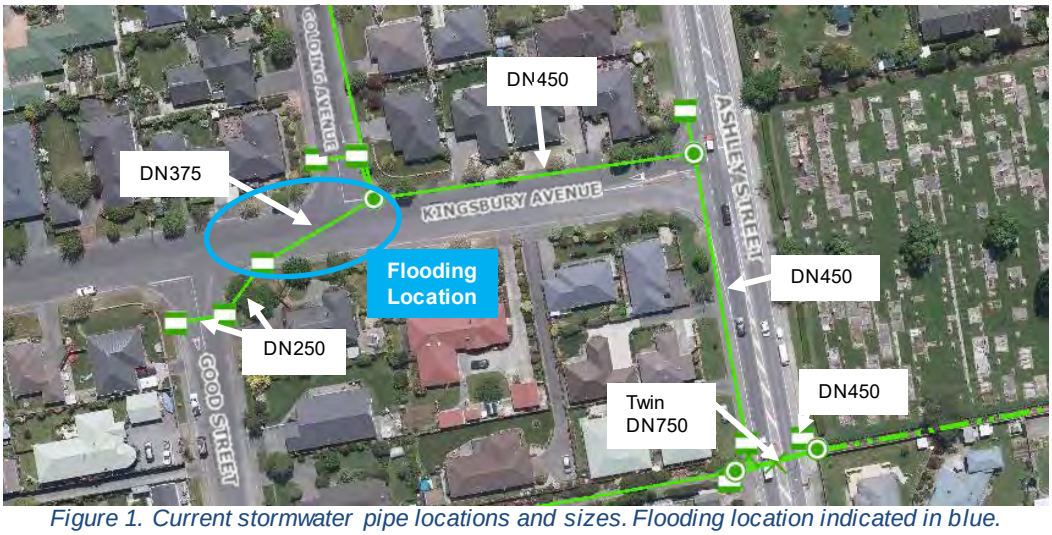


Figure 1. Current stormwater pipe locations and sizes. Flooding location indicated in blue.

1.1. The flood event and previous investigations (TRIM 100803027322, 180817093320 and 00102500017) show that this stormwater network is not meeting the level of service required by the Engineering Code of Practice (ECoP) which requires primary reticulation stormwater infrastructure within the district to be designed to a minimum of 20% AEP.

2. ISSUES

2.1. Currently the pipe network between Good Street and the Rangiora St Johns Anglican cemetery drain does not provide sufficient capacity to meet the required level of service and the model predicts flooding during a one hour 20% AEP critical duration storm event, as shown in Figure 2. The longitudinal section shows two negative gradients, hydraulic restrictions due to undersized pipework along most of the downstream pipework and identifies that the hydraulic grade line is higher than the ground level in the vicinity of the Kingsbury Avenue, Golding Avenue and Good Street intersection. It should be noted that at one pipe length upstream of the point of discharge to the drain, the level of surcharge is approx. 100 to 200mm below ground level of the lowest sump at the intersection in question. Therefore, even a small shortfall in network capacity would likely result in flooding at the intersection.

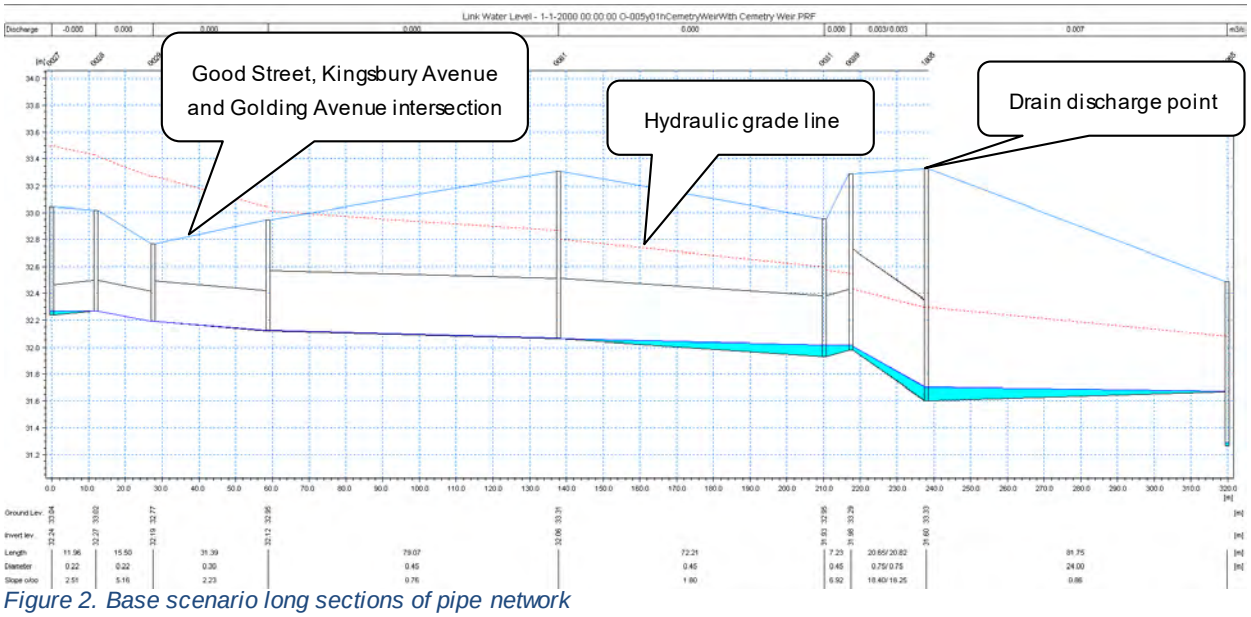


Figure 2. Base scenario long sections of pipe network

2.1. The elevation of the invert of kerb level at the Good Street, Kingsbury Avenue and Golding Avenue intersection is similar to the elevation of the top of bank of the outlet in the North Drain at the cemetery. Figure 3 shows a schematic of the sumps of interest in relation to the cemetery drain, with values under pipes indicating their invert reduced level. When the North Drain is flowing at or near its maximum capacity, the level of water at the cemetery is similar to the ground level at the intersection. Therefore, regardless of pipework size in the upstream network, it is highly likely that stormwater will pond at the intersection due to the lack of head between the locations during exceedance events.

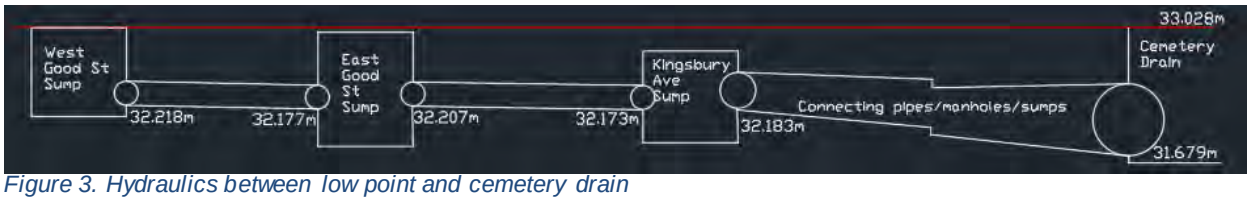


Figure 3. Hydraulics between low point and cemetery drain

2.2. The secondary overland flow path is via the road, however significant ponding in the road would occur prior to its operation. This is corroborated by customer contacts made during Cyclone Gita which indicated there was ponding across the road during the storm. Modelling of a one hour 2% AEP storm confirmed this, as seen in Figure 8 in Appendix C. Figure 4 shows the maximum flood levels and indicative flow path of the secondary overland flow during 100 year exceedance events.

Figure 4. 100 year flood depths

Figure 4 suggests that during a 1 in 100 year event water ponds prior to spilling across and down Ashley Street and adjacent roads and entering the North Drain.

3. PIPEWORK CAPACITY REQUIREMENTS TO REDUCE THE RISK OF FLOODING

3.1. Without considering wider network modifications and attenuation, it is not viable to reduce the level of surcharge in the Cemetery Drain, therefore the capacity requirements of a pipework capacity upgrade to convey the 20% AEP in accordance with the ECoP were assessed.

3.2. Modelling simulations were undertaken for the pipe sizes recommended by a previous report (Refer Trim: 180817093320), with an alteration to the downstream end of Ashley Street pipe alignment to discharge to the downstream Cemetery Drain rather than to the culverts under Ashley Street, see Figure 4. The required pipework capacity sizes are shown in Table 1.

Figure 5. New pipe across Ashley Street

Table 1. Proposed pipe upgrades

Pipe	Existing size	Upgraded size
West Good St → East Good St	DN250	DN375
East Good St → South Kingsbury Ave	DN250	DN375
South Kingsbury Ave → North Kingsbury Ave	DN300	DN450
North Kingsbury Ave → North Ashley St	DN450	DN600
North Ashley St → South Ashley St	DN450	DN675
West Ashley St → East Ashley St (Figure 4)	N/A	DN675

The modelling outcome of the proposed pipe sizes is shown in Figure 6 in Appendix A. It shows the hydraulic grade line closer to the gradient of the pipes, and only a small volume of flooding at the Kingsbury Avenue sump (less than 100mm of ponding). Therefore capacity upgrades improve the level of service and should meet the requirements of the ECoP.

3.3. The grade of the downstream pipes could be optimised to assist with upstream flooding. Specifically the pipe connecting the south eastern Ashley Street sump to the drain outlet. The viability of this will be assessed in the detailed design.

3.4. Other pipe sizes were investigated, however modelling showed they did not provide the required level of service outlined in the ECoP. Alternative sizes assessed can be found in Table 4 in Appendix B.

3.5. To further improve the capacity of the system, oversizing the sumps at the intersection (to reduce the risk of blockage) and modifying the invert levels of pipework at the point of discharge to the drain might further reduce the risk of flooding. This will be further assessed in the detailed design.

3.6. Other options considered but discounted included hydraulically separating the intersection from the existing pipeline by laying a new pipeline from either the intersection to Ashley Street or to North Drain. The section from the intersection to Ashley Street was discounted as the surcharge level in the downstream network during a 20% AEP critical duration storm event would be the same as the ground level at the upstream sump at the new pipework connection point so this option would not resolve flooding. The option to lay a new pipe from the intersection to the North Drain discharge point in the cemetery is similar to that covered as part of Section 4 Option 3.

3.7. The proposed pipe upgrade will only reduce the risk of flooding up to and including the 1 hour 20% AEP critical storm event. Ponding and flooding will still occur during events exceeding the 20% AEP. It can be seen in Figure 9 in Appendix C that there will continue to be approximately half a metre of flooding at the sump on the south side of Kingsbury Avenue, near Good Street and flooding exceeding 100mm across Kingsbury Avenue, during a 2% AEP one hour storm. This means the level of service required by secondary overland flow paths is not being met with the infrastructure upgrade. This is discussed further in Section 7.

4. CAPACITY UPGRADE OPTIONS

Three options were considered to increase capacity of the network:

1. Construct a new pipeline (with pipe sizes as Table 1) on the line of the existing,
2. Construct a new pipeline (with pipe sizes as Table 1), on a new alignment and cap and abandon the existing pipework.
3. Construct a new parallel pipeline, potentially cross connected with the existing, to provide with a total capacity of both pipelines equivalent to that proposed in Table 1.

The existing pipework alignment (thin green line) and a potential alignment for Options 2 and 3 (thick green lines) are shown in Figure 5 and Table 2.

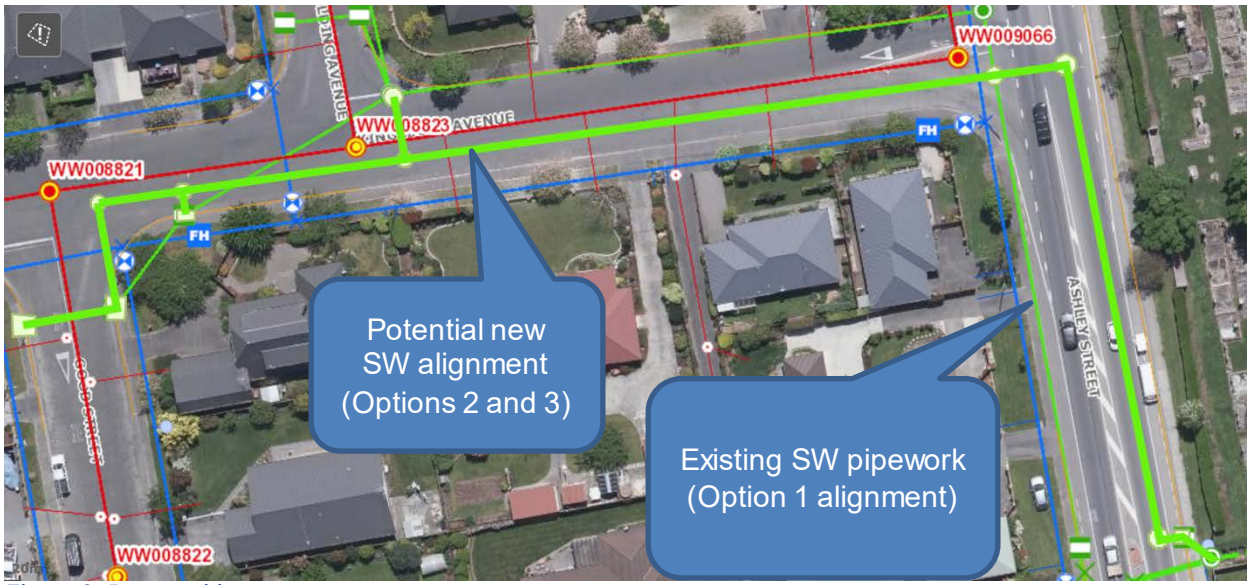


Figure 6. Proposed layout

5. BUDGET ESTIMATES

The current budget for this project is $100,000, available in the 2020/21 financial year.

Table 2 shows the high level cost estimations for the proposed options assuming 20% construction contingency, 10% professional fees and 10% project contingency.

Table 2. Cost estimations for options of Ashley Street Stormwater Upgrade

Option	*High Level Cost*	Concept Overview
Option 1	$583,000	

Option	*High Level Cost*	Concept Overview
Option 2	$569,000	
Option 3	$455,000	

Refer to Trim 200421046374 for the high level cost estimate breakdown.

6. OPTION ADVANATAGES AND DISADVANTAGES

Table 2 discusses the advantages and limitations of the three alignment options.

Table 3. Advantages and limitations of alignment options.

Option Number and Description	Advantages	Limitations
Option 1: Construct a new pipeline on the line of the existing	• Horizontal alignment already available.	• Potentially unable to adjust vertical elevation due to services. • Overhanging mature trees requiring trimming/removal • Significant kerb and channel replacement required. • More complex to demolish and lay pipework. Risk of unmapped AC pipework/contaminated material requiring remediation. • Proximity of existing services. • Existing pipework not near end of useful life (approx. 30 years old)

		• High Capital Cost for limited benefit beyond 20% AEP
Option 2: Construct a new pipeline on a new alignment and cap and abandon the existing pipework.	• Opportunity to improve the grade of pipelines to increase hydraulic capacity. • Opportunity to improve network alignment for future projects along Kingsbury Ave and Ashley Street.	• Cap and abandon a network of pipes with approximately 70 years of remaining useful life. • High Capital Cost for limited benefit beyond 20% AEP
Option 3: Construct a new parallel pipeline, cross connected with the existing, to provide required capacity	• Lowest Capital Cost of options considered • Utilises existing pipework currently in service and with approximately 70 years remaining useful life. • Opportunity to optimise positions of cross connections to existing to provide additional capacity for intersection	• Duplicating assets requiring renewal at some point in the future and potentially increased maintenance. • Limited benefit beyond 20% AEP

7. 2% AEP INFRASTRUCTURE IMPROVEMENTS

As flooding would continue to be an issue during exceedance events with the options provided for the 20% AEP level of service, consideration was given to the pipe sizes required for Options 1, 2 and 3, to convey flows resulting from the 2% AEP critical duration storm event. The pipe size requirements to convey flows during a one hour 2% AEP storm are shown in Table 4 and the model long section is shown in Figure 10 in Appendix C. The model suggests that although some ponding would occur (approximately 100mm above crown of centreline of road, circa 250mm above kerb invert) this ponding is comparable to the maximum allowed by the ECoP and approximately 200mm to 300mm less than currently experienced. It should be noted that to further improve the hydraulics and network performance the invert levels of any new pipeline would be refined during a subsequent design stage.

Table 4. 2% AEP pipe upgrades comparison to other options

Pipe	Existing size	Upgraded size 20% AEP	Upgraded size 2% AEP
West Good St → East Good St	DN250	DN375	DN375
East Good St → South Kingsbury Ave	DN250	DN375	DN375
South Kingsbury Ave → North Kingsbury Ave	DN300	DN450	DN600
North Kingsbury Ave → North Ashley St	DN450	DN600	DN750
North Ashley St → South Ashley St	DN450	DN675	DN750
West Ashley St → East Ashley St (Figure 4)	N/A	DN675	DN750

The alignment option cost estimations with the 2% AEP level of service are shown in Table 5 and are described as Option 1a, Option 2a and Option 3a in the cost estimation trim document 200421046374. They have similar advantages and limitations to Options 1 to 3 however would provide improved performance during the 2% AEP.

Table 5. 2% AEP infrastructure upgrades cost estimation and difference to 20% AEP

Sub-Option	Cost Estimation	Cost difference to Option 1, 2 or 3 respectively
Option 1a	$630,000	$48,000
Option 2a	$622,000	$54,000
Option 3a	$469,000	$14,000

8. SUMMARY

The current budget is insufficient to fund the full scope of any of the options considered. Additional budget is required to complete the full scope of works and reduce the risk of flooding during a 20% AEP or 2% AEP storm event.

Due to significant ponding that would occur during events exceeding the 20% AEP and the level of ponding that would occur before operation of the secondary overland flow path, consideration should be given to oversizing the pipes to convey flows resulting from the 2% AEP storm event. For a limited additional cost a significantly improved level of service is available. Therefore Option 3a with a capital cost in the order of $469,000 is recommended for further consideration.

As all options exceed the available budget, a segmental implementation could be considered. This could result in the chosen option being built in stages using the current budget and additional budget requested. However, the risk of flooding would remain until the full scope of the project was completed and the costs associated with segmental implementation would likely add 5-10% to the cost. Alternatively, additional budget could be requested to complete it all at once. The latter would reduce overall cost and swiftly provide the required level of service. Therefore should an option to reduce the risk of flooding be progressed, Option 3a is recommended.

Appendix A. Modelling work for level of service

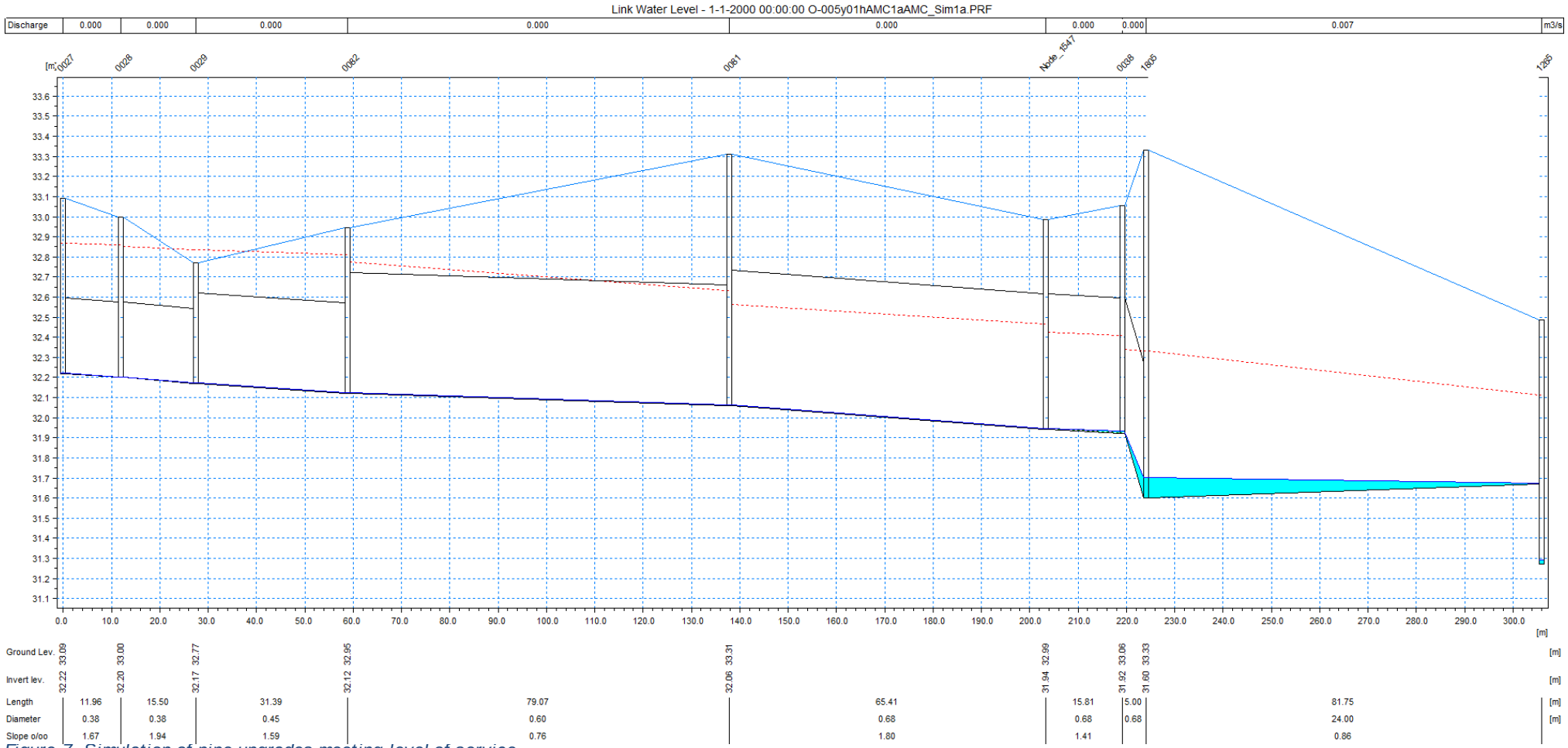


Figure 7. Simulation of pipe upgrades meeting level of service

Appendix B. Alternative pipe sizes

Table 6. Other pipe upgrades investigated (alterations shown in red)

Pipe	Existing size	Upgraded size 1	Upgraded size 2	Upgraded size 3
West Good St → East Good St	DN250	DN250	DN250	DN250
East Good St → South Kingsbury Ave	DN250	DN250	DN250	DN250
South Kingsbury Ave → North Kingsbury Ave	DN300	DN300	DN300	DN450
North Kingsbury Ave → North Ashley St	DN450	DN600	DN450	DN450
North Ashley St → South Ashley St	DN450	DN675	DN450	DN450
New pipe across Ashley St before twin DN750 to South Ashley St sump (see Figure 5)	N/A	DN675	DN525	DN525

APPENDIX C. 2% AEP LONG SECTIONS

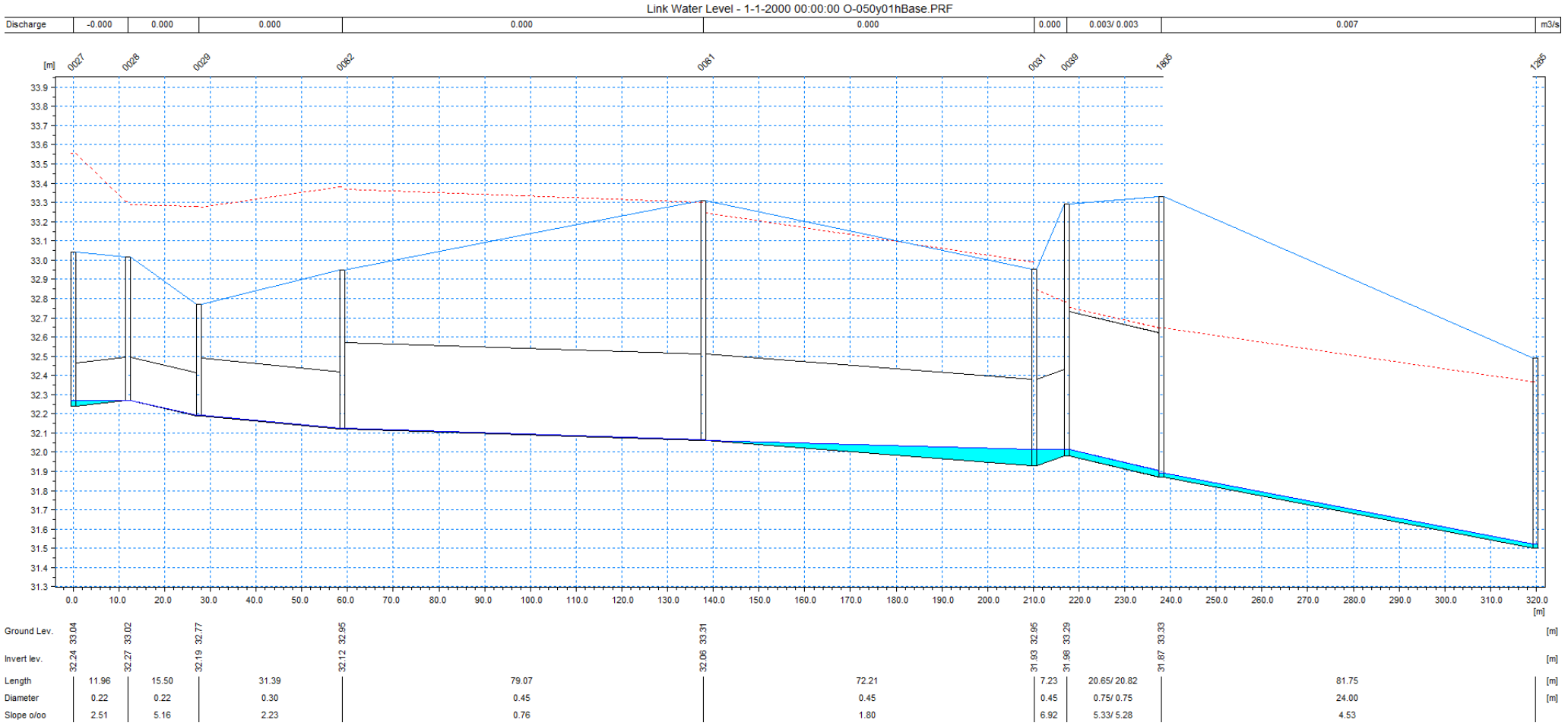


Figure 8. One hour 2% AEP storm long section without infrastructure upgrade

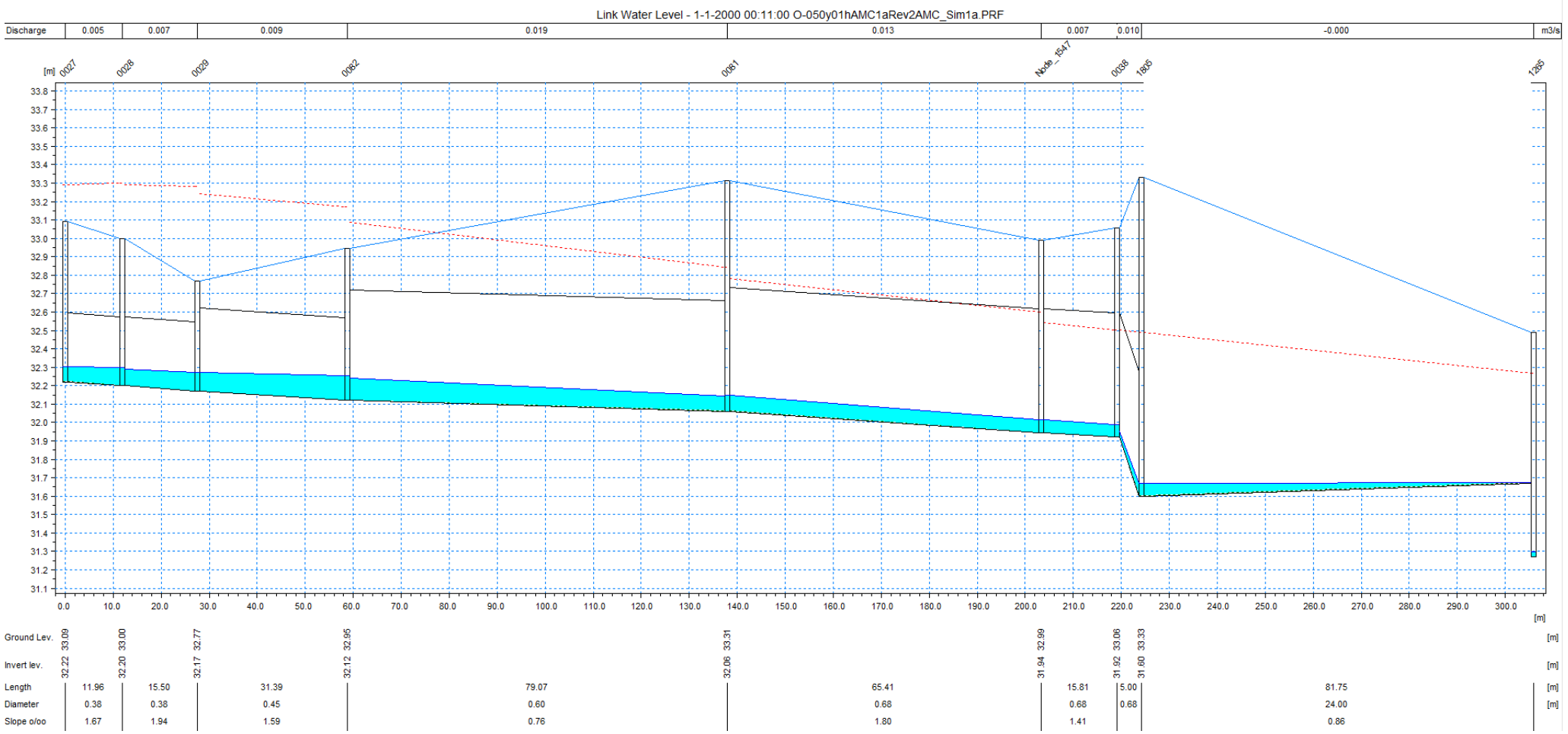


Figure 9. One hour 2% AEP storm long section with infrastructure upgrade designed for 20% AEP

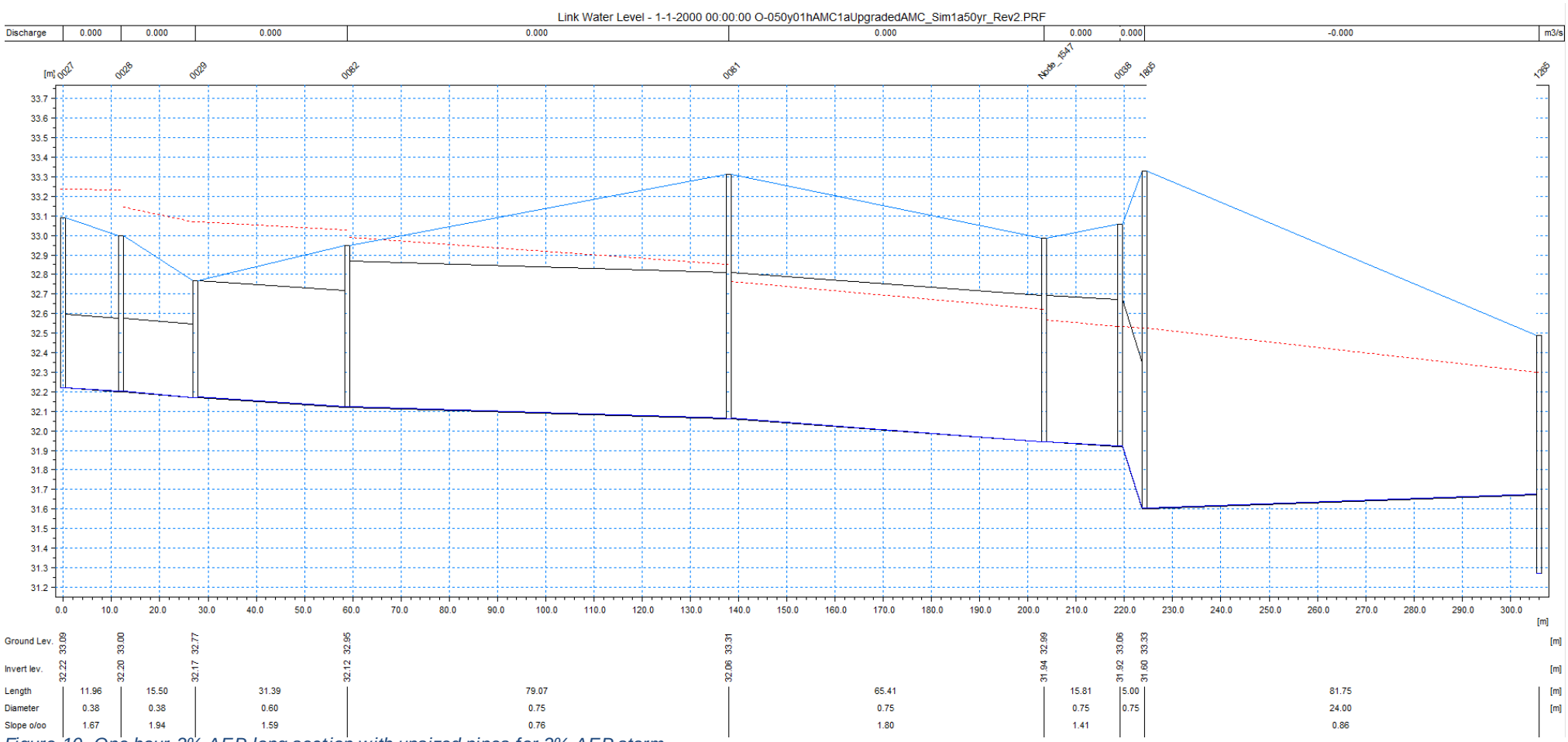


Figure 10. One hour 2% AEP long section with upsized pipes for 2% AEP storm

WAIMAKARIRI DISTRICT COUNCIL

MEMO

FILE NO AND TRIM NO:	CON201960-02 / 201208167323
DATE:	8 December 2020
MEMO TO:	Kalley Simpson, 3 Waters Manager
FROM:	Claudia Button, Graduate Engineer
SUBJECT:	Ashley Street Stormwater Upgrade – Addendum to concept design memo

1. Background

This memorandum is an addendum report to the Ashley Street Stormwater Upgrades Concept Options Assessment Memorandum (TRIM 200310032919).

Currently there is insufficient budget to do the full level of service upgrade (1 in 5 year storm event) as recommended in the previous concept memo. There is a $100k budget available for the 2021/22 financial year for “Stage 1” minor upgrades and the following budgets available in future years for “Stage 2” major upgrades:

- 21/22 - $100,000 Stage 1 design and construction
- 22/23 – No budget allocated
- 23/24 - $40,000 Stage 2 design
- 24/25 - $360,000 Stage 2 construction

2. Issues

There is a risk of flooding at the Golding Avenue, Kingsbury Avenue and Good Street intersection due to a low point in the road and undersized infrastructure that does not meet the primary reticulation level of service of a 1 in 5 year storm. Modelling shown in Figure 1 demonstrates the extent of flooding in this area with the current infrastructure.

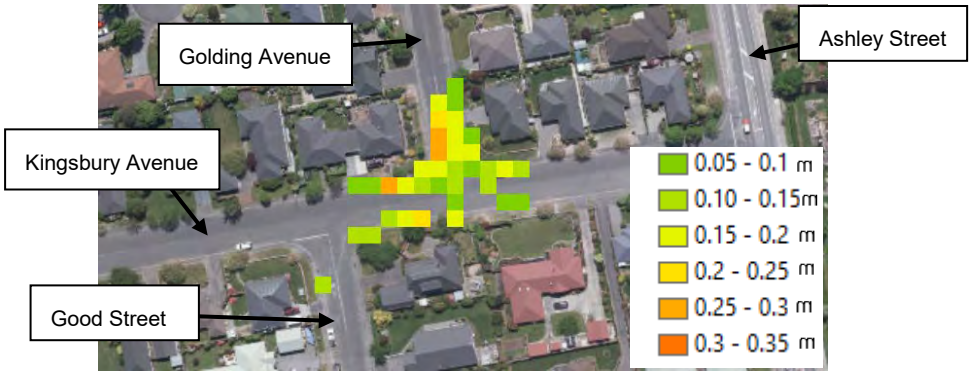


Figure 1. Flooding at Golding Avenue, Good Street and Kingsbury Avenue intersection during 1 in 5 year one hour storm

The budget available is to be spent such that the preferred option could be constructed in two stages. The upgrades in Stage 1 and Stage 2 need to compliment each other with a view to meet the primary reticulation level of service of a 1 in 5 year storm once both elements have been constructed.

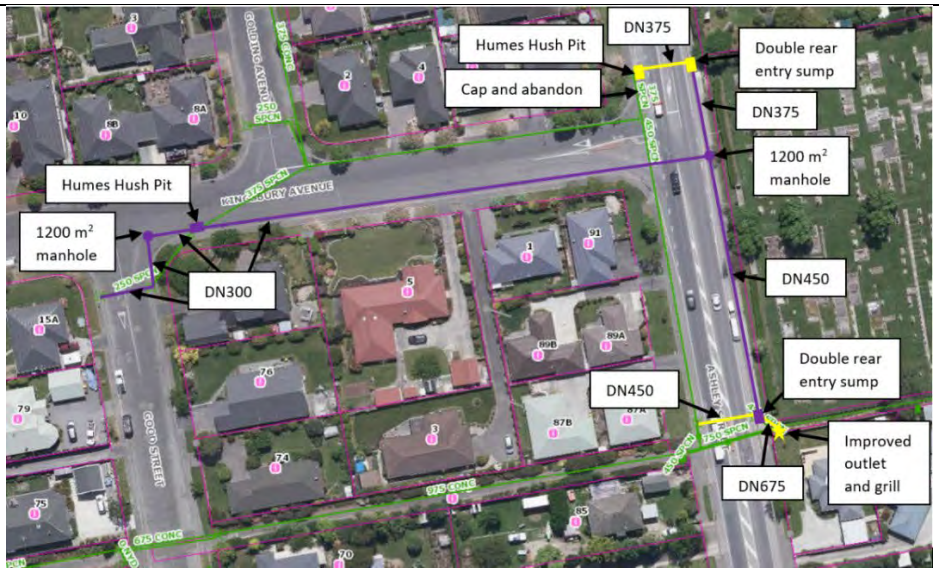
Due to a low point on northern Kingsbury Avenue near the Ashley Street corner, when stormwater sump SW007649 is at maximum capacity the excess flow from the upper Ashley Street catchment flows around the corner and contributes to the flooding experienced on Kingsbury Avenue, see Figure 2.

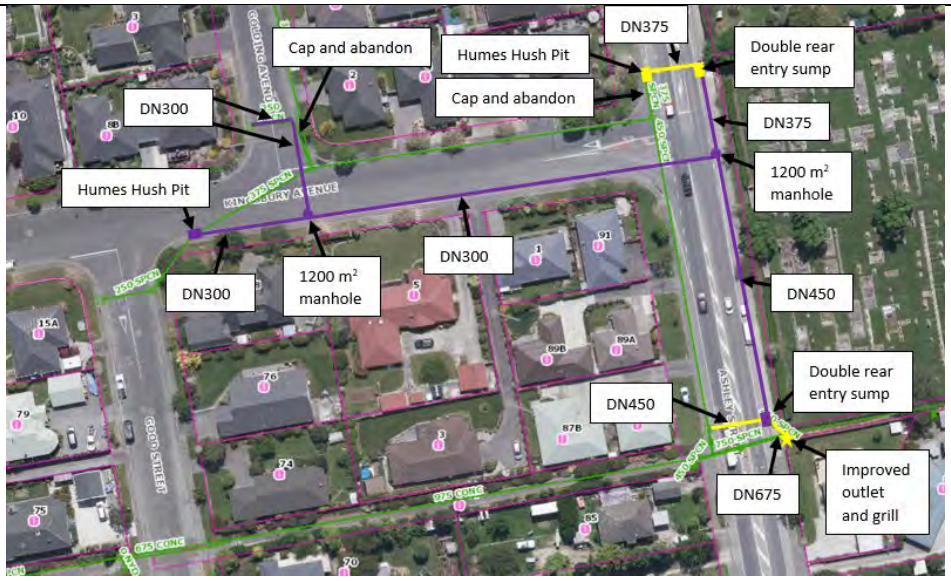
Figure 2. Flow from upper Ashley Street to Kingsbury Avenue

3. Options

In addition to the options already considered by the prior report, it has been suggested that the upper Ashley Street catchment be disconnected from the Kingsbury Avenue stormwater network by increasing the capacity of the sump and creating additional capacity and/or hydraulically separating the area of flooding from the adjacent piped network. The following table identifies the scope of four concept options which have been developed further and include staging options. Stage 1 works are identified in yellow or with yellow stars and the stage 2 works are identified in purple or with purple stars.

	Construction Options	Cost
1		**Stage 1. $92,600*** **Stage 2. $369,000*** **Total (GST exclusive) $461,600**

		
2		**Stage 1. $96,100*** **Stage 2. $357,400*** **Total (GST exclusive) $452,400**
3		**Stage 1. $101,000*** **Stage 2. $336,600*** **Total (GST exclusive) $437,600**

		
4		**Stage 1. $96,100*** **Stage 2. $364,000*** **Total (GST exclusive) $460,100**

*Note. All prices listed above have assumed a 30% construction contingency and 10% professional fees estimate. Refer to Trim 201208167292.

4. Option Advantages and Limitations

Option	Advantages	Limitations
1	Both drain outlets improved, meaning the health and safety during maintenance is improved and less gross pollutants will enter the drains. Removing the high point downstream from the north drain outlet will improve hydraulics through the drain during storm events.	Only one new pipe across Ashley Street to disconnect upper Ashley Street north of Kingsbury Avenue, so reduced flow capacity in lower section. Flooding still likely at Golding Avenue and Good Street sumps. Most expensive upgrade.
2	Two new pipes across Ashley Street to help assist with flow conveyance. Cemetery drain outlet improved, meaning the health and safety during maintenance is improved and less gross pollutants will enter the cemetery drain.	No improvements to north drain section. Flooding still occurs at Golding Avenue, where there have been multiple service requests.

3	Two new pipes across Ashley Street to help assist with flow conveyance. Both drain outlets improved, meaning the health and safety during maintenance is improved and less gross pollutants will enter the drains. Removing the high point downstream from the north drain outlet will improve hydraulics through the drain during storm events. Most affordable option.	Flooding still likely at Good Street and Golding Avenue sumps.
4	Two new pipes across Ashley Street to help assist with flow conveyance. Lower Golding Avenue catchment where flooding is problematic is separated from the existing infrastructure to improve flows from this area. Pipe upgrades on Golding Avenue improve flood levels where there have been multiple service requests (see Appendix A).	No improvements to north drain section. Minor flooding still occurs on Good Street and in Kingsbury Avenue low point. Multiple utility crossings across Kingsbury Avenue.

5. Option Assessment Modelling Results

All of the options developed utilise similar pipe sizes and connection points with a view to providing additional capacity by duplicating the pipe network between Kingsbury Avenue and the point of discharge, and intercepting flows north of Kingsbury Avenue from Ashley Street.

Options 1 and 3 were not modelled in detail since they either did not address the hydraulic deficiencies at the intersection of Good Street and Kingsbury Avenue or associated with the culvert crossing Ashely Street, identified in the prior report.

Modelling results of Option 2 and Option 4 during a 1 in 5 year one hour storm are shown in Figure 3 and Figure 4 below.

Figure 3. Modelling of Option 2 configuration during 1 in 5 year one hour storm

Figure 4. Modelling of Option 4 configuration during 1 in 5 year one hour storm

The modelling results for Options 2 and 4 show improvements to flooding on Kingsbury Avenue compared to the base model, but flood depths differ in Golding Avenue and Good Street. The model predicts that Option 2 resolves the flooding at sumps on Good Street and Kingsbury Avenue during a 1 in 5 year event but has higher flood levels on Golding Avenue. Option 4 has reduce ponding depths on Golding Avenue but some flooding remains on Good Street and Kingsbury Avenue.

The modelling identifies that although there are fewer locations of ponding in Option 2 the flood depth is likely to be similar to or exceed 150 mm above crown of road in Golding Avenue. The modelling suggests that Option 4 broadly meets the required level of service during a 1 in 5 year event (no more than 100 mm flood depth at crown of road).

6. Budget

The following table summarises the high level budget estimates for the two stages of Option 2 and 4:

Stage	Option 2	Option 4	Budget
Stage 1.	$96,100	$96,100	$100,000
Stage 2.	$357,400	$364,000	$360,000

Although Option 2 appears to be within budget the model predicts that if does not provide required level of service. The modelling predicts that Option 4 broadly provides the required level of service but the budget estimate is approximately $4,000 over budget, however this includes 30% contingency and 10% professional fees.

7. Recommendations

There is potential to further reduce the risk of flooding beyond the required level of service (by oversizing pipework), however this would increase the capital cost and would require further modelling to be undertaken.

Option 4 is the recommended solution as it achieves the required level of service and has a high level estimate similar to (but slightly higher than) the available budget.

8. Summary

There is a flooding issue on Kingsbury Avenue at the intersection with Golding Avenue and Good Street, due to a low point in the topography. Due to available budgets in separate financial years a two stage approach is required for the Ashley Street and Kingsbury Avenue upgrades.

Option 4 is recommended to be constructed in two stages:

- Stage 1 disconnects the upper Ashley Street catchment from Kingsbury Avenue and increases capacity across Ashley Street at the connection point to the Cemetery Drain, and
- Stage 2 provides the larger improvement to the level of service for the primary stormwater network by duplicating/increasing capacity of the stormwater network between Golding Avenue and the connection to the Stage 1 upgrades.

Option 4 provides the required level of service and is similar to the budget, so is the recommended solution.

APPENDIX A. Drainage service requests from TRIM 180817093320

Service Request	Location	Date	Issue	Resolution
DR1700194	9 Golding Ave	21/04/2017	*Caller has been unblocking drains of leaves and would like the sweeper truck to come out to clear up leaves in this area before the wind/rain shifts them again.*	Completed
DR1800113	9 Golding Ave	16/02/2018	*Tree branches and leaves need to be cleared form channels -come down in wind from council street trees*	Sweeper truck to sweep both streets in next run. Not that bad just little stick
DR1800142	Golding/Kingsbury intersection	20/02/2018	*The Kingsbury Avenue end of Golding Avenue is flooded across the road*	Drainage cannot keep up Caller not advised
DR1800149	Golding/Kingsbury intersection	21/02/2018	*I had a call from Paul Williams, please get Sicon to clear a blocked drain in Kingsbury Ave between Golding Ave and Ashley Street. Another caller advised water is right out on both sides of the road, causing hazard to drivers.*	Drained cleared
DR1800156	Golding/Kingsbury intersection	20/02/2018	*Flooding Road right across the road - drains on both sides of the road*	
DR1800173	Golding/Kingsbury intersection	20/02/2018	*Drainage Corner of Golding Ave and Kingsbury Ave Police have requested assistance due to flooding across road.*	Warning signs placed

Ashley Street Stormwater Improvements – Rain event investigation 3pm 29 January 2021

Map of image locations:

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WAIMAKARIRI DISTRICT COUNCIL

MINUTES OF THE MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE FUNCTION ROOM, RANGIORA TOWN HALL, 303 HIGH STREET, RANGIORA ON 16 MARCH 2021 COMMENCING AT 3.30PM

PRESENT

Councillor P Williams (Chairperson), Councillors A Blackie, R Brine and S Stewart (from 3.46pm)

IN ATTENDANCE

Councillors N Atkinson and K Barnett
G Cleary (Manager Utilities and Roading), K Simpson (3 Waters Manager), C Button (Graduate Engineer), K Straw (Civil Projects Team Leader) and A Smith (Governance Coordinator)

Briefing following the meeting: K LaValley (Project Delivery Manager), and M Bacon (Planning Manager)

1 APOLOGIES

Moved Councillor Williams Seconded Councillor Brine

THAT apologies for absence be received and sustained from Mayor Gordon and Councillor Ward and from Councillor Stewart for late arrival (at 3.46pm)

CARRIED

2 CONFLICTS OF INTEREST

There were no conflicts of interest recorded.

3 CONFIRMATION OF MINUTES

3.1 Minutes of a meeting of the Utilities and Roading Committee held on Tuesday 16 February 2021

Moved Councillor Blackie Seconded Councillor Williams

THAT the Utilities and Roading Committee:

(a) **Confirms** the circulated minutes of a meeting of the Utilities and Roading Committee held on 16 February 2021, as a true and accurate record.

CARRIED

3.2 Matters arising

There were no matters arising.

4 DEPUTATION/PRESENTATIONS

There were no deputations or presentations.

5 REPORTS

5.1 Wrights Road Intersection Upgrade – Ken Atkins (Project Engineer) and Joanne McBride (Roading and Transport Manager)

K Straw (Civil Projects Team Leader) presented this report, on behalf of K Atkins and J McBride, which seeks approval for the concept design of intersection improvements at Main North Road and Wrights Road, Kaiapoi. A report on this matter was also presented to the Kaiapoi-Tuahiwi Community Board meeting held the evening prior on Monday 15 March. The Board approved the staff recommendation on the proposed Wrights Road right turning bay and intersection with the Main North Road. It was pointed out that although this project is triggered by the Park and Ride facility, it is not funded from that budget as the intersection does have a history of accidents and complaints. The project is resolving an existing deficiency in the intersection.

There were no questions.

Moved Councillor Brine Seconded Councillor Blackie

THAT the Utilities and Roading Committee:

(a) **Receives** report No. 210301034067

(b) **Adopts** Option 2 as per Section 5.3 of this report (as detailed in attachment i) which includes a T intersection with a right turn in the Southbound lane of Main North Road, left turn separation marking for the left turning lane into Wrights Road, and moving forward the Wrights Road limit line to improve visibility towards the old Waimakariri Bridge.

(c) **Authorises** staff to progress the design of the intersection, as per the recommended option

(d) **Notes** that the recommended option is subject to an independent Road Safety Audit following approval of this Scheme Design.

(e) **Notes** that there is existing budget allocated to complete the physical works in the 2021 / 22 financial year, and the cost estimate is within this budget.

(f) **Notes** that the Kaiapoi -Tuahiwi Community Board will make a recommendation at its meeting on 15th March, which will be verbally advised at the meeting.

CARRIED

5.2 Ashley Street Stormwater Upgrade – Claudia Button (Graduate Engineer) and Kalley Simpson (3 Waters Manager)

K Simpson and C Button were present for consideration of this report providing an update on the proposed Ashley Street Stormwater Pipe Upgrades project.

K Simpson noted that this is a report for information and the views of the Rangiora-Ashley Community Board members will be sought at the April meeting of the Board.

C Button provided background information on the reasons for this area being flood prone and that the primary Stormwater infrastructure from Good Street, Kingsbury Avenue and Ashley Street does not have sufficient capacity to

convey the level of service flow required by the Engineering Code of Practice. A second problem is the topography at the intersection, which is a low point and in a significant rainfall event, water runs to this location. It is a combination of these two key problems which causes this area to be flood prone. This is proposed to be a two stage project – stage one to target on the Ashley Street pipeline crossing and cemetery drain inlet upgrade and stage two will be the main infrastructure upgrade.

Following a question from Councillor Brine, it was confirmed that there will be a letter drop to residents who live in the vicinity to advise that while the work is being undertaken, there could be disruption in their driveways.

Councillor Williams queried if the blockages were just caused by build-up of leaves in the drain gully traps and were bigger pipes actually needed. He noted that he had previously observed when staff have cleared any blockages, water then drains away quickly. K Simpson confirmed that there is an issue with blockages from leaves in the pipes, and there will be rear-entry high capacity sumps installed to avoid the risk of blockages occurring in future. It was pointed out that there is also an issue with under-sized pipes.

Councillor Barnett enquired why this project has not been higher in the priority list of projects. K Simpson noted that this issue was identified following the June 2014 flooding event and that was when the budget was put in place. On further investigations by staff, it was determined to make this a more robust system, more work was required and this is why it has been separated into a two stage project. Regarding prioritising this work, K Simpson noted that flooding that occurred was not impacting on habitable floor levels and was more in the form of nuisance road flooding on Kingsbury Avenue and Golding Avenue. Staff consider that staging it over two years is appropriate.

Moved Councillor Brine Seconded Councillor Blackie

THAT the Utilities and Roading Committee:

(a) **Receives** report No. 210223030651.

(b) **Notes** that the budget estimate confirms that there is sufficient budget in the 2021/22, 2023/24 and 2024/25 financial years, however the required level of service will not be achieved until all works are completed.

(c) **Notes** this solution will improve the level of service for primary reticulation during a 20% AEP storm event so it complies with the ECoP. The flooding at the low point on Kingsbury Avenue and Golding Avenue during larger storm events (exceeding the design criteria) will still occur due to their similar elevation to the cemetery drain top of bank. However the increased capacity of the primary reticulation will significantly reduce the extent and duration of flooding during larger rainfall events.

CARRIED

6 PORTFOLIO UPDATES

6.1 Roading – Councillor Paul Williams

Councillor Williams had nothing new to report.

Councillor Stewart joined the meeting at this time, 3.46pm.

6.2 **Drainage and Stockwater – Councillor Sandra Stewart**

Councillor Stewart spoke on concerns raised by landowners in Camwell Park in 2020 and more recently at the Central Rural Drainage Advisory Group meeting held last week This relates to the impact of farming practices on natural wetlands. A response is awaited from ECan on this matter and currently there is no resolution.

K Simpson advised that a group of land owners in Camwell Park have applied for a consent but the result is unknown.

The Chair asked for a update back to the next Utilities and Roading Committee meeting on this matter from K Simpson.

6.3 **Utilities (Water Supplies and Sewer) – Councillor Paul Williams**

Councillor Williams confirmed the successful response by staff on checking the lead levels in Council water supplies, following the recent issue highlighted with one of the Dunedin City Council supplies

6.4 **Solid Waste– Councillor Robbie Brine**

Councillor Brine noted that Councillors had attended a site visit to the Southbrook Resource Recovery Park prior to this meeting and there is a meeting scheduled at 10am on Monday 29th of the Solid and Hazardous Waste Working Party.

6.5 **Transport – Mayor Dan Gordon**

Mayor Gordon was not present.

7 QUESTIONS UNDER STANDING ORDERS

There were no questions.

8 URGENT GENERAL BUSINESS

There was no urgent general business.

9 MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

Section 48, Local Government Official Information and Meetings Act 1987

Moved Councillor Blackie Seconded Councillor Brine

THAT the public be excluded from the following parts of the proceedings of this meeting.

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution, are as follows:

Item Nº	Report for Information:	General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
9.1	Report from Management Team Meeting of 1 March 2021	Report for Information	Good reason to withhold exists under Section 7	Section 48(1)(a)
9.2	Report from Management Team Meeting of 8 March 2021	Report for Information	Good reason to withhold exists under Section 7	Section 48(1)(a)
9.3	Report from Management Team Meeting of 8 March 2021	Report for Information	Good reason to withhold exists under Section 7	Section 48(1)(a)
9.4	Report from Management Team Meeting of 8 March 2021	Report for Information	Good reason to withhold exists under Section 7	Section 48(1)(a)

This resolution is made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987, and the particular interest or interests protected by Section 6 or Section 7 of that Act which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public are as follows:

Item Nº	Reason for protection of interests	Ref NZS 9202:2003 Appendix A
9.1-9.4	Protection of privacy of natural persons To carry out commercial activities without prejudice	A2(a) A2(b)ii

CARRIED

Public excluded portion of the meeting went from 3.55pm - 4.05pm.

CLOSED MEETING

Resolution to resume in open meeting

Moved Councillor Williams Seconded Councillor Blackie

THAT the open meeting resumes and the business discussed with the public excluded remains public excluded.

CARRIED

OPEN MEETING

NEXT MEETING

The next meeting of the Utilities and Roading Committee is scheduled for 3.30pm, on Tuesday 20 April 2021, to be held in the Function Room, Rangiora Town Hall.

There being no further business, the meeting closed at 4.05pm.

CONFIRMED

Councillor Paul Williams
Chairperson

20 April 2021
Date

WAIMAKARIRI DISTRICT COUNCIL

MINUTES OF THE MEETING OF THE UTILITIES AND ROADING COMMITTEE HELD IN THE FUNCTION ROOM, RANGIORA TOWN HALL, 303 HIGH STREET, RANGIORA ON 20 APRIL 2021 COMMENCING AT 3.30PM

PRESENT

Councillor P Williams (Chairperson), Mayor D Gordon, Councillors A Blackie, R Brine, S Stewart and J Ward

IN ATTENDANCE

Councillors
J Harland (Chief Executive), G Cleary (Manager Utilities and Roading), K Simpson (3 Waters Manager), K Waghorn (Solid Waste Asset Manager), V Thompson (Business and Centres Advisor), and A Smith (Governance Coordinator)

Briefing following the meeting: K Simpson and D Lewis (Land Drainage Engineer)

1 APOLOGIES

There were no apologies.

2 CONFLICTS OF INTEREST

There were no conflicts of interest recorded.

3 CONFIRMATION OF MINUTES

3.1 Minutes of a meeting of the Utilities and Roading Committee held on Tuesday 16 March 2021

Moved Councillor Brine Seconded Councillor Blackie

THAT the Utilities and Roading Committee:

(a) **Confirms** the circulated minutes of a meeting of the Utilities and Roading Committee held on 16 March 2021, as a true and accurate record.

CARRIED

3.2 Matters arising

Councillor Stewart sought an update on Camwell Park consent. K Simpson advised that staff have been in contact with Environment Canterbury and Marco Cantiloni has been in contact with the landowners regarding this matter. WDC staff had previously understood that a group of landowners were lodging a consent for the water take, but this has not progressed. Marco Cantiloni is now speaking individually with the landowners advising them they need to formalise the water take into a consent.

4 DEPUTATION/PRESENTATIONS

There was no deputation or presentations.

5 REPORTS

5.1 Update on Electric Vehicle Charging Station Implementation for Kaiapoi – Vanessa Thompson (Business and Centres Advisor)

V Thompson presented this report seeking approval of the committee to repurpose the current "no parking" zone in the 70 Hilton Street car park, Kaiapoi to a p120 working EV car park. This is to appoint two EV parking stations in this car park. This site is an alternative to the original site chosen which was found to not be in Council ownership and the process of acquiring this site may take up to six months. Council has approved this Figure 2 site in December 2020 for the EV charging stations.

There were no questions.

Moved Councillor Blackie Seconded Mayor Gordon

THAT the Utilities and Roading Committee:

(a) **Receives** report No. 210318045321

(b) **Notes** the use of the alternative land parcel at Figure 2 for the installation of two 22kw EV charging stations in Kaiapoi;

(c) **Approves** the repurposing of the current 'no parking' zone at Figure 2 to an operational EV charging carpark;

(d) **Notes** the reasons for the move to the alternative land parcel as outlined in sections 4.1 to 4.3 of this report;

(e) **Notes** that the existing project budget of $17,424 will be overspent to close off the current pedestrian access way through the 'no parking' zone and to extend the garden area. Any overspend will be absorbed by the remaining 2021-22 Town Area Developments budget, which has $50,000 and no specific designated purpose at this time;

(f) **Notes** that the current executed Meridian Energy Access Licence for Kaiapoi will be updated with an addendum changing the land parcels from Figure 1 to Figure 2.

CARRIED

Councillor Blackie in support of this recommendation, advised that this was approved by the Kaiapoi-Tuahiwi Community Board meeting at the Board meeting last night.

Mayor Gordon acknowledged the work that has been undertaken by staff in getting these charging stations in place and believes the community will be grateful of these.

6 MATTER REFERRED FROM THE RANGIORA-ASHLEY COMMUNITY BOARD MEETING 14 APRIL 2021

6.1 Ashley Street Stormwater Upgrade – Claudia Button (Graduate Engineer) and Kalley Simpson (3 Waters Manager).

The Rangiora-Ashley Community Board considered this item at their meeting on Wednesday 14 April and supported the recommendation as per Item 5.2 from the Utilities and Roading Committee meeting of 16 March 2021.

7 PORTFOLIO UPDATES

7.1 **Roading – Councillor Paul Williams**

Woodend cycling improvements are progressing and contractors are now working on School Road and this contract will be completed in mid-June.

Coldstream Road urbanisation is almost complete, with road marking being done early this week. The road will be open early next week to two-way traffic.

Flaxton Road project is progressing well and Flaxton roundabout is also nearing completion and the Flaxton Road Roundabout is progressing well.

The Resealing programme is complete for this year.

7.2 **Drainage and Stockwater – Councillor Sandra Stewart**

Councillor Stewart wrote a letter to ECan Chair Jenny Hughey on the lack of progress on the discharge from Lineside Road into the upper Kaiapoi and lower Cam Rivers. This was raised with her and the then acting Chief Executive S Rixicker in 2020, and the Chair was unaware that this matter had not progressed since then. This council has been waiting for a report back on what happens to this land shown as a wetland and the farming of it. Councillor Stewart is hopeful there will be a response shortly.

The Rural Drainage Groups have all been advised that the Council is reviewing the Water Races and Rural Drainage Advisory Groups Policy and have been invited to provide feedback. This will the topic for a workshop coming up.

7.3 **Utilities (Water Supplies and Sewer) – Councillor Paul Williams**

P Williams advised that the contractors have moved onto the Cust site to commence the Cust water upgrade yesterday. The Poyntzs Road and Loburn Lea upgrades are both progressing well. A briefing will be provided soon to the Council on what the requirements are under the new water regulations that have been released.

7.4 **Solid Waste– Councillor Robbie Brine**

At a recent meeting of the Joint Landfill Committee meeting held in Christchurch, Gil Cox has been appointed as Chairperson for a further two year period. There are a number of changes coming up on the Transwaste Board, due to retirements. The other big item on the agenda was presentation of the draft Statement of Intent, which did not produce any surprises.

There is an issue of non-compliance at the Transfer Station, relating to an area of sealing in the north east corner and in the area of the hazardous waste which will require some piping. A report will come through to the Council regarding this.

Councillor Brine spoke on the fire at the transfer station last week, which was notified by a person who had seen it while travelling in a bus on Lineside Road. There have been discussions' with staff on mitigation measures that are in place.

There is $150,000 set aside for stop bank repairs by the old Rangiora dump and there has been no indication from Environment Canterbury on if or when this work is to go ahead. WDC staff will be bringing a report to Council requesting approval to use $66,000 of these funds for the upgrade of the compaction area.

Councillor Brine noted an issue at Oxford regarding the bin audits and an unpleasant situation developed. A report will come back to the Council on this matter.

7.5 **Transport – Mayor Dan Gordon**

Mayor Gordon commended staff with the work that has been undertaken by staff with the courtesy crossing signage in th. The Percival Street crossing has been highlighted. Mayor Gordon said it is also pleased to see the Brass lettering being reinstated on the corners in the town centre.

Continually hearing the Park and Ride is going well and looks forward to hearing the statistics on this.

Following feedback from a community board, Mayor Gordon and Councillor Williams had met with the Roading department staff and are seeking the Council's endorsement on the creation of a smaller group to look at the Southbrook traffic situation and for the installation of traffic lights in Southbrook area and continue conversation with NZTA. With 26,000 vehicle movements per day, this is an important part of the district.

Has been with the new Chief Executive around some of the "hot spots" in the district and noted frustration with the situation in Woodend. Acknowledged that the lights have been installed, which is positive progressive, but there is remaining safety improvements around the school that still need to happen.

Positive progress throughout the district.

8 QUESTIONS UNDER STANDING ORDERS

There were no questions.

9 URGENT GENERAL BUSINESS

There was no urgent general business.

9 MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

Section 48, Local Government Official Information and Meetings Act 1987

Moved Councillor Williams Seconded Councillor Brine

THAT the public be excluded from the following parts of the proceedings of this meeting.

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution, are as follows:

Item Nº	Report for Information:	General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
9.1	Minutes of the public excluded portion of a meeting of the Utilities and Roading Committee 16 March 2021	Confirmation of Minutes	Good reason to withhold exists under Section 7	Section 48(1)(a)

This resolution is made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987, and the particular interest or interests protected by Section 6 or Section 7 of that Act which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public are as follows:

Item Nº	Reason for protection of interests	Ref NZS 9202:2003 Appendix A
9.1	Protection of privacy of natural persons To carry out commercial activities without prejudice	A2(a) A2(b)ii

CARRIED

Closed meeting

Recommendation to resume open meeting

Moved Councillor Brine Seconded Councillor Blackie

THAT the open meeting resume and the business discussed with the public excluded remains public excluded.

CARRIED

NEXT MEETING

The next meeting of the Utilities and Roading Committee is scheduled for 4pm, on Tuesday 18 May 2021, to be held in the Function Room, Rangiora Town Hall.

There being no further business, the meeting closed at 3.51pm.

CONFIRMED

Chairperson
Councillor Paul Williams

18 May 2021
Date

MINUTES OF A MEETING OF THE WAIMAKARIRI DISTRICT COUNCIL HELD IN THE COUNCIL CHAMBER, 215 HIGH STREET, RANGIORA, ON TUESDAY, 8 FEBRUARY 2023, COMMENCING AT 9AM.

PRESENT

Mayor D Gordon (Chairperson), Deputy Mayor N Atkinson, Councillors A Blackie, B Cairns, J Goldsworthy, T Fulton, N Mealings, P Redmond, J Ward and P Williams.

IN ATTENDANCE

J Millward (Acting Chief Executive), G Cleary (Manager Utilities and Roading), C Brown (Manager Community and Recreation), T Tierney (Manager Planning and Regulation), S Hart (General Manager Strategy, Engagement and Economic Development), S Salthouse (General Manager Organisational Development and Human Resources), K Simpson (3 Waters Manager), J McBride (Roading and Transport Manager), K Waghorn (Solid Waste Asset Manager), C Roxburgh (Water Asset Manager), K LaValley (Project Delivery Manager), J Recker (Stormwater and Wastewater Manager), G MacLeod (Community Greenspace Manager), P Eskett (District Libraries Manager), T Sturley (Community Team Manager), M Greenwood (Aquatics Manager), R Hawthorne (Property Manager), M Bacon (Development Planning Manager), W Taylor (Manager Building Unit), W Harris (Planning Manager), B Charlton (Environmental Services Manager), S Nichols (Governance Manager), A Keiller (Chief Information Officer), H Street (Corporate Planner – Policy and Strategy), T Kunkel (Governance Team Leader), K Rabe (Governance Advisor), and E Stubbs (Governance Officer).

Meeting Adjournments:

The meeting adjourned at 10.20am for refreshments and reconvened at 10.35am.
The meeting adjourned at 1pm for lunch and reconvened at 1.42pm.
The meeting was adjourned at 3.34pm for refreshments and reconvened at 3.45pm.
The public excluded portion of the meeting occurred from 12.50pm to 12.58pm (Item 6.1).

1. APOLOGIES

Moved: Councillor Atkinson Seconded: Councillor Goldsworthy

THAT an apology for absence be received and sustained from Councillor R Brine.

CARRIED

2. CONFLICTS OF INTEREST

No conflicts of interest were declared.

3. OVERVIEW AND FINANCIAL STRATEGY

Overview - Jeff Millward (Acting Chief Executive and General Manager Finance and Business Support)

J Millward provided an introduction to the Draft Annual Plan budgets and spoke to a Powerpoint presentation.

The timetable was outlined, then assumptions and policies were touch upon. J Millward commented on other councils whom may be taking the process of an Annual Plan lightly with regard to consultation, the impacts of the changing financial environment and growing pressures on low rates, high levels of service and increased costs.

J Millward commented on the district growth and the economic growth numbers being medium to high. There was no change to the Revenue and Financing Policy which had adjustment to Depreciation, and the Rating Policy had no change other than minor adjustments to UAGC's. There are large rate movements in Pegasus and Rangiora due to the revaluations. The Treasury interest rates where spoken of with forecasts and interest rates. It was commented on the recommendations to the Council regarding on how the Depreciation will be funded over the next five years and the impacts on the Council finances.

J Millward acknowledged that this financial period is not comparable to the last 10 years with Covid induced markets and unrest around the world. The financial markets are still uncertain, along with supply chain impacts on business, inflation not under control, along with changes in local and central government creating uncertainty. The Council has no option but to absorb the inflation. Depreciation funding resulted in $400m added on the books and the impacts of future funding was spoken of and the strategies needed to reduce the spikes. J Millward commented on savings over the last three years of 6%.

Business and Economic Research Ltd (BERL) are an economic forecaster that Councils utilise their information. Several graphs were explained showing figures set during the LTP and the realistic figures being approximately a 10.6% gap on cost adjustors. Local government inflation is slightly above CPI. This meant that the Council should have rated at 7.6%. The Council has managed to have the lowest rates in Canterbury for the last two years, with some predictions for normality in 2027.

A presentation slide of ANZ Bank data was explained showing pressure on debt rises. The low cost interest rate hedges were holding the Council in good stead currently. J Millward explained the District Revaluation, noting commercial areas were hit hard in the last LTP however this time there is a reduction for that area.

J Millward discussed the district growth provision with 4,800 new dwellings estimated over the next ten years and that is where Development Contributions are sourced. The overall estimated population for the district , based on medium to high projections is 78,400 in 2031.

J Millward summarised options available to the Council which included passing on the inflationary effects, which would be unpalatable to the community as inflation was already 7.3% making the true rate a 14.4% rate rise. Management have looked for savings, with staffing levels and training held back and expenses trimmed for the last three years, without significantly reducing levels of service. Funding strategies have ben reviewed and where possible impacts have been moderated or spread over a number of years – such as the earthquake debt, stadium, capital expenditure. Fees and charges, development contributions and grants/subsidies have all been reviewed. The growth projections have also been reviewed and set to 700 but maintained the average of 480 over ten years. J Millward commented on the uncertain times and relooked at savings to cushion the effects on the community. He outlined areas where the Council had looked for savings, noting there are some risks with all assumptions. Some long term loans had been pushed out and in significant areas of expenditure the costs had been spread out to reduce the spikes. It was noted that the Library and Pools patronage have not returned to pre-covid levels, particularly in aquatic areas so adjustments in funding has occurred. Strategies have been reviewed but it will take time. Staff levels have remained low and training budgets were slashed when covid occurred and these have not increased since.

Management believe there were no other viable options to reduce the rates from 14.4% until management had a review of the Depreciation rates and deferred it by spreading over five years which has brought the average rate movement down to 6.9%. This is the rate in the budget papers currently. J Millward provided another example with electricity costs being locked in to low rates and although it had added $800,000 to the budget, without the astute secured rate the electricity costs could have seen an increase of $3m. J Millward commented briefly on the UAGC, recreation adjustments as unchanged and minor effects on the Roading fund.

J Millward recapped on options and savings. Reducing the rates down from 14.4% to 6.9% was reiterated and the effects of pushing the Depreciation over the next five years amend the rates to 5.3%, 5.3%, 5% and mid 4% in future years. A slide of expenditure by activity was explained which is total cost including depreciation. Total expenditure for the year is 14.36%. Then removing depreciation and adjustments it brings the rates to 6.9%. A graphic demonstrated the smoothing of the capital expenditure over the next 10 years. In the later years library growth and roading costs are added to meet additional demands of the community.' Two slides explained that by removing $6m depreciation now and adding it back in later it smooths the overall impact on the community.

J Millward commented that the average rates over the last 20years is 4.5%, however Councils are continuing to be hit with government changes, inflation, climate change and natural disasters. The key breakdown of the rates calculation of 6.9% was reiterated. The option round earthquake funding with suspension for one year would push out the loan repayment and it was explained that between the earthquake loan and depreciation was the only other option to reduce rates to 6%. Management were well aware of the community costs with 7.35% inflation and this proposal created a buffer. With a little bit more of a tweak the rate will come down to 5.95% but J Millward cautioned on the on-flow in the outer years of delaying loans. The matter is for the Council consideration and debate through this meeting. All rates mentioned are average for the district as rate samples of the different areas of the community where explained. Urban around 7-8% and Oxford-Pegasus is 10-14%. Pegasus were significantly higher because of the revaluation figures mentioned earlier in the meeting.

A slide explaining the total debt, new and repaid debt was spoken of. The Treasury limits and insurances for natural disaster such as Alpine Fault magatude 8 (AF8) was explained with the Council sitting under all limits and abiding by the associated Policies.

J Millward commented on the key consultation subject matters being investment to remain chlorine-free; stormwater upgrades, contracted inflation and depreciation and earthquake funding. Matters that will be included in the consultation document as information will be the government reforms, climate change and sustainability, community facilities, rubbish and recycling, There are future discussions yet to be had with regard to the Canterbury Museum and Christchurch Stadium which may have impacts on future rates.

Members questions occurred from 9.56am.

Mayor Gordon thanked J Millward for a clear explanation of the complex financial situation.

Councillor Redmond enquired, on factoring in growth what may be the impact on rates if growth is less. J Millward said that would depend on how much less growth. Currently growth at 700 is 2.5%, which is not big numbers nor significant. Staff were taking a long term approach over the 10 years of 480 homes which is lower than the current 700 homes.

Councillor Mealings sought to clarify the Depreciation smoothing, being all of depreciation or parts. J Millward commented that Depreciation spikes were removed on a carried book value of $1.9b which had increased to $2.3b. The inflation etc has impacted like never seen previously however the Council could get back on track in five years. The figures to be clarified however it was funding only small amount in current year. In a supplementary question Councillor Mealings enquired if the debt funding with the earthquake loan had any impact on the Standard & Poors rating. J Millward responded that it should not, if this action was only undertaken once, however if the Council continue to do that then it would impact on future Standard & Poors ratings. J Millward spoke of equating depreciation to the life of the asset value and by delaying one year it pushes matters out 2½ years. He spoke of the earthquake loan for 26 years however cautioned pushing it out to far for too long. The original loans of 2012 have been added to and it was still prudent to stay within 25years.

Councillor Blackie referred to a slide on the financial strategy and levels of service. J Millward responded that if the Council wish to maintain levels of service it would need to smooth out the rate or reduce the level of service to stay within the 6% rate range.

Councillor Cairns referred to the impact on revenue from government impacts of funding services like libraries and UV on water. J Millward commented on NZTA capped limits and Council absorbing costs of contracting increases. Salaries were subsidised for a level of time and now the government had withdrawn that source so the Council was trying to off-set costs. Managers will explain when the budgets are discussed during the day what the impacts of covid and reduced numbers of patrons mean in areas such as aquatics and libraries. There is a greater reduction of subsidies from government funding. The Shovel ready / stimulus packages are to come forward however the flip side is increased depreciation and costs.

Councillor Atkinson expressed concerned about smoothing and what effect in years to come as there is always a consequence of cutting services and budgets, enquiring what are the effects in the later years. J Millward spoke of the status quo, however there has been a change in level of service requirements, pools have changed, climate change and drainage – there is always a trade-off. Traditionally cost inputs that affect councils are higher than CPI. Outside effects such as government impacts are ongoing. The Council has to do measures such as drainage improvements to cope with climate change. There will be increases in figures shown and staff have factored in as much as possible and continue to do incremental changes to improve community assets.

Councillor Fulton referred to cost of funds and recent increase in hedging of increase of rates, and is there any potential advantage. J Millward commented on the Treasury adviser (Bancorp) that the Council use and spoke of interest rate hedges that go out 10years to try and predict future payments. This is why the increase has gone from 3.75% to 4.35%. Without hedging the Council rates would be 5-6% higher. It was acknowledged there was a complication of 3 waters, so the Council was setting new debt, within the policy thresholds and taking advantage of cheaper rates, which included $40m maturing over the next year.

The budget introduction concluded at 10.15am with a short adjournment. The meeting resumed at 10.35am with the Mayor moving to the budget reporting section of the meeting where each unit presented reports followed by operational budgets before proceeding to the next unit. The order that operational units presented information to the Council was:

- Utilities and Roading
- Community and Recreation
- Regulation and Planning
- Strategy, Engagement and Economic Development
- Finance and Business Support
- Management

At this time the budgets were received Proforma, subject to debate and would be confirmed at the end of the meeting.

Moved: Mayor Gordon Seconded: Councillor Atkinson

CARRIED

4. MEMO/ REPORTS

Utilities and Roading Unit

4.1 **2023/24 Capital Works Programme Review** – G Cleary (General Manager Utilities and Roading) and K LaValley (Project Delivery Manager)

G Cleary introduced the report as providing an overview of the Capital Works Programme, which comprised of a significant portion of the budget. He noted that there was also regular reporting throughout the year to the Audit and Risk Committee on the progress of the Capital Works Programme. An iterative process was carried out with Asset Managers to ensure careful consideration of the Council's ability to deliver the programme, including consideration of the landscape within which they were operating. In addition, there was a process of prioritisation and matching resource availability with projects.

G Cleary explained the drivers of the programme, which included:

- statutory drivers, for example the requirement to meet Drinking Water Standards
- growth, including both catchup and anticipation, and
- level of service, such as expectation from the community regarding the non-chlorination of drinking water.

Other factors included stakeholder expectations, external funding requirements, project progress, and benefits. Regarding benefits, G Cleary explained that while assessing each project against the four wellbeings had always been part of the consciousness, the assessment process was now treated more transparently.

K LaValley provided an overview of the high-level resourcing assessment which had been carried out, noting that 40% of each resource time had been allocated, and the remaining time was available for the potential impact of reform and unexpected events such as flooding. The cushion provided was 20% higher than previously allowed and reflected the uncertainty of the current climate. However, the assumption of successful recruitment and retention was a risk in aligning what resources were available with what was required to deliver the programme.

G Cleary provided an overview of the roading budget delivery methodology, including developer-driven, Project Development Unit and consultants. He explained that if staff believed developers were being too ambitious in expectation of delivery, they would push out the budget with the understanding that they could bring it back to the Council for earlier approval if necessary rather than not deliver on a project which reflected poorly on the Council.

G Cleary noted that the Council had been successful with its Walking and Cycling funding application and, as such, was gearing up resources to deliver the project. There was also work underway in east Rangiora, of which a large proportion was developer-driven. Work would also be carried out to meet Central Government mandates regarding speed limits around schools.

G Cleary further advised that the budget included $2 million for a carpark land purchase in the 2023/24 financial year. However, as staff were no longer confident that the acquisition would proceed within the timeframe (negotiations had the potential to be prolonged), it was believed to be prudent to push it out to the 2024/25 financial year.

In summary, G Cleary commented that he believed the Capital Works Programme could be satisfactorily resourced and that the contingency had been stepped up this year due to several factors, including the uncertain environment around government reforms.

Councillor Atkinson asked what the pushing out of the potential $2 million expenditure for car parking would have for future years. J Millward believed it would have a negligible effect to shift the impact from next year to the following year.

Councillor Blackie referred to the consultant delivery of $3 million and asked how much of the amount was for expertise brought in and how much was peer review. G Cleary advised that the $3.2 million was not spent on consultants. However, it referred to $3.2 million spent on the Capital Programme that would be delivered with the assistance of consultants. It was more of a capacity issue due to the spike in programming that required extra resources.

Councillor Mealings asked for clarity on the property ownership of the car parking as she understood that the Council already owned the property. She was concerned about the price of the land escalating if that was not the case. It was agreed to discuss the car parking when the General Manager Strategy, Engagement and Economic Development, S Hart was in attendance.

Councillor Williams referred to the high bar required to remove the need for water chlorination and asked if staff should be investigating other options. G Cleary commented that a report on the proposed water treatment upgrades was included in the agenda.

Moved: Councillor Ward Seconded: Councillor Fulton

THAT the Council:

(a) **Receives** memo no. 230117005232 for information.

CARRIED

At this time, Item 5.1 "Roading and Transport" was taken. The Minutes have been recorded in the order of the Agenda.

4.2 **2023/24 Development Contributions Schedules and Policy for Consultation with Draft Annual Plan -** K LaValley (Project Delivery Manager)

K LaValley took the report as read, noting the significant increase in land value had caused the calculated contribution value amount to fall below the allowable cap. The calculation was as follows; the maximum value for reserves must not exceed the greater of (a) 7.5% of the value of the additional allotments created by a subdivision and (b) the value equivalent of 20 square metres of land for each additional household unit or accommodation unit created by the development. Accordingly, the current residential reserves contribution was capped at 7.5% of the district's average value of residential allotments, which was $337,000 based on the 2022 valuation.

K LaValley also tabled an additional recommendation (e) which dealt with the District Roading Development Contribution.

Councillor Williams queried the variation of values shown for Rangiora between 3.4% an zero and enquired if it would not be a better approach to keep contributions consistent throughout the area. K LaValley stated that development contributions were designed specifically for each area and the services each would require, therefore for new developments the contributions would be higher.

In response to Councillor Williams inquired about contributions for new developments in rural areas, which would require road improvements to gravel roads, K LaValley noted that improvements to the roading network would fall under the financial contributions.

Councillor Mealings enquired how unplanned developments were charged. K LaValley noted that the Council calculated the contribution once the development plans were available.

Moved: Councillor Ward Seconded: Councillor Goldsworthy

THAT the Council:

(a) **Receives** Report No. 230119006153.

(b) **Approves** the Draft 2023/24 Development Contribution Schedules as per Attachment i for consultation with the 2023/24 Annual Plan.

(c) **Notes** that the recommended changes to the Development Contributions had been reflected in the draft Annual Plan for 2023/24 and beyond.

(d) **Notes** that a separate report would be presented to the Council on the recommended changes to the Development Contribution Policy.

(e) **Approves** the draft District Roading Development Contribution be set at $12,055 including GST and the establishment of the Outer East Rangiora Roading (Eastern Link Road) development contribution area with the development contribution set at $3,849 including GST for consultation with the 2023/24 Annual Plan.

CARRIED

4.3 **UV Treatment Strategy and Rationale** – C Roxburgh (Water Asset Manager)

C Roxburgh introduced the report, advising that the incorporation of Ultra-Volet (UV) treatment projects on all the Council's water supplies was first included in the Council budgets as part of the 2018/19 28 Long Term Plan. With the recent release of the Drinking Water Quality Assurance Rules (DWQAR), staff now had the confidence to recommend that these projects proceed.

C Roxburgh outlined the rationale for the UV projects, noting the significant challenges in gaining and maintaining compliance through other means. Even with chlorination, the alternative to UV treatment was regular monitor source water for coliform, to ensure that source water was free from all coliforms and E. coli at all times, and to construct a sanitary (raised) bore head. He commented that currently none of the Council's bore heads met the sanitary bore head requirements.

Only the Oxford Urban-Rural No.2 supply could possibly gain compliance without the UV treatment, as this scheme could potentially achieve bacterial compliance with chlorine treatment. However, due to the ongoing risk of losing protozoal compliance if coliforms were detected, this approach was not recommended.

Councillor Cairns referred to the legislation requiring the Council to have two barrier and asked if the Council even had a choice. C Roxburgh confirmed that the legislation had a multibarrier approach, then again, it could be argued that the first barrier was the source and the second was UV treatment. However, if the source was poor, then a two-treatment barrier was required.

Councillor Williams asked about future requirements and believed that the Waimakariri District's water supplies were excellent if compared to other districts. It was therefore, a viable approach to push out the installation of UV treatment to a later date. C Roxburgh confirmed that the recommended work was needed for the Council to meet the current regulations.

Councillor Williams questioned if the bores were brought up to standard previously, why were they now no longer complied with regulations. C Roxburgh explained that in 2018 the Council was required to carry out work to meet 'secure status'. However, there was now new rules that the Council had to be complied with.

Councillor Williams further asked whether the Council could defer the UV treatment since it was already considered far ahead of other councils in terms of water supply. G Cleary confirmed that the standards had changed with immediate effect, and UV treatment would bring the Council back into compliance, hence the UV treatment could not be deferred. Water supplies were required to be chlorinated, unless an exemption was granted. Staff was recommending UV treatment whether water supplies had chlorine or not. The issues raised was previously discussed with the Regulator.

Councillor Redmond enquired if the bore heads needed to be also raised. C Roxburgh advised that the UV treatment would be sufficient in terms of meeting rules. G Cleary added that in the case of a chlorine exemption, a raised bore head may be required due to the high bar set for an exemption.

Councillor Mealings sought clarity if the debt associated with UV treatment projects would be transferred if the Three Waters Reform proceeded. C Roxburgh replied yes, and as such, saving money now would not benefit local communities as the work may have a lower priority within a larger entity.

Councillor Fulton asked whether the Council had considered a plan for public communication as it was anticipated there would be negative public feedback. G Cleary advised that it was clear the majority of the public did not wish for chlorination, and it was therefore essential to bring the public on the UV journey.

Councillor Fulton asked if there was a risk that the public may think the new treatment was a precursor to the fluoridation of supplies. G Cleary advised that the need for fluoridation was not a Council decision, however, staff wished to future-proof design and equipment.

J Millward commented that Taumata Arowai was taking a risk by not enforcing chlorination on Council supplies while they worked through the exemption process. The community risk was low, both Taumata Arowai and the Council accepted the risk. G Cleary signalled that the amount of capital work required to achieve chlorine exemption was more than previously anticipated.

Councillor Atkinson enquired if bore heads were raised and chlorine was applied, did it eliminate the need for UV treatment. G Cleary did not believe that the need for UV treatment would be removed as chlorination was a requirement unless the Council had an exemption, UV treatment was required, and the bore head may need to be also raised. Councillor Atkinson asked for a rough estimate of raising bore heads and C Roxburgh replied it was in the several hundreds of thousands.

Moved: Mayor Gordon Seconded: Councillor Redmond

THAT the Council:

(a) **Receives** Report No. 221202209325.

(b) **Notes** that UV was recommended to be installed on all the Council's water supplies for the following reasons:

i. For any scheme that did not use chlorine (i.e. those where exemptions were sought), UV was the required method to achieve bacterial compliance with the DWQAR, and;

ii. For schemes that did have chlorine, UV was also recommended based on the challenges in obtaining and maintaining compliance with the bacterial and protozoal requirements without it.

(c) **Approves** the recommended approach that UV be prioritised in 2023/24 for the schemes where chlorine exemptions were sought (Rangiora, Kaiapoi, Woodend-Pegasus, Oxford Urban and Cust), as well as at McPhedrons Road on Oxford Rural No.1 due to this scheme having no storage tanks at the headworks and therefore being unable to obtain bacterial compliance without UV.

(d) **Approves** the remaining schemes (West Eyreton-Summerhill-Poyntzs Road and Ohoka) having UV installed within the 2024/25 financial year, to bring all schemes up to compliance.

(e) **Notes** that while there had been signals that UV would be required to meet future standards since the 2018-28 Long Term Plan was produced, it was only since July 2022 with the 2022 DWQAR being released that this need had been confirmed.

(f) **Approves** the provision of $360,000 of design budget in 2022/23 to be brought forward from the 2023/24 financial year from the District UV account (split proportionally between the relevant projects within this cost centre) to allow for the design and tendering to progress within the current financial year, to allow for construction to be completed in 2023/34 for the first stage.

(g) **Notes** that as this work was a capital project, it would be loan funded, and the rating implications would take effect from the year after the capitalisation of the first stages, being July 2024 with District Water rates forecast to increase from $35 per connection to $70 per connection.

(h) **Circulates** this report to the Community Boards for their information.

CARRIED

Mayor Gordon referred to the partnership arrangement with the Regulator, and part of that discussion had been UV treatment. The Council had been clear about its communities' opinion on chlorination, except where there was a known risk. The Council needed to do all it could to protect communities. The Waimakariri District Council was a benchmark Council that took advice from experts to ensure communities stayed safe and connected. He had fronted communities and Select Committees on the topic of chlorination. He was persuaded by consistent testing and the ability to 'turn on' chlorine at a moment's notice. However, he believed that a briefing on the result of the Cust exemption application was needed.

Councillor Redmond supported the comments of the Mayor and noted that the community had clear expectations around non-chlorination. UV treatment was essential for gaining exemptions. The Council was also obliged to provide safe drinking water, and UV treatment enhanced that ability. In terms of risk, it was clear Taumata Arowai did not wish to accept much risk.

5. BUDGETS

5.1 Roading and Transport

J McBride thanked J Millward and G Cleary for setting the scene for the budget report. She provided an overview of the key issues for roading.

The first was maintenance, operations and renewals with cost escalations in the Roading Maintenance Contract of 8% in the 2021/22 financial year and 14.8% in 2022/23. While the budget could absorb smaller increases, multiple significant increases would begin to impact levels of service to the community. J McBride noted that the Waka Kotahi co-funding share was already set, and there was little opportunity for extra funding from Waka Kotahi.

J McBride outlined the three options available to help fund the shortfall. Firstly, fully funding the gap for renewals and maintenance equating to an additional $1.28 million of funding. Secondly, to only fund maintenance, which was an additional $665,000. Thirdly, to fund limited renewals activities and all maintenance activities, which was an additional $1.058 million. The third option was recommended as it balanced the risk and need of the roading network.

The second key issue was from the National Land Transport Programme (NLTP) 2021-24, in the area of Low-Cost Low-Risk funding, where the Council had endorsed funding for just 50% of its requested projects. The Council had agreed to decrease spending in some areas and continue with some critical projects to the point where they would be ready for tender if funding became available. At this stage, funding seemed unlikely, it was thus recommended that the budgets for several projects be moved out to the following three-year funding period.

The third key issue was the successful application for Better Off Funding for Transport Choices. Funding needed to be brought forward to the 2023/24 financial year to allow for the provision of walking and cycling facilities. Two-thirds of the project was externally funded, with the Council required to fund a third.

Other noteworthy issues were the progress of three property sales and a Roading Administrator position subject to the approval of Council funding.

J McBride highlighted proposed changes to the approved budget, including cost escalation for drainage maintenance to remove high shoulder, increased power costs, Waimakariri Gorge Bridge repairs, school safety improvements and walking and cycling delivery.

Looking to the future, several changes in legislation have created issues that were likely to require further consideration as part of the next Long Term Plan (LTP) process, including school safety improvements, speed management plans and emissions reduction. In addition, high-level estimates for the balustrade of the Williams Street Bridge in Kaiapoi were approximately $750,000 to $800,000 compared to the current available budget of $225,000. There was also a need to construct the Eastern Link Road earlier than indicated in the LTP. J McBride also flagged the River Road upgrade, for which the current estimate was higher than the budget.

Mayor Gordon thanked J McBride for her report on a busy work programme. He noted the shortfall in funding from Waka Kotahi and asked if J McBride believed advocacy through avenues such as the Mayoral Forum would assist. J McBride commented that ongoing advocacy would help, and while it may not change this NLTP it may assist going forward.

Mayor Gordon questioned the property being prepared for sale, and J McBride advised that staff were currently looking at land requirements as part of the Mass Rapid Transit business case.

Councillor Mealings enquired if school safety improvements funding was for speed signage. J McBride replied that 25 schools would be assessed for signage and marking requirements, including a number on busy roads requiring electronic variable lights.

Councillor Ward referred to the Eastern Link Road which was deemed to be a State Highway and asked if work could continue on the project. G Cleary advised that staff had been in active conversation with the main developer and continued to work on the project.

Councillor Williams noted the increased power costs for lighting and questioned if costs should not be decreasing with Light-emitting Diode (LED) replacement. He asked if the Council were still paying for incandescent lighting rather than LED. J McBride undertook to confirm the lighting rates and provide that information to Councillors. She believed the replacement programme needed to proceed faster to see reduced lighting costs. She would bring options to the LTP regarding accelerating the replacement programme and other options, such as dimming lights after midnight.

Councillor Atkinson asked if the Council should consider deferring the Kaiapoi Bridge balustrades and amenity lighting projects considering the current inflationary environment, as they were not essential projects. J McBride agreed that could be an option, and she would need to confirm if any minor maintenance was required.

Councillor Redmond asked what the rate effect would be if the Kaiapoi balustrade projects were deferred. J Millward advised that it would be minimal at around 0.1%.

Councillor Blackie asked about the 500% increase in street cleaning budget and J McBride advised it was a longstanding agreement that had not been adjusted for a long time.

With S Hart present, Mayor Gordon asked about the impact of deferring the carpark property purchase. S Hart advised that while staff were investigating options, there was uncertainty about whether it would progress in the financial year. He noted that after Covid, there had been no increase in parking demand, so there was no immediate urgency to provide extra parking. Through the LTP staff would come back with options, including technology.

Councillor Mealings asked for clarification on land ownership in the area north of High Street, and S Hart confirmed that the Council owned some of the land but not all.

Moved: Councillor Atkinson Seconded: Councillor Redmond

THAT the Council:

(a) **Approves** the draft budget for the 2022 -2023 annual plan.

(b) **Notes** that cost escalations for road maintenance were expected to be in the order of 14% for the period through to 1 November 2022 and this level of cost escalation had not been planned for in the Long Term Plan.

(c) **Notes** that an allowance of $1.158M has been made for the increased cost of Maintenance and for some Renewals activities to partially fund the shortfall.

(d) **Approves** for inclusion in the Draft Annual Plan, consultation on additional unsubsidised budget of $1,058,000 in the 2023/24 financial year to cover the shortfall in Maintenance, Operations and Renewals funding to inform a decision around future levels of service.

(e) **Notes** that where Low Cost Low Risk funding had not been received from Waka Kotahi NZ Transport Agency, that the affected projects had been moved out to future years and would be considered as part of the next Long Term Plan process.

(f) **Notes** that funding of $1,240,000 had been included over 2023/24 and 2024/25 for School Speed Signage to allow for the requirements of the Setting of Speed Limits Rule May 2022 to be met.

(g) **Notes** that further funding would be required to meet Emissions Reduction targets, which was not currently included in the Long Term Plan.

(h) **Approves** moving the budget of $3,000,000 for Land Purchase for Carparking in 2023/24 out to the 2024/25 year.

(i) **Approves** inclusion of the Eastern Link Road in years 2028/29 to 2030/31 at a total budget of $35,000,000.

(j) **Defers** the Williams Street Balustrade project and Town Centres Amenity lighting and consider as part of the Long Term Plan.

CARRIED

Councillor Atkinson believed it was prudent to look at each project critically due to the inflationary spike.

Councillor Redmond believed there needed to be more focus on core activities rather than those that were 'nice to have'.

5.2 **Solid Waste**

K Waghorn explained that the main impact on the Solid Waste budgets had come from an expected 4.2% CPI increase, generally across-the-board, plus:

- High CPI adjustments to collections and facilities operations contracts
- High CPI increases to organics and greenwaste disposal charges.
- Landfill disposal charges had the triple impact of high CPI, ETS cost increases, the $20/tonne increase to the landfill levy and transportation to landfill rising by 10%.
- A reduction in incoming landfill waste from a group of private bin collectors which would increase the fixed-costs per-tonne component of the gate charges.
- Introduction of a Ministry for Environment (MfE) $10 per tonne landfill levy on all materials going into cleanfill sites plus additional monitoring and reporting requirements.
- Late advice (received yesterday) about an increase to recycling processing charges from $185 to $210 per tonne. It was proposed to increase the commercial recycling gate charge to $241.50 per tonne to cover the full costs for processing commingled recycling from collection companies.

In the Kerbside Collection Account, the increases would result in increases to targeted rates for kerbside recycling by 10.6% over the 2022/23 financial year budgets but within 0.6% of Annual Plan forecasts. Rubbish bags would increase by ten cents (from $3.60 to $3.70), which was ten cents below forecast due to lower bag supply costs. The recycling processing charge would increase the net deficit from $223,000 to $114,100, which could be funded out of surplus.

In the Waste Minimisation Account, overall operating costs were projected to be as forecast in the last Annual Plan budgets, except for increased recycling costs.

In the Disposal Account, the main impacts were on gate charge income, most of which were reducing despite proposed gate charge increases, owing to lower landfill tonnages (loss of group of collectors, plus potential impact of a decrease in economic activity), lower weights in kerbside rubbish bins, lower weights/volumes of cleanfill and increase to commercial recycling gate charge as increase fee from $212.75 to $241.50.

The main impacts on operational costs were increased costs for hazardous wastes and recycling (higher usage, increased recycling processing charges), lower costs for landfill disposal (lower tonnages, offsetting per-tonne disposal increases), higher costs for greenwaste disposal (increase in tonnages and disposal costs), lower costs for transport (lower tonnages, offsetting higher transportation charges) and higher facilities operations costs (contract CPI adjustments, not dependent on tonnages).

Staff also proposed that the discounted general waste charge be officially disconnected from an annual tonnage, consistent with how this has been applied in recent years and that it be limited to private collectors who signed a Waste Acceptance Agreement and the Rangiora Salvation Army.

Councillor Williams asked about the move away by private contractors for greenwaste and if there was then a cheaper option. K Waghorn advised that the greenwaste went to the Living Earth plant, and she was unaware of what private contractors did.

Councillor Williams enquired if food waste was removed from the organics bins, would there be a better value option to eliminate greenwaste? K Waghorn advised that it would cost considerably more to send food waste to landfill than greenwaste. Councillor Williams requested that further information on costs be sent to Councillors.

Councillor Redmond asked how Southbrook Transfer Station charges compared to the Christchurch City transfer station charges. K Waghorn did not have the exact fees, however, commented that the Council tried to be in line with Christchurch City as to not lose customers.

Councillor Atkinson questioned if the number of Christchurch customers using Southbrook Transfer Station was tracked and K Waghorn advised it was not.

Councillor Cairns commented that during his attendance on bin audits he had observed how bad residents could be at sorting waste and asked if $10,000 was enough for education. K Waghorn advised that there was $80,000 available for audits which would continue for a number of years. Education could be managed with that amount and there was the potential to reassess during the LTP.

Councillor Ward asked if less food waste going down the sink was better for the sewer outlets. G Cleary commented that there were other drivers for food waste in the organics bin rather than just financial, including keeping the same service level as Christchurch, reducing confusion around waste streams. However, he agreed that kitchen waste was a considerable burden to wastewater treatment plants.

Mayor Gordon asked about the reference to the Salvation Army and K Waghorn explained that they were the only exemption to a discounted charge.

Moved: Councillor Atkinson Seconded: Councillor Cairns

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

(b) **Approves** changing the acceptance criteria for applying the Refuse Disposal discount from being tied to an annual quantity of waste disposed of at Southbrook Resource Recovery Park, to being available to private collection companies and to the Rangiora Salvation Army as long as these businesses meet specified conditions.

(c) **Approves** an increase to commercial recycling gate charge from $212.75/tonne to $241.50/tonne.

CARRIED

5.3 **Water**

C Roxburgh provided a brief overview of the water budgets, noting that while the Annual Plan intended to remain as consistent with the LTP as possible, a number of factors generated the need to make changes. These included the acceleration of UV treatment budgets, increase in drinking water sampling budgets, increase in water conservation and leak detection budgets and the amendment to growth projects to cover east Rangiora. Many drivers were out of the Council's control, and staff had tried to phase in increases.

Councillor Williams if the testing laboratory would not be a valuable asset to retain in light of the increased amount of water testing required, and was there an option to increase the scope to include other councils such as the Hurunui District Council. C Roxburgh explained that the laboratory was only accredited for E Coli testing and the new rules required many different tests that the laboratory was not able to perform. Staff had investigated different options and found it was more cost efficient to use an external laboratory. In addition, resources were busy just on sample collection.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

At this time, Item 6.1 "Upgrades to Woodstock Road Part of Oxford Rural No. 1 Scheme" was taken. The Minutes have been recorded in the order of the Agenda.

5.4 **Wastewater**

K Simpson provided an overview of changes. Regarding rating impact, there was an increase of 0.8% to the Eastern Districts Sewer Scheme and 5.1% to the Oxford Scheme. Operation changes included increased septic tank cleaning costs in Mandeville and increased influent sampling costs on the Rangiora and Oxford Schemes. In terms of capital works, the fundamental changes were a new project for the Oxford Waste Water Treatment Upgrade and an Oxford Step Screen Replacement. The Merton/ Priors Roads project had been deferred. In addition, a budget had been brought in for servicing the Bellgrove development in East Rangiora.

K Simpson noted that changes to future year budgets included the Oxford Waste Water Treatment Plant. LTP issues included the Kaiapoi Capacity Upgrade project, Taumata Arowai signalling that they would focus on wastewater and the expiry of the Ocean Outfall Discharge Consent in 2039.

Councillor Williams referred to the Bellgrove development and asked if the contributions covered the additional sewer requirements or if ratepayers were subsidising the subdivision. K Simpson replied that all the wastewater upgrades in that area were growth funded and solely for the development in northeast Rangiora. Over the next four years, it would include installing additional pump stations and rising mains.

Councillor Williams referred to the high costs of addressing the ocean outfall water quality and questioned when the costs would be provided for in the budget. K Simpson advised that the budget provided in the LTP was to scope the scale of work required and was a crucial point in the infrastructure strategy.

Councillor Redmond asked if the Three Waters reform had accelerated the need to work on the ocean outfall, and K Simpson advised no, the current consent extended to 2039.

Councillor Fulton referred to the upgrade work planned for Oxford and enquired about growth projections for the town. K Simpson advised that there were currently around 1000 properties, and while significant growth was not expected, the treatment plant was already operating near capacity and, as such, required the upgrade.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.5 **Drainage**

K Simpson took the report as read and introduced J Recker, the new Stormwater and Wastewater Manager. He noted that some of the operational increase was due to seasonal fluctuations, including additional budgets for drainage improvement works identified by the Flood Team following the flood events of 2021 and 2022.

A new 3 Waters Compliance Officer role was required to manage discharges from high-risk sites into the stormwater reticulation network. This function used to be covered by Environment Canterbury (ECan) and would be transferred to the Council shortly. In addition, a district-wide drainage rating review would be undertaken as part of the 2022/23 Annual Plan process.

Councillor Blackie queried why the Clarkville Rural Drainage increase was set for 1.2%, as he was under the impression that this had been set at 10% for ten years. K Simpson concurred that the Clarkville Rural Drainage had set an increase of 10% for ten years to provide an emergency fund. That was unchanged, however, the 1.2% was an additional increase to cover maintenance costs.

Councillor Atkinson questioned the difference in the figures between Rangiora and Kaiapoi, noting that Kaiapoi's figures were proportionally higher than Rangiora's. K Simpson explained that the Council had recently constructed a significant amount of infrastructure in Kaiapoi. Also, Kaiapoi's stormwater pipes were old and required regular flushing.

Councillor Williams observed that the Government's Better off funding would cover the box drain at Tuahiwi and therefore queried why the project was included in the budget. K Simpson stated that currently, the Three Waters Reform was on hold, and there was no certainty when this fund would materialise. However, the Council could be refunded at a later stage for any work undertaken.

Councillor Williams also raised concern regarding the proposed Ashley Street pipe upgrade, as he believed that the pipework was sufficient to handle any excess water during a flooding event and believed that only the sump work should be carried out.
K Simpson agreed to bring a report on the matter to the Utilities and Roading Committee meeting prior to the Council deciding on the matter.

Councillor Fulton queried why the Mandeville resurgence channel upgrade budget had increased. K Simpson advised that this project had been delayed and that there had been an increase in design work and construction costs. Councillor Fulton also queried if the project would cross private land, to which K Simpson replied that the redesign had relocated the channel within the current road reserve.

Councillor Mealings enquired if the box drain project had to be completed within a specific timeframe to receive the Government funding, and K Simpson confirmed there was a five-year deadline.

Councillor Goldsworthy enquired if savings made with specific projects could be used throughout the district rather than localised. K Simpson said this issue should be addressed with the proposed change to the rating system.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

(b) **Approves** the revised wording for stormwater discharge approvals as set out in Section 5.

CARRIED

5.6 **Stock Water Races**

K Simpson took this report as read, and Councillor had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.7 **Utilities and Roading Overheads**

G Cleary spoke to the report, stating that the 12.1% increase was for increased salary costs to enable three new positions to be created and for a budget for non-chargeable development work done by the Project Delivery Unit.

Councillor Williams queried why developers were not charged for the work carried out by Council staff. G Cleary replied that some work was more administration and cost for resource consents which could not be charged to the developers. If these costs were passed on to developers, it would cost more in administration processes to recover the costs than the budget that had been requested.

Councillor Williams also queried that if the Three Waters reform continued, would the new positions be transferred to the central entity. G Cleary agreed that would be the case, however, if the Three Waters reform did not eventuate, these positions would still be required to cover the work required in the future.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.8 **Project Delivery Unit**

K Simpson took this report as read, and Councillor had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.9 **Water Unit**

K Simpson took the report as read.

Councillor Williams enquired about equipment cost increases and K Simpson stated that the corporate account managed replacement and repaired equipment.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.10 **Libraries and Local Museums**

P Eskett spoke to the report, which requested an increased budget for creating two new library assistant positions to cover weekend shifts. P Eskett noted that staffing numbers had stayed the same since 2011, however, the number of library patrons and programmes offered by the library service had increased. She stated that foot traffic on Saturdays and Wednesdays had risen by 37.8% and 44.3%, respectively. Staff on Saturdays were impacted by not being able to take breaks as required, which was a health and safety concern.

P Eskett also requested funding for new fit-for-purpose furniture and fittings, noting that due to the delay of the Library upgrade, many of the furnishings needed to be improved, and often there needed to be more chairs for patrons to use.

Councillor Williams enquired if a recession was a good time to replace furniture. P Eskett replied that the library was becoming a hub for wellbeing, especially with the older generation. However, much of the furnishings needed to be more suitable for older people who struggled to get out of low chairs.

Councillor Cairns questioned the power costs as these seemed to have dropped since the last budget. P Eskett noted that an anomaly had occurred, and the Finance Unit had rectified this, and the figures were indeed correct.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.11 **Aquatic Facilities**

M Greenwood spoke to this report, acknowledging the increase in fees and charges, however, noting that there had been increases in staffing and electricity costs. He advised that the Council recruited and trained staff, however, most only stayed a short time and it was a continual battle to retain staff. On average, the expenses were static but the income had decreased.

Councillor Atkinson recognised the impact of Covid on the facilities and encouraged staff to look at different options to assist with staffing shortfalls and promote patronage. J Millward believed that the facilities needed to offer more, such as hydro slides and more relevant equipment/play areas, to compete with other facilities in Christchurch. Councillor Atkinson encouraged staff to consider strategic planning for submission to the LTP.

Councillor Williams asked if the power consumption could be reduced by reducing the pool temperature by one degree. M Greenwood explained that the older demographic would not be able to tolerate colder temperatures which would negatively impact the number of people using the pools. In fact, staff were often requested to increase the temperature of the pools.

Councillor Fulton noted the competition by Christchurch facilities yet queried if there was any data to support this supposition. C Brown noted that Christchurch's QEII facility was full to capacity most weekends as they offered far more than just a pool.

Councillor Ward enquired if staff had investigated utilising Surf Lifesavers after school on weekdays as they were already trained. M Greenwood agreed that this would be a good solution, especially during the winter months, however, most surf lifesavers preferred the surf and were reluctant to work at indoor facilities.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.12 **Community Development**

T Sturley noted that the work fluctuated depending on what programmes were being carried out and what emergencies were being dealt with. Currently, the team had a part-time administrator, however, with the increase in population, programmes, the impact of Covid and the flooding events of 2021 and 2022 there was a need for a full-time administrator.

Councillor Williams queried the salary allocation and was told that the Unit's remuneration had been reviewed and found to be below market rate and had been adjusted accordingly.

Councillor Redmond enquired if the secretarial support offered to groups such as Waimakariri Health and Wellbeing would be impacted. T Sturley replied that secretarial support was provided for the broader network.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

(b) **Notes** that any significant changes to levels of service or performance measures were to be provided within a separate report provided to the Council.

CARRIED

5.13 **Greenspace and Community Facilities**

G McLeod spoke to the report, commenting that most increases were due to compliance requirements. The Pines Beach playground was located in a regularly flooded area, which required the playground to be closed. The playground, therefore, needed to be relocated to a more suitable area.

There was no progress on the purchase for land for a community facility in Ravenswood, however, negotiations were underway to acquire land in Pegasus and a report on this matter would be submitted the Community and Recreation Committee shortly.

Councillor Williams noted the grant to the Southbrook Sports Club, and he understood it to be a one-off grant. G McLeod replied that the grant had not been paid last year and that this was just a placeholder as staff investigated the options for a partnership with the Club.

Councillor Williams held the opinion that it was unnecessary to have community facilities at both Ravenswood and Pegasus and believed that it would free up considerable funds for other uses if only one centre were developed. C Brown replied that a feasibility study had been undertaken, which indicated that the best option would be to have both facilities. He would include the study with the report to be submitted to the Community and Recreation Committee.

Councillor Redmond enquired if the water and wastewater services for the new development at the airfield would be required this financial year and if some of the cost could be offset when the new development came online. G McLeod noted that this was a compliance matter that could not wait.

Councillor Cairn noted that the income received from the airfield was not close to the expenditure and enquired if it was not time to increase fees and charges. G McLeod stated that many of the airfield users were hobbyists and did not have the financial resources to pay for increased fees. Councillor Atkinson acknowledged that the Council was scheduled to have a briefing on the airfield shortly and requested that the briefing be held at the airfield to enable newer members a chance for a site visit.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

(b) **Notes** the overall increase for Operational Budget was $46,548.

(c) **Notes** the overall increase for Capital Budget was $598,080.

CARRIED

5.14 **Community and Recreation Overheads**

C Brown took this report as read, and Councillor had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.15 **Earthquake Recovery and Regeneration**

C Brown took this report as read, and Councillor had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

(b) **Notes** that external funding provisions for the proposed Kaiapoi Community Hub Trust's development of buildings and associated facilities on site were not included in this budget and commentary.

CARRIED

5.16 **Property, Housing for the Elderly, Camping Grounds**

R Hawthorn took the report as read, noting the only changes were for additional accommodation for Corporate Enterprise and seismic strengthening for the Kaiapoi Subway outlet, which would be carried out when the lease expired later in the year.

In response to a query from Mayor Gordon regarding the accommodation for Corporate Enterprise, R Hawthorne advised that the tenancy was on a month-by-month rental and that the building was not ideal for the purpose, hence staff were investigating more suitable premises.

Councillor Redmond queried the budget set aside for legal fees, and R Hawthorne replied that, at times, there were disputes and lease issues that required legal advice.

Councillor Redmond also noted the power costs. R Hawthorne confirmed the figures were correct and the power usage at the Rangiora building had, in fact, dropped since the refurbishment, however, the increase in the charge rate offset this.

Councillor Atkinson confirmed that any sale of the property would be at market rate and R Hawthorne agreed.

Councillor Williams queried the increase to the seminar and training budgets. R Hawthorne acknowledged that he had neglected to increase these budgets for several years, which had now been rectified. He noted that new staff had been hired and it was essential that they have the training opportunities for growth in their field.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.17 **Planning, Regulation and Environment Management Overhead**

T Tierney took this report as read, and Councillor had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.18 **Planning Unit**

T Tierney advised that the Planning Unit was monitoring the number of resource consent applications being processed and received to evaluate if the potential financial recession and the changes in the development level influenced the number of applications being received. She noted the change to budget for additional discounts required by the Resource Management Act, 1991 to provide for the likely event that some discounts on fees may need to be given in the first half of 2023/24 for those rural subdivision applications that were being processed when the proposed District Plan was notified. The question was whether the Council should actively budget for the possibility of discounting fees or deal with the cost as and when required. T Tierney confirmed that there was usually sufficient funding in the budget to deal with the matter.

W Harris commented that there had yet to be an indication that the number of residential resource consent applications was declining. Currently, the number of applications received by the Council was consistent with the number received last year. Therefore, the Council was budgeting for an increase in resource consent income based on the previous three to four years' trends. T Tierney further advised that the Planning Unit had reviewed its fees and charges to reflect inflation and ensure consistency. As a result, the proposed revised fees and charges would increase the Council's revenue.

Councillor Atkinson questioned if it would be better if the discounting of fees were deficit funded as and when required. J Millward confirmed that the proposed $50,000 for the discounting of fees had not been provided for in the current budget and recommended that it not be included as the exact amount required had yet to be finalised.

Councillor Blackie enquired about what had been done to ensure that the Senior Planner vacancies were filled as soon as possible. T Tierney explained that the position description and remuneration packages had been reviewed to ensure they were more market-related. The Council was also proactively working with recruitment agencies to shoulder-tap possible interested candidates.

Councillor Williams requested that the projected Resource Consent indicated in the budget document be corrected.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

The Mayor commended the Planning Unit for the work they have been doing and the consistent positive feedback they have been receiving from members of the public.

5.18 **Development Planning Unit**

M Bacon pointed out the variations between the forecasted 2023/24 budget and the actual 2023/24 Annual Plan Budget. The primary reason for the deviation was that the forecasted 2023/24 budget was prepared on the assumption that hearing would commence in the second half of 2022. However, the overall District Plan Review Programme had been delayed, and hearings were only expected to commence mid-2023. He noted the new line items primarily associated with external consultants, commissioner disbursements, hearing expenses and legal advice related to the District Plan Review Programme hearings phase. Consultant costs were expected to rise as the Council has not successfully filled vacant positions in the Team and due to additional responses that the Council was expected to provide.

Councillor had no questions on this item.

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

Mayor Gordon thanked M Bacon for his leadership, noting that the Development Planning Unit would be busy during 2023 with hearings and other District Planning work.

5.20 **Building Unit**

T Tierney reported that the number of building consent applications for new dwellings had declined. The Council would be carefully monitoring this trend during the financial year due to the potential impact on revenue predictions for the next financial year, which was based on current numbers. She acknowledged that the nature of the building industry was cyclical, however, she believed that Councillors should take note of this downward trend. She also highlighted the Building Unit's current reliance on external consultants for processing building consents, which would hopefully be reduced in future.

W Taylor advised that the Council's bi-annual International Accreditation New Zealand (IANZ) assessment was set for May/June 2023. He noted that the Council had not met the statutory requirement to inspect pool barriers once every three years. Budget provision had therefore been made for a new full-time Compliance Officer to enable the Council to discharge its statutory duties and provide additional inspection resources for the Building Inspectors.

W Taylor highlighted that proposed increase in the fees and charges, which was consistent with the proposed fees and charges of other district councils. In addition, the possibility of charging for the inspection of pool barriers was being investigated. Currently, the cost of inspections was being borne by ratepayers, and the level of compliance was low. It was hoped that paying an inspection fee may result in a higher compliance level. In conclusion, W Taylor noted that the budget for CCC Extension should be corrected to reflect $2,535.

Councillor Atkinson enquired about the methods to be used to communicate the proposed increases in fees and charges to the community and interested parties. He suggested that a report be submitted to Council to advise how this significant fee rise would be communicated to the public. T Tierney noted that investigation had shown that there was much work that the Building Unit was not being paid for. Hence the significant increase in fees. However, the proposed fees and charges aligned with those of neighbouring councils. She confirmed that a Communications Plan would be drafted to ensure all interested parties were advised of the proposed increase in fees and charges.

Mayor Gordon asked if a gradual increase in the fees and charges had been considered. T Tierney commented that the Building Unit carried a very high overhead which will need to be covered. So, a gradual increase could be considered, however, it would mean more ratepayer funding.

Mayor Gordon noted that there would be a public outcry about the proposed increases. He asked if the Building Unit were ready to deal with the possible backlash. W Taylor noted that the proposed hourly rate reflected the time the Building Unit spent on work. An analysis showed that the Building Unit was not recovering costs and was underfunded in some areas. In addition, it was found that commercial work was not price sensitive, but, the amount of work was extensive and time-consuming. However, the residential market was price sensitive, and some backlash was anticipated.

T Tierney suggested that the Building Unit draft a spreadsheet with a couple of scenarios of staging the proposed fees and charges increases for discussion at the Council's Fees and Charges Workshop. It was agreed that the spreadsheet should include potential changes if the number of building consent applications declined and also a comparison to other councils.

Councillor Ward enquired if most of the building consents in the Ravenswood and Bellgrove subdivisions had been approved. W Taylor advised that there was no backlog of applications in Ravenswood and applications from Bellgrove were only expected from June 2024.

Councillor Mealings questioned how many hours, on average, were spent on processing a Building Consent application. W Taylor explained that the Building Unit mainly dealt with the collation of Project Information Memorandums (PIMS) and compliance checks. Compliance checks took approximately 1.6 hours because of the complexity of the subdivisions. The compilation of PIMS usually took about 3.65 hours, and compliance with the Medium Density Residential Standards (MDRS) added ±650 hours per annum to the process. W Taylor clarified that the Administration Fee was $169.

Councillor Redmond asked if the proposed fee for the inspection of pool barriers would cover the cost of the new full-time Compliance Officer. W Taylor confirmed that the fees were expected to cover about half the cost of employing a full-time Compliance Officer. T Tierney verified that a full-time Compliance Officer would still be needed, even if the number of building consent applications declined.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan subject to a further discussion of the proposed increase in fees and charges.

CARRIED

Mayor Gordon applauded the work being done by the Building Unit and the positive feedback received.

5.21 **Environmental Services Unit**

T Tierney advised that the growth in population in the district had increased the demands for compliance enforcement, hence the request for an additional full-time Compliance Officer. Although there would be no costs to ratepayers, it should not be misinterpreted as a revenue-gathering exercise. She also noted that the error in the income from Dog Registration Fees reflected in the budget, which was expected to be between $743,000 to $745,000 and was not expected to decline.

B Charlton reported that the Council had replaced the plastic dog tags with metal tags, which has increased the amount spent on dog tags. However, it was expected that the metal dog tags would save costs in the long run. Also, the Ministry of Primary Industries (MPI) inspected the Council's Dog Pound, and it was recommended that the dogs' comfort be improved. The Council, therefore, increased the maintenance spent on the dog pound by $24,000. It was expected that the MPI would also recommend the appointment of a director for the Dog Pound. B Charlton further noted the steep increase in service requests dealing with compliance concerns. The Council would not be able to keep up in future if the increase in demand continued as projected.

T Tierney highlighted that currently, the Council was outsourcing its Environmental Health Food Services work. The Environmental Services Unit had undertaken a Section 17(a) review to establish the cost-effectiveness of outsourcing this work and was investigating the possibility of bringing this work in-house.

In response to a question form Mayor Gordon, B Charlton explained that metal dog tags were more durable and easier to scan. It was also anticipated that the metal dog tags would last for multi-years and would, therefore, not need annual replacement. This would not only save cost but would also save staff time during dog registration.

Councillor Atkinson sought clarity on the $245 fee for camping grounds. B Charlton clarified that this was a set fee and an hourly rate would only be applicable if the campground was found to be non-compliant.

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Councillor Williams inquired if the information on the dog tags could not be embedded on the microchips implanted in dogs. B Charlton advised that the Dog Control Act, 1996, required all dogs to be registered and tagged.

Councillor Blackie commented that the Council issued different colour plastic tags each year, and the colour was a visual indication if a dog had been registered. He assumed that this would not be possible with the new metal tags. B Charlton acknowledged that this was a disadvantage, however, he believed that the advantages of the metal tags still outweighed the plastic tags.

Councillor Fulton noted that the Enforcement Officers primarily dealt with disgruntled public members. He asked if sufficient provision had been made for conflict resolution training and staff wellness. B Charlton agreed that Enforcement Officers were in a risk-based business, the Council was aware that compliance enforcement could be adversarial. All staff, therefore, receive continued training in conflict avoidance. T Tierney advised that the Council was investigating the possibility of issuing Enforcement Officers with body cameras as a defence mechanism.

Mayor Gordon believed that $65 afterhours call out fee did not reflect the costs involved in realising the dogs from the pound afterhours or over weekends. B Charlton explained that staff went to the dog pound on weekend to feed and water the dogs, owners were contacted and arrangements were made for them to collect their dogs when the dogs were being attended to.

Mayor Gordon questioned if the possibility of relocating the Dog Pound was still under consideration. T Tierney confirmed that the relocation was still an option in the future. Hence, the Council's decision not to spend too much funds on the current pound.

Councillor Mealings asked how much time was spent dealing with free-roaming animals. B Charlton advised that corralling free-roaming animals took little of the Environmental Services Unit's time. He noted that although the Council still had a stockyard, returning the animals to their owners was standard practice.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

(b) **Notes** that any new levels of service / performance measures are to be provided within a separate report provided to the Council.

CARRIED

Mayor Gordon commented that the Environmental Services Unit had one of the most challenging jobs in the Council. The commended B Charlton for the manner that he dealt with the public and the unit has been doing.

5.22 **Civil Defense Emergency Management**

T Tierney noted that the CDEM Cadet Programme continued to struggle, and the programme review would therefore be discussed with the Council on 28 February 2023. In addition, the need for a new staff position of a full-time Emergency Management Coordinator had been identified, which would enhance the efficiency of the Emergency Management Offices with an appropriate workload distribution.

Mayor Gordon noted that provision had been made to replace the 4WD Mazda Bounty Ute held at the Council's CDEM base to deploy its CDEM volunteers rapidly. He questioned if the possibility of donating the vehicle to the NZRT-12 Response Team had been explored. T Tierney confirmed that the matter was under investigation.
Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.23 **Strategy, Engagement and Economic Development**

S Hart highlighted the following:

- The 8% percent increase in operational expenditure for 'Strategic Projects', which was largely due changes to the way in which of two existing staff positions were funded. No new staff positions had been added within the Unit.
- The large number strategies either being reviewed or developed such as the Integrated Transport Strategy, Natural Environment Strategy, Waimakariri Economic Development Strategy. It was anticipated that most of the strategies would be adopted by the Council during 2023 and the early part of 2024, which would have potential funding implications which would have to be considered in the next LTP.
- The Council had applied for the first tranche of Better off Funding, associated with the Central Government's Three Waters Reform Programme. The Council's first tranche application consisted of seven projects, and if successful, the funds must be expended by June 2027. Expenditure and income lines related to Better off Funding were included within the appropriate budget areas

Councillor Williams enquired if the $ 1.19 million Better Off Funding expenditure for Climate Change was only for labour or if some of the funding would be spent on physically combating climate change. S Hart explained that most funds would be used to build information. The Council would produce a carbon footprint for the whole district and develop strategies to combat climate change risks. However, approximately $200,000 of the funding would be allocated to the Integrated Transport Strategy, which included implementation actions. In addition, approximately $250,000 was earmarked for implementing the Natural Environment Strategy. Some funding would also be spent on assisting local businesses in assessing their carbon footprints.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.24 **Finance and AIM (Asset Information Management)**

J Millward took the report as read, noting there were no new issues not already identified within the budget.

Councillor had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.25 **Customer Services**

J Millward noted the proposed increase in fees and charges. In addition, he explained the need for an additional staff member in the Customer Services Unit.

In response to a question from Councillor Williams, J Milward confirmed that the Council was bounded by law to accept cash payment.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

CARRIED

5.26 **Canterbury Museum**

J Millward reported that the Canterbury Museum had indicated that there would be a $25 million funding shortfall on the Museum's budget, and it was anticipated that the four contributed authorities may be requested to cover the shortfall. However, to date, the Council had yet to be advised how the Museum intended to recover the shortfall.

Councillor Ward sought clarity on what the $25 million would be spent on, but J Millward noted that no information was available at this time.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2023-2024 Annual Plan.

(b) **Notes** the commentary was based on projections from the 2022/23 budget provided by the Canterbury Museum.

CARRIED

5.27 **Information and Technology Support**

A Keiller advised that the Information and Technology Support Unit's main focus was replacing the Council's Enterprise Software. However, he also highlighted the following other key Information and Technology projects:

- eServices – The continued development of the Council's on-line services that were linked to the Council's website.
- Microsoft 365 – The rollout of Microsoft 365 and its associated management tools to create a suite of productivity tools for staff.

- VendorPanel – The Council was in the early stages of rolling out the procurement management system to standardise the Council's procurement of services and goods through tenders across the organisation.
- Submissions Management – The Council sought a solution to the review of governance, policy, process and the management of submissions.

A Keiller commented that the two major cost centres were the continued increase in software licensing costs and the outsourcing of the Council's data centre.

Councillor had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2022 -2023 Annual Plan.

CARRIED

5.28 **Governance and Administration Creatives**

S Nichols noted that Councillors were aware that there may be a need for a representation review, which would be conducted from March to October 2024. The budgeted funding would primarily be for the Department of Statistics mapping and public consultation. A report would be submitted to the Council in April 2023 regarding the proposed representation review. She commented briefly on the previously discussed amendments to the elected member's training budget.

S Nichols advised that the Quality and Risk Unit had been moved from the Organisational Development and Human Resources Unit to the Governance Unit, however, there would be no budgetary impact. J Millward commented that the restructuring was needed effectively to deal with the Council's business risk to ensure no negative impact on the Council's insurance.

Mayor Gordon requested that the heading of Mayoral Activities be amended as the budgets did not only pertain to the Mayor. S Nichols undertook to speak to the Finance Unit about breaking down the budget further.

In response to a question from Councillor Williams, S Nichols explained that the Mayoral Activities related primarily to hosting Community Service Awards and Citizenship Ceremonies.

Councillor Williams questioned the budgetary provision for Water Strategy Management Committee Honorarium. S Nichols advised that the Waimakariri Water Zone Committee members were paid an honorarium, which was 50% funded by the Council and 50% by ECan. J Millward further noted that the Water Strategy Management Committee Operations covered the secretarial support provided to the Waimakariri Water Zone Committee. S Nichols would confirm the budget provision for the Water Strategy Management Committee Operations.

Councillor Blackie sought clarity on the payment of Te Kōhaka meeting allowances and the Te Ngai Tūāhuriri meetings. S Nichols noted that the Te Kōhaka meeting allowances were paid to the Te Kōhaka o Tūhaitara Trust members. The Te Ngai Tūāhuriri meetings referred to regular meetings that staff had with Ngai Tūāhuriri representatives about various operational issues.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2022 -2023 Annual Plan.

CARRIED

5.29 **District Management**

J Millward noted the additional role of an Office Administrator to support the increased workload to the Mayor due to an increase of Mayoral responsibilities as the Chairperson of Zone 5. The Mayor raised various concerns about the sustainability of Zone obligations and activities and believed that the smaller Councils would struggle to keep up.

Councillors had no questions on this item.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2022 -2023 Annual Plan.

CARRIED

5.30 **Organisational Development and Human Resources**

S Salthouse noted that it had been highlighted throughout the day that the Council was struggling with recruiting qualified staff, which resulted in several critical roles in the Council being vacant for long periods. The Council's turnover had gone from 7% in the past 20% at the end of last year. This had led to a loss in productivity, some larger projects taking longer than expected, and staff's general wellbeing being low. Currently, the Human Resources Unit did not have the capacity to provide specialist recruitment services, and the Council was therefore spending large amounts on recruitment agencies. She commented that the money could be spent internally, hence the need for additional resources that specialise in recruitment to alleviate that risk moving forward.

S Salthouse advised that the challenges with recruitment had resulted in staff wellbeing being the most critical risk on the Health and Safety Risk Register. This came from the pressure of not having key roles filled, which resulted in increased workloads. Staff wellbeing would therefore be Human Resources main priority this year. Although the Council had always stive for a safe working environment, the risk in the decline in staff wellbeing had prompted the Council to enlisted WorkSafe to do a full audit of its health, safety and wellbeing procedures and policies.

Mayor Gordon asked what the current turnover was, and S Salthouse reported that currently, the Council had a turnover of 15.5%, however, December and January were traditionally low turnover months.

Mayor Gordon questioned if the exit interviews had indicated any issues that the Council could address to make it a more attractive employer. S Salthouse noted that an analysis of the exit surveys indicated that people were moving for better remuneration and opportunities for growth and advancement. Some of the aspects were being addressed and the Council was now in a good place regarding remuneration. The other concerns were workplace pressures, workloads and work expectations.

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **Approves** the draft budget for the 2022 -2023 Annual Plan.

CARRIED

6. MATTERS TO BE CONSIDERED WITH THE PUBLIC EXCLUDED

Section 48, Local Government Official Information and Meetings Act 1987

Moved: Mayor Gordon Seconded: Councillor Ward

THAT the public be excluded from Item 6.1 of this meeting

CARRIED

THAT the public be excluded from the following parts of the proceedings of this meeting. The general subject of the matter to be considered while the public was excluded, the reason for passing this resolution in relation to the matter and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution, were as follows:

Item No	Minutes/Report of:	General subject of each matter to be considered	Reason for passing this resolution in relation to each matter	Ground(s) under section 48(1) for the passing of this resolution
6.1	Report of C Roxburgh (Water Asset Manager) and C Freeman (Water Engineer)	Upgrades to Woodstock Road Part of Oxford Rural No. 1 Scheme	Good reason to withhold exists under Section 7	Section 48(1)(a)

This resolution was made in reliance on section 48(1)(a) of the Local Government Official Information and Meetings Act 1987, and the particular interest or interests protected by section 6 or section 7 of that Act which would be prejudiced by the holding of the whole or relevant part of the proceedings of the meeting in public are as follows:

Item Nº	Reason for protection of interests	Ref NZS 9202:2003 Appendix A
6.1	Protection of privacy of natural persons To carry out commercial activities without prejudice	A2(a) A2(b)ii

CLOSED MEETING

Resolution to resume in Open Meeting at 12.58pm

6.1 Upgrades to Woodstock Road Part of Oxford Rural No 1 Scheme – C Roxburgh

Resolves that the motion and contents of the report, attachment and discussion remain Public Excluded under LGOIMA Section 7 (h) and (i) as the documents contains commercially sensitive information.

CARRIED

The Public Excluded portion of the meeting was held from12.50pm – 12.58pm for Item 6.1.

OPEN MEETING

7. BUDGET SUMMARY

Mayor Gordon noted that the only matter still to be discussed was the possibility of extending the Earthquake Loan to ensure that the proposed rates increase remained under 6%.

Councillor Goldsworthy questioned the long-term effect on interest repayments for future Councils if the Earthquake Loan was extended. J Millward advised that the interest would effectively amount to $1 million.

Moved: Councillor Atkinson Seconded: Councillor Blackie

THAT the Council:

(a) **Approves** the extension of the current Earthquake Loan in a bid to keep the proposed rates increase under six percent.

CARRIED

Mayor Gordon believed that the community would be under much pressure during the next year, and it would be difficult for people on a fixed income to keep up with the overall increase in the cost of living. He, therefore, supported the motion.

Councillor Williams agreed that the proposed rates increase should be kept as low as possible because people would struggle financially once the mortgage rates rose as predicted. He, therefore, also supported the motion. However, Councillor Williams cautioned that the Council should not be perceived as spending funds fruitlessly while the community was struggling financially.

Councillor Atkinson supported the motion, noting that the extension of the Earthquake Loan was not ideal, however, the threat of a recession would cause financial uncertainty. The Council, therefore, needed to try and alleviate some of the ratepayers' financial burdens by keeping the proposed interest rates as low as possible.

8. CONFIRM RECOMMENDATIONS

Moved: Mayor Gordon Seconded: Councillor Atkinson

THAT the Council:

(a) **That** all budget resolutions with reports be approved and recommended to Council for adoption on 28 February 2023.

CARRIED

Mayor Gordon took the opportunity to thank the Acting Chief Executive, the Management Team and the staff for their work in preparing the budgets. He also extended thanks to Councillors for their input and contribution.

9. NEXT MEETING

The Council would meet on Tuesday 28 February 2023 to consider a report on the consultation timeframes of the Draft Annual Plan.

The next ordinary meeting of the Council was scheduled for 1pm on Tuesday 7 March 2023 in the Council Chamber, Rangiora Service Centre, 215 High Street, Rangiora.

THERE BEING NO FURTHER BUSINESS, THE MEETING CLOSED AT 5.50PM.

CONFIRMED

_____

Chairperson
Mayor Dan Gordon

14 March 2023
Date

RANGIORA STORMWATER MANAGEMENT PLAN

HYDRAULIC MODELLING

TECHNICAL REPORT

TABLE OF CONTENTS

APPENDICES

Prepared By: _____ Peter Carter Assistant Engineer

Reviewed By: _____ Rob Kerr Design Engineer - Services

Approved By: _____ Andrew Robinson Technical Services Engineer

TSU Project Number: TS6110
Report Number Rangiora Technical Report Draft
File Number 208-25

Issue No: 1
Status: Final
Date Issued 25 October 2000

1 INTRODUCTION

On behalf of the Drainage Asset Manager, the Design Team of the Technical Services Unit has developed a computer based hydraulic model of the Rangiora stormwater system. This model is intended provide some of the baseline data to complete a Stormwater Management Plan for the town.

This technical document provides the initial results of this study. These include an analysis of the performance of the existing system against the five and fifty year return period storms, along with outline upgrading solutions to resolve the areas of poor performance.

Analysis of the performance of the system during two and ten year design storms has also been recently completed. A supplementary report will detail the results of this part of the study.

This report is a technical report. A non-technical report that provides the fundamental results of the study, without the technical content, has also been published. (Report No 00102500018: Rangiora Stormwater Management Plan: Issues and Options, October 2000). A copy of this can be obtained from the Council.

2 BACKGROUND

2.1 Overview of Rangiora

Rangiora is a medium sized town situated on Highway 72 approximately ten minutes drive from State Highway 1 at Woodend and one kilometre south of the Ashley River. The population is currently approximately 10,500 people, and is predicted to increase to approximately 15,000 by 2016.

The topography of the town slopes steadily towards the southeast, however the roading network is in a grid pattern at forty five degrees to the regional trend, which encourages most of the drainage in the urban area to a more southerly direction.

The groundwater table in the area is generally high. A number of springs in the area keep the streams and most drains flowing during periods of dry weather. There is a mixture of sand, silt and clay soils in the town. The presence of swelling clays and the varying groundwater table can cause problems during and after construction.

New subdivision development is generally at the north and southeast edges of the town. The central business district of the town is centred along High Street between the Main Trunk Railway in the east and King Street in the west. The main industrial area is at the southern edge of the town south of Southbrook Stream.

There are six principal catchments in Rangiora. These are outlined in the table below and the appendices:

	CATCHMENT	AREA (Ha)	MODELLED?	COMMENTS
1.	North Drain Catchment	113	Y	Northern part of town.
2.	Railway Drain Catchment	127	Y	East portion of town, including most of central business district.
3.	Northbrook Stream Catchment	325	Y	Central portion of town.
4.	Middlebrook Stream Catchment	69	Y	Southeast portion of town.
5.	Southbrook Stream Catchment	201	Y	Southwest and southern residential portion of town.
6.	No 7 Drain Catchment	97	N	Southern industrial part of town. Mainly open drain network.

North Drain discharges to the north to the Ashley River. Railway Drain, Northbrook Steam, Middlebrook Stream and Southbrook Stream drain southeast to the Cam River. The No 7 Drain Catchment drains via roadside drains and No 7 Drain along Flaxton Road to the Cust Main Drain. Apart from North Drain Catchment all of the stormwater runoff from Rangiora eventually ends up in the Kaiapoi River.

The Railway Line acts as a barrier to overland flow of water, and in a big storm would tend to direct flow in a southerly direction toward the Northbrook and Southbrook Streams.

2.2 Future Development in Rangiora

The document 'Waimakariri Towns: Directions for Growth' was published by the Waimakariri District Council in October 1997. This followed from community consultation regarding growth of the district. The Council concluded that, as a servicing authority, the preference was for development to the east of the Railway. Drainage could be taken to the Cam, Northbrook, Middlebrook or Southbrook Streams.

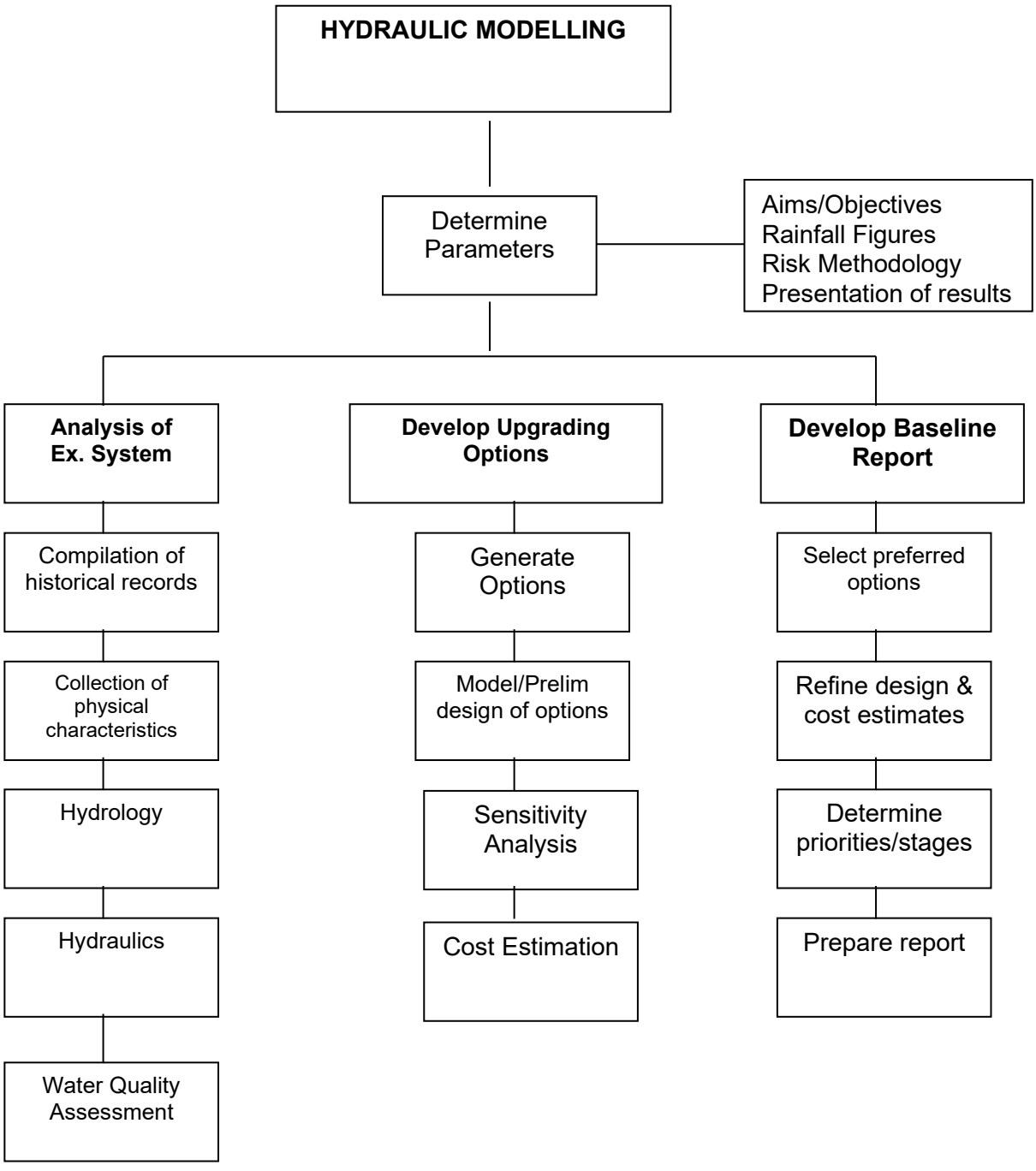
Submissions to the District Plan have requested that approximately 40Ha of rural land east of West Belt and Pentecost Road between Oxford Road and Southbelt be zoned as urban residential. Two reports by the Technical Services Unit examined the drainage issues for this area of Rangiora ('Rangiora West Drainage Study, Future Development', Report No 00020900010, Feb 2000, 'Rangiora West Drainage Study, Existing Catchment', Report No 00020100017, Feb 2000). The practical option to service growth to the west of Rangiora is for drainage to be taken southwards to Southbrook Stream. Drainage to streams or drains passing through the main body of Rangiora would exacerbate existing drainage problems in Rangiora.

Development of rural land to urban residential and the resulting increase in impervious area will have a significant impact on the stormwater drainage. The impact is on a range of factors, including peak flow, runoff volume, water quality, bio-diversity and amenity.

There are methods of subdivision design being developed that limit this effect without increasing the cost of development. However these methods are not widely used at present by developers, and are not always applicable to all catchments. An increase of as little as 10% of impervious area (i.e. roads, drives, and roofs) can significantly increase the peak flow, the volume of flow, and the level of contamination of the flow leaving the land. Hence the effect of development must be accounted for in any Stormwater Management Plan.

3 METHODOLOGY

The work breakdown structure for the Hydraulic Modeling is shown below.



This divides the project into four principal phases:

i) Determine Parameters
ii) Analysis of existing system
iii) Develop upgrading options
iv) Preparation of Baseline Report

3.1 Determine Parameters

This introductory phase involved establishing and refining the aims, objectives, constraints and priorities of the study. In addition the input parameters such as design rainfall events and the methods of evaluation such as sensitivity analysis were finalised.

3.2 Analysis of Systems

This phase involved collection of all relevant data on the catchment, construction of the hydraulic model and subsequent identifications of areas of poor performance.

Relevant data includes historical records, future development, past studies, construction plans, survey data and as-builts.

The hydraulic models of the major drainage systems are developed using XP-UDD. This software is based on the SWMM modeling suite, which is the premier urban drainage software in the USA.

The performance of the existing system is assessed against the Waimakariri District Council Engineering Code of Practice (Five year storm) including provision of secondary flow paths during the fifty year storm. This is assessed in terms of both the existing land use and also including potential future land use. Water quality characteristics are assessed using Auckland Regional Council indicators.

The system was also tested further against the two and the ten year storm events. A supplementary report will detail the results of this analysis.

3.3 Develop Upgrading Options

This phase involved the development and testing of outline options for addressing the areas of poor performance established in the previous phase.

The options involved a variety of techniques including increasing pipe size, storage, catchment diversion, treatment options and establishment of secondary flow paths.

The options are assessed in terms of cost, risk and other advantages and disadvantages.

3.4 Development of Baseline Report

The final phase involved production of this report.

4 BASIS OF STUDY

This study has involved construction of a computer model that simulates the hydraulic performance of the system. The aim of the model has been to examine the state of the reticulation system.

Physical data for the model was drawn from the Council's Service Plans, archived construction and as-built plans, and site inspections. Specific level survey was undertaken to fill gaps in the available data.

The model does not attempt to account for minor localised flooding caused by relatively small low spots. Such localised flooding need to be examined on a case by case basis.

The costs included in this report are based on rates drawn from the 1999 Asset Valuations, contracts for similar works and engineering judgement. They have a level of uncertainty of ± 20%, as no thorough site investigation has been undertaken. Professional Engineering Fees, Council Administration Costs and a contingency of 10% are included. GST and consent requirements are not included.

4.1 Modelling Assumptions

It is necessary to make a number of assumptions when modeling stormwater flows. Some of the assumptions are made necessary by a lack of historical data. However most are part of the modeling process and budget and time constraints.

Some of the more important assumptions are discussed below.

4.1.1 Bubble Ups

There are numerous bubble ups in Rangiora. In general they take flow across a road from one kerb and channel to another.

The capacity of the kerb and channel is often greater than the capacity of the bubble up. During heavy rainfall events the flow will back up at the bubble up, effectively forcing storage in the road reserve and reducing the peak flow into the drainage system. This is partially dealt with in the models by manipulating the catchment characteristics.

It is not possible to model bubble ups without also modelling the road reserve as a secondary flow path. A few of the critical bubble up systems in Rangiora are modelled to determine the proportion of flow going to separate catchments. However to model all bubble up systems in Rangiora would require significant survey and modelling time that was not allowed for in the project budget. It is considered that it is safe to assume that in a number of cases bubble ups will not accommodate the runoff from a five year storm event. These will need to be upgraded as part of the kerb and channel replacement programme.

4.1.2 Sumps

It is assumed for the modeling that there is 100% capture of stormwater by the sumps. However this is not always the case. Where the sump is not at a low point in the road, for heavy rainfall events and/or where the kerb and channel is steep and velocities are high, a portion of the water will skip the sump.

Some sumps and sump leads are modeled. For sumps not modelled it is assumed that they have sufficient capacity to accommodate all of the flow into them without significant ponding at the sump. This will be investigated more fully during detailed design.

4.1.3 Drainage of Properties

Unless otherwise obvious, it is assumed that all properties drain to the road frontage. It is also assumed that the catchment boundaries can be drawn along property boundaries.

On the large scale that most of the modeling was carried out these are safe assumptions. If detailed design were being done this assumption would need to be more fully investigated.

4.1.4 Ponding and Overland Flow Routes

When runoff is in excess of the capacity of the drainage system the model is set up to pond water at the flooded manhole.

Where the flooded manhole is not at a low point in the road the flood waters will travel overland to a low point or out of the system. Again it is not possible to model this without modelling the road or overland flow paths.

This assumption becomes important when modelling heavy storm events with significant ponding or overland flow. In these cases a visual survey was carried out to determine the path of flood waters and any properties likely to be flooded. Some of the more obvious overland flow routes, in particular where water is flowing from one catchment to another, are modelled.

4.2 Design Parameters

The parameters for input to the hydraulic models are outlined in the following sections.

There is a lack of historical data on depth of rainfall and variation over time for large scale storm events in Rangiora. Additionally there is a lack of flow data for the runoff (flow in the drains or pipes) resulting from these storm events. Therefore it is necessary to adopt a range of theoretical models to predict flow in the system.

4.2.1 Design Rainfall Events

Rainfall events were derived from Hirds (High Intensity Rainfall Data, NIWA) for Rangiora, and checked against the Christchurch Drainage Board rainfall intensity design data. Generally the rainfall intensity derived from the Hirds data is approximately 1.2 times the Christchurch Drainage Board rainfall intensity.

The temporal distribution of rainfall events are constructed to incorporate a succession of shorter duration more intense events. This is known as the alternating block method (Applied Hydrology, Chow, 1988).

Therefore a 10 minute event is modelled within a 60 minute event in the same simulation. This gives a conservative result in the modelling as an intense 10 minute event is modelled with minimum storage available in the system.

The input rainfall events for 2, 5, 10 and 50 year storms are given in the tables below.

One Hour Rainfall Event

	Rainfall Depth mm					
Return Period	**0-10 minutes**	**10-20 minutes**	**20-30 minutes**	**30-40 minutes**	**40-50 minutes**	**50-60 minutes**
2 Years 60 min	1.333	2.000	6.000	2.000	1.333	1.333
5 Years 60 min	1.667	2.000	9.000	3.000	1.667	1.667
10 Years 60 min	2.000	3.000	10.000	4.000	2.000	2.000
50 Years 60 min	2.667	4.000	14.000	5.000	2.667	2.667

Six Hour Rainfall Event

	Rainfall Depth mm					
Return Period	**0-1 hour**	**1-2 hour**	**2-3 hour**	**3-4 hour**	**4-5 hour**	**5-6 hour**
2 Years 6 hour	4.000	5.000	14.000	7.000	4.000	4.000
5 Years 6 hour	5.333	7.000	19.000	8.000	5.333	5.333
10 Years 6 hour	6.333	7.000	23.000	9.000	6.333	6.333
50 Years 6 hour	8.333	9.000	31.000	11.000	8.333	8.333

4.2.2 Catchment Characteristics

The Laurensen (or Rafts) method is used to predict catchment runoff. The method is based on the Muskingum method with storage modified as a non-linear function of the discharge.

Inputs to the Laurensen method include the percentage impervious area of the catchment and the catchment slope. For the modelling, the impervious area was set at 55% for Residential 1 zoning, 65% for Residential 2 zoning, 90% and 85% for Business 1 and 2 zoning respectively and 10% for rural catchments (which would include some roads and houses etc). An estimate is made for catchments that vary from these (such as schools, park areas and some industrial areas).

The default slope (slope of the main drainage path) used for the catchment slope varied with location and was calculated from a contour plan of the town (Appendix G). This is usually (but not always) the slope of the kerb and channel. These are:

North of North Drain	1 in 290
Between North Drain and Oxford Road/High Street	1 in 255
Between Oxford Road/High Street and John Street	1 in 175
Between John Street and Southbelt	1 in 255
South of Southbelt	1 in 300

The table below gives a comparison showing the resulting peak flow from a catchment using the Laurensen method at a slope of 1 in 250, for varying catchment area and using the 5 and 50 year design rainfall events in the previous section. The results are compared with the peak flows derived from the rational method for a 60 minute time of concentration ("C" urban 0.55, "C" rural 0.35) and a 6 hour time of concentration (where the runoff coefficients have risen to "C" urban 0.70 and "C" rural 0.60).

Peak Runoff from Urban Catchments (l/s)

	Slope in Laurenson 0.004		**Rational Method**	
Catchment Size Ha	5yr 60min	5yr 6Hr	5yr 60 min	5yr 6Hr
0.1	6.0	5.0	2.9	1.5
0.5	22.5	24.8	14.5	7.5
1.0	40.4	49.1	29.1	14.9
5.0	148.8	224.8	145.3	74.6
10.0	265.8	416.2	290.5	149.2
50.0	909.2	1623.5	1452.5	746.0
100.0	1466.6	2901.1	2905.1	1491.9

Peak Runoff from Rural Catchments (l/s)

	Slope in Laurenson 0.004		**Rational Method**	
Catchment Size Ha	5yr 60min	5yr 6Hr	5yr 60 min	5yr 6Hr
0.1	0.8	3.9	1.8	1.3
0.5	2.3	14.2	9.2	6.4
1.0	3.6	24.9	18.5	12.8
5.0	10.7	93.9	92.4	63.9
50.0	50.1	585.3	924.4	639.4
100.0	79.8	1013.2	1848.4	1278.8

The Initial Loss/Continuing Loss model is used for the rainfall losses. Initial loss is set to 15mm and then continuing loss is 2.5mm/hr. Depression storage is set to 1.0mm for impervious areas and zero for pervious areas.

There is insufficient flow data from Rangiora to calibrate the models in terms of catchment runoff.

4.2.3 Mannings n Values

The default Manning n of 0.014 is used for all pipework. For open drains a Manning n of 0.035 was used for all channels.

Manning n values are used to calibrate the level and flow in conduits. However there is insufficient flow and level data to calibrate the models in this manner.

5 MODELLING RESULTS

The existing drainage system is more easily modelled by breaking the system up into a number of subsystems or catchment areas.

The major catchments modelled are:

- North Drain Catchment
- Railway Drain Catchment
- Northbrook Stream Catchment
- Middlebrook Stream Catchment
- Southbrook Stream Catchment

The following sections outline the results of the modelling.

5.1 North Drain Catchment

5.1.1 Introduction

The head of the drain is at Westbelt near Kingsbury Avenue. The drain from here flows east to the railway line, north along the railway and then east to discharge to the Ashley River near Golf Links Road. A section of the drain from King Street to Ashley Street is piped with a walkway/cycleway constructed on top, known as Lovers Lane.

The North Drain Catchment consists of 113ha, half of which is recently developed residential land that discharges to the drain via a series of relatively new pipe systems which connect to the drain from the north. Further urban development to the north is approved by the Council.

5.1.2 Existing System: Five Year Storm

Appendix B and the following table details the locations of flooding predicted during the five year design storm.

Ref	Location	Mechanism
1	West Belt	Undercapacity
2	Cnr of Regent/Rex	Undercapacity
3	Cnr Regent/Kingsbury	Undercapacity
4	Cnr Windsor/Kingsbury	Undercapacity
5	Carmana Gdns	Backing up
6	White Street to Kingsbury	Undercapacity, Backing up
7	Chartwell near Kingsbury	Undercapacity, Backing up
8	Melford	Undercapacity, Backing up
9	Enverton Dr	Undercapacity
10	Goodwood Cl	Undercapacity, Backing up
11	Golding Ave	Undercapacity
12	Cnr Good/Kingsbury	Backing up
13	Cnr Golding/Kingsbury	Undercapacity, Backing up
14	Rickton Pl	Undercapacity, Backing up
15	Bridget Ln	Undercapacity, Backing up

The results from the modelling show that the flooding predicted during a five year storm is the result of a combination of undercapacity in the pipework and backing up from the drain.

While, in general, North Drain has sufficient capacity for the modelled flows, the water level in the drain is such that backwater effects from the drain cause flooding upstream in the pipework, before the full capacity of the drain and downstream culverts can be utilised. In the newly developed areas this flooding will be restricted to the road reserve and is unlikely to endanger buildings, which are, in general, built well above the road reserve.

5.1.3 Existing System: Fifty Year Storm

Appendix B shows the predicted locations of flooding from the reticulation during a fifty year storm, along with the locations where localised ponding may occur due to the topography of the streets.

The Engineering Code of Practice requires that properties are not at risk of flooding during the fifty year storm. It is acceptable that streets, parks and other uninhabited areas are used as overland flow paths for the water.

The roads generally slope towards the east and south, and are able to act as overland flow paths for flood waters to North Drain.

The areas of ponding identified are related to low points in the road. In general the levels of the properties surrounding these points are well above the street level; hence it is considered unlikely that the properties would be inundated during the fifty year event.

Rickton Place and Bridget Lane are cul-de-sacs with low points at their ends that will pond during the fifty year storm. Backwater effects from North Drain will exacerbate the ponding and may make provision of an overland flow path to the drain impossible. Detailed survey and modelling of overland flow paths will be required to identify the extent of ponding and properties likely to be inundated during the fifty year storm.

5.1.4 Existing System: Upgrading Options

i) DISCUSSION

The mechanism of the flooding during the five year storm event relates to undercapacity of the pipelines and backing up from high water levels in North Drain.

Proposed upgrades are a combination of increasing the size of undercapacity pipes; and significant upgrading of North Drain involving regrading, widening, increased culvert size and provision of storage to reduce the water level in the drain during storm events.

Appendix B outlines works proposed to meet the standards of the Engineering Code of Practice.

ii) COST ESTIMATE

The following table outlines the estimated cost of the works.

Ref	COMPONENT	PRIORITY	COST $
1.	Upgrade Golding Pipe System	Med	124,900
2.	Upgrade White Street Pipe System	Med	183,600
3.	Upgrade North Drain	Low	437,300
4.	Upgrade Westbelt Culvert	Low	6,200
5.	Upgrade Regent/Kingsbury Pipe System	Low	9,400
6.	Upgrade Chartwell Pipe System	Low	24,700
7.	Upgrade Melford Pipe System	Low	39,100
8.	Upgrade Enverton Pipe System	Low	4,900
9.	Upgrade Goodwood Pipe System	Low	30,300
10.	Upgrade Golding Pipe System	Low	124,900
11.	Upgrade Rickton Pipe System	Low	53,300
12.	Upgrade Bridget Pipe System	Low	2,900
			1,041,500

5.2 Railway Drain Catchment

5.2.1 Introduction

Railway Drain runs south along the railway from Blackett Street to Northbrook Road. From here it passes under the intersection of Eastbelt and Northbrook Road to join Northbrook Stream just outside the town (see Appendix C). Three piped networks run east along Blackett Street, High Street and Queen Street to collect runoff from the west of the drain.

Railway Drain catchment encompasses a total area of 127ha comprising a mixture of urban residential, business, commercial and special use land (such as railway land and schools). All of the central business district drains to Railway Drain.

5.2.2 Existing System: Five Year Storm

Appendix C and the following table details the locations of flooding predicted during the five year design storm.

Ref	Location	Mechanism
1	Cnr Blackett/King	Undercapacity
2	Cnr Blackett/Durham	Undercapacity
3	Cnr Blackett/Good	Undercapacity
4	Cnr Blackett/Ashley	Undercapacity
5	Cnr Jennings/Good	Undercapacity
6	Cnr Jennings/Ashley	Undercapacity
7	Edward Street at Cnr	Undercapacity
8	Cnr King/High Street	Undercapacity
9	Cnr High/Durham	Undercapacity, Backing up
10	High Street between Percival and Victoria	Undercapacity, Backing up
11	Cnr Burt/Albert	Undercapacity
12	Cnr Eastbelt/High	Undercapacity
13	South end of Eastbelt	Backing up
14	South end of Kowhai Ave	Undercapacity, Backing up
15	Cnr Kippenberger/Watkins	Undercapacity

The flooding predicted relates to generalised lack of capacity in the pipework in the Railway Drain catchment.

5.2.3 Existing System: Fifty Year Storm

Appendix C shows the predicted locations of flooding from the reticulation during a fifty year storm, along with the locations where localised ponding may occur due to the topography of the streets.

As with most of Rangiora, the roads generally slope towards the east and south, and are able to act as overland flow paths for flood waters towards the open waterways at the south end of the catchment. For Railway Drain Catchment, there will be significant overland flow to Northbrook Stream, as well as Railway Drain. However, there is insufficient survey data available to model this overland flow with any confidence and is beyond the scope of this study.

The areas of ponding identified relate to localised low points in the road. The levels of the properties surrounding these points are in general above the street level, hence it is considered unlikely that the properties would be inundated during the fifty year event.

The Engineering Code of Practice requires that properties are not at risk of flooding during the fifty year storm. It is acceptable that streets, parks and other uninhabited areas are used as overland flow paths for the water.

Therefore it is concluded that most of the catchment performs satisfactorily during the fifty year storm, and only minor upgrading work is needed.

The exception is the area around Edward Street where there is an obvious danger of flooding to houses and industrial buildings. The extent of flooding in this area is uncertain and more detailed survey and modelling of overland flow paths will be required to identify properties likely to be flooded during the fifty year storm.

5.2.4 Existing System: Upgrading Options

i) DISCUSSION

Appendix C outlines works proposed to meet the standards of the Engineering Code of Practice. The mechanism of the flooding during the five year storm relates to a general undercapacity of the major pipelines in the catchment and significant upgrades are required.

Railway Drain itself has sufficient capacity for the 50 year storm, however minor works are suggested to mitigate the ponding in localised low spots and lessen the backwater effects.

ii) COST ESTIMATE

The following table outlines the estimated cost of the works.

Ref	COMPONENT	PRIORITY	COST $
1.	Upgrade Edward Street Pipe System	High	84,000
2.	Upgrade Blackett Street Pipe System	Med	302,800
3.	Upgrade High Street Pipe System	Low	238,100
4.	Upgrade Queen Street Pipe System	Low	229,100
5.	Replace Culvert Railway Drain and Regrade/Widen	Low	24,900
6.	Upgrade Kowhai Ave Pipe System	Low	18,900
7.	Upgrade Eastbelt Pipe System	Low	13,600
8.	Upgrade Pipes Cnr Kippenberger/Watkins	Low	17,600
			929,000

The estimate for Edward Street includes $30,000 to jack 30m of 525dia pipe under buildings along the same alignment as the existing pipeline.

5.3 Northbrook Stream Catchment

5.3.1 Introduction

This catchment encompasses an area of 325ha in the central part of Rangiora. The head of the stream is in rural land to the north of Rangiora-Oxford Road near Fairview Close. A constant supply of water is supplied to the head of the stream by a water race from the west. A second head of the stream starts in West Belt, north of High Street.

From the junction, the stream tends east then southeast, to join Railway Drain near the intersection of Eastbelt and Northbrook Road. Two major pipe networks join the drain from the north, one at White Street and the other at Church Street. Two other subsidiary open drains also join the drain, one at Ward Park and the other at the old sewer ponds south of East Belt.

The catchment consists of 203ha of urban residential land and 122ha of rural land.

5.3.2 Existing System: Five Year Storm

Appendix D and the following table details the locations of flooding predicted during the five year design storm.

Ref	Location	Mechanism
1.	Cnr Blackett/Ashgrove	Undercapacity
2.	Cnr Blackett/Keldon	Undercapacity
3.	Cnr Blackett/Scotswood	Undercapacity
4.	Cnr Blackett/Kinley	Undercapacity
5.	Cnr Blackett/White	Undercapacity
6.	Westbelt near No 120	Undercapacity
7.	Fairview Place near No 3	Undercapacity
8.	Weston Place	Undercapacity
9.	High Street near No 415	Undercapacity
10	Cnr High/Park	Undercapacity
11.	End of ParkStreet	Undercapacity
12.	Cnr High/Church	Undercapacity
13.	Cnr Milesbrook/Eastbelt	Undercapacity
14.	Cnr Rata/White	Undercapacity
15.	Northbrook Stream in Dudley Park	Undercapacity
16.	Cnr Church/Johns	Undercapacity
17.	Cnr Murray/George	Undercapacity
18.	Fraser near No 11	Undercapacity
19.	Cnr Victoria/Percival	Undercapacity
20	Cnr Northbrook/Ivory	Undercapacity, Backing up
21.	Northbrook Road at Railway	Undercapacity
22.	Cnr Newnham/Hegan	Backing up, Undercapacity

The flooding predicted relates to a lack of capacity in the pipework in the Northbrook Stream catchment. Backwater effects from Northbrook Stream are not significant until the bottom reaches of the stream at the south east end of the catchment.

5.3.3 Existing System: Fifty Year Storm

Appendix D shows the predicted locations of flooding from the reticulation during a fifty year storm, along with the locations where localised ponding may occur due to the topography of the streets.

The Engineering Code of Practice requires that properties are not at risk of flooding during the fifty year storm. It is acceptable that streets, parks and other uninhabited areas are used as overland flow paths for the water.

There are a few areas of ponding identified, which relate to localised low points in the road. However, in general, there are reasonable overland flow paths along the roads following the regional slope to the south and east. Hence it is considered unlikely that properties will be inundated during the fifty year storm event.

Some further investigation is warranted in Northbrook Road at the Railway, with regard to provision of overland flow paths into the drain.

5.3.4 Existing System: Upgrading Options

i) DISCUSSION

The mechanism of the flooding during the five year storm relates mainly to undercapacity in the reticulation. Appendix D outlines works proposed to meet the standards of the Engineering Code of Practice.

ii) COST ESTIMATE

The following table outlines the estimated cost of the works.

Ref	COMPONENT	PRIORITY	COST $
1.	Upgrade Fairview/Milesbrook Pipe System	Low	48,100
2.	Upgrade Westbelt Pipe	Low	15,900
3.	Upgrade White Street Pipe System	Low	424,500
4.	Upgrade Dudley/Church Pipe System Provide Storage Dudley Park	Low	314,200
5.	Upgrade Fraser Place Pipe System	Low	39,200
6.	Upgrade High/Weston Pipe System	Low	137,600
7.	Upsize Geddis Street Culverts	Low	17,800
8.	Upgrade Percival Street Pipe System	Low	28,700
9.	Upgrade Northbrook Street Pipes	Low	45000
10.	Upgrade Newnham Street Pipe System	Low	28,800
11.	Widen Northbrook Stream, Upsize Culverts	Low	155,000
			1,254,800

5.4 Middlebrook Stream Catchment

5.4.1 Introduction

The Middlebrook Stream runs southeast from Martyn Street, under Southbelt near the intersection with Southbrook Road, to eventually join Southbrook Stream southeast of Rangiora. The head of the stream comprises two branches, which join near King Street. The stream is spring fed at various locations throughout the catchment.

One major pipe system joins the stream from the north at Percival Street. Three minor pipe systems join the stream, two from the north at Bush Street and King Street, and one from the west at Southbelt.

The catchment comprises of a total of 69ha and is urban residential in nature.

5.4.2 Existing System: Five Year Storm

Appendix E and the table below details the locations of flooding predicted during the five year design storm.

Ref	Location	Mechanism
1.	Cnr Bush/Coates	Undercapacity
2.	Cnr Bush/Charles	Undercapacity
3.	Bush Street near Middlebrook Stream	Undercapacity
4.	End of Coates Place	Backing up, Undercapacity
5.	End of Watson Place	Backing up, Undercapacity
6.	Charles Street near No 48	Undercapacity
7.	Cnr Charles/King	Undercapacity
8.	Cnr King/William	Undercapacity
9.	Cnr King/Foster	Undercapacity
10.	End of Strachan Place	Undercapacity
11.	End of Banks Place	Undercapacity
12.	Cnr Southbelt/Martyn	Undercapacity
13.	Cnr Southbelt/Bush	Undercapacity
14.	Cnr Charles/Buss	Undercapacity
15.	Cnr Charles/Percival	Undercapacity
16.	Cnr Percival/William	Undercapacity, Backing up
17.	End of Collingwood Place	Undercapacity
18.	Southbrook Driveway Culvert/Drain	Undercapacity

Most of the flooding predicted relates to undersized pipe systems.

5.4.3 Existing System: Fifty Year Storm

Appendix E shows the predicted locations of flooding from the reticulation during a fifty year storm, along with the locations where localised ponding may occur due to the topography of the streets.

The areas of ponding identified relate to low points in the road, often at the end of cul-de-sacs. The extent of ponding in these areas is uncertain and more detailed survey and modelling of overland flow paths will be required to identify properties likely to be flooded during the fifty year storm.

From a visual inspection the areas most endangered by flood waters are in Bush Street just south of the south branch of the Middlebrook, where there is a low point in the carriageway, and at the southern end of Watson Place.

5.4.4 Existing System: Upgrading Options

i) DISCUSSION

The mechanism of flooding relates to a general undercapacity of the pipe systems in the catchment. Apart from two undersized culverts, Middlebrook Stream has sufficient capacity for the five year storm.

Appendix E outlines works proposed to meet the standards of the Engineering Code of Practice.

ii) COST ESTIMATE

The following table outlines the estimated cost of the works.

Ref	COMPONENT	PRIORITY	COST $
1.	Upgrade Bush Street Pipe System at No 16	Hi	14,200
2.	Upgrade King Street Pipe System	Med	124,000
3.	Upgrade Bush Street Pipe System	Low	131,400
4.	Upgrade Strachan Place Pipe	Low	8,200
5.	Upgrade Southbelt Pipes/Divert catchment	Low	53,600
6.	Upgrade Percival Street Pipe System	Low	326,900
7.	Upgrade Banks Place Pipe	Low	9,300
8.	Upgrade Leech Place Pipe	Low	9,300
9.	Enlarge Culverts in Middelbrook, Widen drain	Low	24,900
			701,800

5.5 Southbrook Stream Catchment

5.5.1 Introduction

Southbrook Stream is a major stream with its head near Fernside, Plaskett and Johns Road west of Rangiora. It flows southeast following the regional slope, skirting the southern part of Rangiora to eventually join the Cam River west of Tuahiwi.

The catchment is predominantly rural in nature. Rangiora contributes approximately 201ha to the catchment, of which approximately 102ha is urban residential and 99ha is rural. The western edge of the urban part of the catchment has been recently developed. In addition any future urban development to the west of Rangiora will predominantly drain to Southbrook Stream.

Five major pipe or open drain systems flow to Southbrook Stream from the north; joining at Townsend Road, Ellis Road near Coronation Street, Buckleys Road, Southbrook Road and Railway Road.

5.5.2 Existing System: Five Year Storm

Appendix E and the table below details the locations of flooding predicted during the five year design storm.

Ref	Location	Mechanism
1	Harrod Place	Under capacity, poorly performing bubble up system
2	Wiltshire Court	Under capacity
3	Treffers Avenue	Under capacity
4	Parkhouse Drive at No 35	Under capacity, backing up
5	CNR Johns Road and White Street	Under capacity
6	CNR Westbelt and Johns Street	Under capacity culvert
7	Pentecost Road, number of locations	Under capacity culverts and drain
8	Southbelt at Southbrook Park	Under capacity culvert and drain
9	Buckleys Road at No 37	Under capacity drain
10	Buckleys Road at Near No 56	Under capacity
11	Buckleys Road at No 11	Under capacity
12	Southbrook Road at No 22	Under capacity
13	Marshal Street at No 10	Under capacity

The flooding identified generally relates to localised under capacity of the pipe or open drain network.

Southbrook Stream was not modelled, however it is thought unlikely that backwater effects from flood water level in the stream will be significant. A previous study during design of the Southbrook Park Retention Basin found that the backwater effects were insignificant. This is partially due to the low bank level on parts of the south side of the stream.

5.5.3 Existing System: Fifty Year Storm

Appendix E shows the predicted locations of flooding from the reticulation during a fifty year storm, along with the locations where localised ponding may occur due to the topography of the streets.

In a number of areas in Buckleys Road and Coronation Street the road carriageway is substantially above the level of the berm. It is difficult to determine the exact location of ponding or the path of flood waters in these areas should the drainage swales become overburdened. To further quantify the risk of inundation of properties it will be necessary to carry out a detailed survey of the area to identify possible flood paths.

The other areas of ponding identified in Appendix E relate to low points in the road. The levels of the properties surrounding these points are well above the street level, hence it is considered unlikely that the properties would be inundated during the fifty year event.

5.5.4 Existing System: Upgrading Options

i) DISCUSSION

The mechanism of the flooding relates to localised undercapacity of the pipes, culverts and open drains in the catchment.

Appendix E outlines works proposed to meet the standards of the Engineering Code of Practice.

ii) COST ESTIMATE

The following table outlines the estimated cost of the works.

Ref	COMPONENT	PRIORITY	COST $
1	Upgrade Harrod Place Pipe System	Med	18,500
2	Upgrade Pentecost Drain for 5 yr flows	Med	60,000
3	Upgrade Parkhouse Drive Pipe System	Low	34,000
4	Upgrade Treffers/John Pipe System	Low	140,000
5	Upgrade Buckleys Road Pipe/Drain System	Low	92,000
6	Upgrade Wiltshire Court Pipe System	Low	47,500
7	Upgrade Southbrook Road Pipe System	Low	5,500
8	Upgrade Janelle Place Pipe System	Low	18,000
9	Upgrade Southbrook Park Drain	Low	8,000
			423,500

5.6 Fifty Year Event

5.6.1 Introduction

The Waimakariri District Council Engineering Code of Practice requires prevention of flooding to properties during the fifty year storm event.

This generally requires the establishment of overland, or piped flow paths, and the construction of houses outside of these flow paths.

Such flow paths can be formed using the road and/or through a reserve.

Much of Rangiora was constructed before the introduction of these design standards and this has left a legacy of localised ponding areas. In the recently developed areas of Rangiora overland flow paths for the fifty year storm have been provided and houses are in general well above the road level.

5.6.2 Existing Situation

Appendix G shows the topography of the town, along with the predicted final destination of floodwaters in a high intensity rainfall event such as the fifty year design storm.

In general overland flow is along roadways in an easterly and southerly direction, and will be intercepted by the open drain and stream system. The Railway forms a barrier to overland flow and will cause flood waters to concentrate along the railway embankment and direct flow into Railway Drain and Northbrook Stream. Further south Middlebrook and Southbrook Streams will intercept the floodwater.

Low points in the road, often where sumps are located, pond water locally. Therefore ponding will result at low points in the road where there is a lack of capacity in the reticulation to cope with flows from a fifty year storm event. In Rangiora these low points are often at the ends of cul-de-sacs.

From a visual assessment flooding of properties is possible in the locations listed below.

- Bridget Lane at end
- Rickton Place at end
- Edward Street near corner
- Northbrook Road near Railway
- Watson Place at end
- Harrod Place at end of ROW
- Bush Street near south branch of Middlebrook Stream
- Number of properties in Buckleys Road and Coronation Street

These areas are all at low points in the road where overland flow from the fifty year storm event can pond, and the houses in the area are near or below the top of the kerb.

However further work involving surveying and possibly modelling of overland flow paths is required to establish the level of risk to these properties.

5.6.3 Upgrading Solutions

As described in the preceding sections on each catchment there are a number of low spots within the town, which would pond locally before allowing runoff to the final flooding locations. Apart from a visual assessment no investigation or analysis of these areas has been undertaken at this stage.

The following works are proposed to allow mitigation of the fifty year storm (see Appendix H). Where works are proposed for the two, five or ten year storm the costs below are additional to bring the works up to the fifty year standard.

Ref	Description	Estimated Cost ($) 2 Year	Estimated Cost ($) 5 Year	Estimated Cost ($) 10 Year
	Southbrook Stream Catchment			
1.	Upgrade Pentecost Drain	222,000	189,300	171,700
2.	Upgrade Southbrook Park Drain	8,200	200	0
3.	Harrod Place overland flow path	1,700	1,700	1,700
4.	Upgrade Ebert Place Pipe System	24,500	24,500	2,600
5.	Upgrade Janelle Place Pipe System	36,900	18,500	18,500
6.	Miscellaneous Drains/Swales/Culverts to Southbrook Stream	23,400	23,400	23,400
	Middlebrook Stream Catchment			
7.	Upsize pipes various cul-de-sacs	83,900	57,100	50,400
8.	Upgrade Middlebrook Stream	88,000	63,000	21,900
	Northbrook Stream Catchment			
9.	Upgrade High/Weston Pipe System	86,300	17,500	6,400
10.	Upgrade Northbrook Stream	155,000	0	0
11.	Upgrade Dudley Park Culverts	83,400	0	0
12.	Fraser Place Overland Flow Path	1,300	1,300	1,300
13.	Northbrook Road Overland Flow Path	600	600	600

	Railway Drain Catchment			
14.	Upgrade Culvert High Street and Widen Drain	24,900	10,300	0
15.	Reinstate Culverts under SIMTR at Northbrook Road	500	500	500
16.	Upgrade Edward Street Pipe System	67,900	40,100	39,400
	North Drain Catchment			
17.	Upgrade North Drain	417,000	0	0
18.	Rickton Place Pump Station	50,000 (est)	50,000 (est)	50,000 (est)
19.	Bridget Lane Pump Station	50,000 (est)	50,000 (est)	50,000 (est)
	Miscellaneous			
20.	33 High Capacity Sumps and Leads into Open Waterways	97,000	97,000	97,000
		1,522,500	645,000	535,400

As mentioned previously, in general overland flow is along roadways in an easterly and southerly direction, and will be intercepted by the open drain and stream system. However there are a number of Cul-de-sacs where water will pond with no obvious escape path. In a number of these cul-de-sacs an increase in pipe size has been allowed to cope with the 50 year storm. However ponding during a storm event as large as the 50 year event is still inevitable and a more in depth investigation including survey would be needed to identify the extent of the ponding and buildings at risk of inundation.

A number of high capacity sumps and leads are included in the estimate to intercept overland flow and direct into the open waterways. These high capacity sumps will reduce overflow of floodwaters into the next catchment south.

The ultimate destination of floodwater not intercepted is Southbrook Stream. A more in-depth investigation, including substantial survey and modelling of overland flow paths, would be needed to quantify overland flow and likely ponding areas. As a baseline solution an estimate is included to provide overland flow paths (and culverts if necessary) to Southbrook Stream.

6 CONCLUSIONS

The following conclusions have been drawn from the study.

i) The modelling of the Rangiora Stormwater system has revealed that there is generally insufficient capacity in the system to pass the five year design storm and, in a number of areas, the two year design storm.

ii) There are feasible solutions to those parts of the existing system that are under capacity during a five year storm.

iii) Should the system be upgraded to pass the five year design storm, there remains the threat of flooding to a number of properties from 50 year storm events.

iv) The topography and layout of much of the town is such that floodwaters are allowed to pass through much of the residential area, provided there are flow paths to divert flow from properties.

v) There are a number of areas in the town where there is a risk of properties being flooded during a 50 year storm event. This is generally due to the low-lying nature of the properties relative to the roadway.

vi) Solutions have been developed to mitigate or eliminate this risk. These consist of increasing the pipe and drain capacity, creating storage ponds, additional high capacity sumps and the diversion of portions of existing catchments.

vii) Within these solutions there is scope for developing stormwater treatment facilities, and thus improving the quality of runoff entering the towns drains, streams and rivers.

viii) There is also scope for enhancing the natural features and bio-diversity within the stormwater system, and also adding to the aesthetic value of the assets.

ix) There are a wide range of options and issues to consider, and the financial, social and environmental impacts of these options are considered significant.

7 RECOMMENDATIONS

i) *That* this technical document assist consultation with the Community, and other interested parties, to develop the aims and objectives of the Rangiora Stormwater Management Plan.

ii) *That* the options described in the following table forms the basis for public discussion of the best options for upgrading of the Rangiora Stormwater system.

iii) *That* the following issues are explored further:

- Priority of upgrading works
- Provision of Stormwater Treatment Facilities
- Provision of flood mitigation measures for storms over the five year design storm.
- Environmental enhancement of the open drain system.
- Alternative options, and sub-options to those offered as the preferred solution.

iv) *That* further investigation work is undertaken in the following areas:

- Level survey and analysis to determine properties at risk of flooding in the 50 year design storm.
- Detailed investigation of the option variations in this report to determine the preferred solutions.

APPENDIX A

RANGIORA STORMWATER SYSTEM

APPENDIX B

NORTH DRAIN CATCHMENT MODELLING RESULTS

APPENDIX C

RAILWAY DRAIN CATCHMENT MODELLING RESULTS

APPENDIX D

NORTHBROOK STREAM CATCHMENT MODELLING RESULTS

APPENDIX E

MIDDLEBROOK STREAM CATCHMENT MODELLING RESULTS

APPENDIX F

SOUTHBROOK STREAM CATCHMENT MODELLING RESULTS

APPENDIX G

TOPOGRAPHY OF RANGIORA

APPENDIX H

UPGRADING FOR FIFTY YEAR STORM

APPENDIX I

SUMMARY OF COST ESTIMATES

NOTE: The figures below are estimates only and have a level of confidence of ±20%. They include professional fees and contingency as well as construction costs. They do not include GST, or consent requirements.

RANGIORA URBAN DRAINAGE STUDY

SUMMARY OF UPGRADING WORKS FIVE YEAR STORM

REF	COMPONENT	PRIORITY	COST $
1.	Upgrade Edward Street Pipe System	Hi	84,000
2.	Upgrade Bush Street Pipe System at No 16	Hi	14,200
3.	Upgrade Golding Pipe System	Med	124,900
4.	Upgrade Harrod Place Pipe System	Med	18,500
5.	Upgrade Blackett Street Pipe System	Med	302,800
6.	Upgrade King Street Pipe System	Med	124,000
7	Upgrade Pentecost Drain for 5 yr flows	Med	60,000
8.	Upgrade White Street Pipe System	Med	183,600
9.	Upgrade Fairview/Milesbrook Pipe System	Low	48,100
10.	Upgrade Westbelt Pipe	Low	15,900
11.	Upgrade North Drain	Low	437,300
12.	Upgrade High Street Pipe System	Low	238,100
13.	Upgrade White Street Pipe System	Low	424,500
14.	Upgrade Bush Street Pipe System	Low	131,400
15.	Upgrade Parkhouse Drive Pipe System	Low	34,000
16.	Upgrade Westbelt Culvert	Low	6,200
17.	Upgrade Queen Street Pipe System	Low	229,100
18.	Upgrade Dudley/Church Pipe System Provide Storage Dudley Park	Low	314,200
19.	Upgrade Strachan Place Pipe	Low	8,200
20.	Upgrade Treffers/John Pipe System	Low	140,000
21.	Upgrade Regent/Kingsbury Pipe System	Low	9,400
22.	Replace Culvert Railway Drain and Regrade/Widen	Low	24,900

23.	Upgrade Fraser Place Pipe System	Low	39,200
24.	Upgrade Southbelt Pipes/Divert catchment	Low	53,600
25.	Upgrade Buckleys Road Pipe/Drain System	Low	92,000
26.	Upgrade Chartwell Pipe System	Low	24,700
27.	Upgrade Kowhai Ave Pipe System	Low	18,900
28.	Upgrade High/Weston Pipe System	Low	137,600
29.	Upgrade Percival Street Pipe System	Low	326,900
30.	Upgrade Wiltshire Court Pipe System	Low	47,500
31.	Upgrade Melford Pipe System	Low	39,100
32.	Upgrade Eastbelt Pipe System	Low	13,600
33.	Upsize Geddis Street Culverts	Low	17,800
34.	Upgrade Banks Place Pipe	Low	9,300
35.	Upgrade Southbrook Road Pipe System	Low	5,500
36.	Upgrade Enverton Pipe System	Low	4,900
37.	Upgrade Pipes Cnr Kippenberger/Watkins	Low	17,600
38.	Upgrade Percival Street Pipe System	Low	28,700
39.	Upgrade Leech Place Pipe	Low	9,300
40.	Upgrade Janelle Place Pipe System	Low	18,000
41.	Upgrade Goodwood Pipe System	Low	30,300
42.	Upgrade Northbrook Street Pipes	Low	45000
43.	Enlarge Culverts in Middelbrook, Widen drain	Low	24,900
44.	Upgrade Southbrook Park Drain	Low	8,000
45.	Upgrade Golding Pipe System	Low	124,900
46.	Upgrade Newnham Street Pipe System	Low	28,800
47.	Upgrade Rickton Pipe System	Low	53,300
48.	Widen Northbrook Stream, Upsize Culverts	Low	155,000
49.	Upgrade Bridget Pipe System	Low	2,900
	ESTIMATED TOTAL COST		**4,350,600**

RANGIORA URBAN DRAINAGE STUDY

SUMMARY OF UPGRADING WORKS
FIFTY YEAR STORM

Note: Where works are proposed for the two, five or ten year storm (see above table) the costs below are additional to bring the works up to the fifty year standard.

Ref	Description	Priority	Estimated Cost ($) 2 Year	Estimated Cost ($) 5 Year	Estimated Cost ($) 10 Year
	Southbrook Stream Catchment				
1.	Harrod Place overland flow path	Hi	1,700	1,700	1,700
2.	Upgrade Pentecost Drain	Med	222,000	189,300	171,700
4.	Upgrade Southbrook Park Drain	Low	8,200	200	0
5.	Upgrade Ebert Place Pipe System	Low	24,500	24,500	2,600
6.	Upgrade Janelle Place Pipe System	Low	36,900	18,500	18,500
7.	Miscellaneous Drains/Swales/Culverts to Southbrook Stream	Low	23,400	23,400	23,400
	Middlebrook Stream Catchment				
8.	Upsize pipes various cul-de-sacs	Low	83,900	57,100	50,400
9.	Upgrade Middlebrook Stream	Low	88,000	63,000	21,900
	Northbrook Stream Catchment				
10.	Upgrade High/Weston Pipe System	Low	86,300	17,500	6,400
11.	Upgrade Northbrook Stream	Low	155,000	0	0
12.	Upgrade Dudley Park Culverts	Low	83,400	0	0
13.	Fraser Place Overland Flow Path	Low	1,300	1,300	1,300
14.	Northbrook Road Overland Flow Path	Low	600	600	600
	Railway Drain Catchment				
15.	Upgrade Edward Street Pipe System	Hi	67,900	40,100	39,400
16.	Upgrade Culvert High Street and Widen Drain	Med	24,900	10,300	0
17.	Reinstate Culverts under SIMTR at Northbrook Road	Low	500	500	500
	North Drain Catchment				
18.	Upgrade North Drain	Low	417,000	0	0
19.	Rickton Place Pump Station	Low	50,000 (est)	50,000 (est)	50,000 (est)
20.	Bridget Lane Pump Station	Low	50,000 (est)	50,000 (est)	50,000 (est)
	Miscellaneous				
21.	33 High Capacity Sumps and Leads into Open Waterways	Low	97,000	97,000	97,000
	ESTIMATED TOTAL COST		**1,522,500**	**645,000**	**535,400**

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR INFORMATION

FILE NO and TRIM NO:	DRA-20-45-08 / 230306030501
REPORT TO:	UTILITIES AND ROADING COMMITTEE
DATE OF MEETING:	21 March 2023
AUTHOR(S):	Kalley Simpson, 3 Waters Manager Joanne McBride, Roading and Transport Manager Rob Kerr, Flood Recovery Programme Manager
SUBJECT:	July 2022 Flood Response Update
ENDORSED BY: (for Reports to Council, Committees or Boards)	General Manager / Acting Chief Executive

1. SUMMARY

1.1 This report provides a progress update on the July 2022 Flood Response work programme, including investigation work and maintenance actions, and provides an overview of the physical works programme recommended by the investigations.

1.2 Previous updates have detailed that a total of 685 drainage service requests and 130 sewer service requests have been distilled to a total of 143 investigations, 321 maintenance actions and 81 customer advice actions. The estimate to complete the Emergency and Immediate Works was estimated at $3.82 million.

1.3 As at 10 March 2023, 121 investigations have been completed and are either under review, in implementation or the recommendations actions completed. A further 21 investigations are currently underway with only one remaining to be started.

1.4 All investigations for physical works proposed for this year are underway. Based on progress to date, staff expect that the programme of investigations will be completed by the end of March 2023. Many of the subsequent physical works are in design phase or about to commence on site with endeavours being made to have as much of this work completed prior to winter as possible.

1.5 A further 321 maintenance actions were also identified from the service requests. As at 10 March 2023, 155 of these have been completed and 138 in progress. A further 37 are to be commenced. The pace of resolution of these have been slowed due to resourcing constraints and the logistics of travel and inspection. Considerable effort has gone into accelerating this work since the last U&R update in February, and this has seen completion of 63 actions since that meeting, being 20% of the total actions.

1.6 This report also details the physical works recommended by the investigations. The February 2023 staff recommendations included three projects that were identified in response to the flooding with total budget is $790,000 in the draft Annual Plan (FY23/24) with a further nine projects costing $6.35 million of projects to be considered as part of the Draft Long Term Plan.

1.7 Since then, a further ten projects with a total forecast cost of approximately $2 million have been identified by investigators. These will be feed into considerations for the Long Term Plan (2024-2034) as well as to the new Water Services Entity AMP processes as appropriate.

1.8 This capex is summarised in the following table:

Category	Forecast	Status
Emergency Flood recovery	$3.82 million	In progress
Annual Plan and LTP	$7.626 million	Subject to FY23/24 decisions
Not currently budgeted	$2.0 million	To be addressed in 2024-2034 LTP and by WSE

2. RECOMMENDATION

THAT the Utilities and Roading Committee:

a. **Receives** Report No. 230306030501.

b. **Notes** that investigations, funded physical works and maintenance actions arising from the July 2022 floods are well advanced, with the majority expected to be completed prior to winter 2023.

c. **Notes** that the investigations are identifying a range of potential capital projects which are being managed as follows:

- Three projects with a combined estimated costs of $790,000 are proposed in the FY23/24 draft Annual Plan.
- Nine projects with a combined estimated cost of $6.35 million are included in outer years of the Long Term Plan.
- A further ten projects that are currently not included in any forecasts will be investigated and scoped further and offered for consideration in the next Long Term Plan process (2024-2034) or the Three Water Reforms Transition process.

d. **Circulates** this report to all Community Boards for information.

3. BACKGROUND

3.1. During the month of July 2022, four rainfall events occurred and the total rainfall for the month was about four times higher than the typical average for this time of the year. While individually these were not significant events, the cumulative monthly rainfall for the month reached record levels. Additionally, there was a wind event on the 18 July 2022.

3.2. The event on the 12 July 2022 was estimated to be approximately a 10-year event in the coastal area and the event on the 26 July 2022 was estimated to be a 20-30 year event in the coastal area. The cumulative rainfall for July 2022 was the wettest on record – Rangiora saw 238.4mm of rain in July, which is 441% of the average rainfall of 54mm for July based on records from 1991-2020.

3.3. While the events in July 2022 were less in scale compared to the May 2021 flood event, it still required a substantial response from our maintenance contractors and there has been some damage to Roading and 3 Waters infrastructure in the district. Additionally, there has been a large number of flooding related service requests that need to be worked through, which may result in additional improvement works being required.

3.4. A number of investigations have identified work that is able to be completed in this financial year while others will be included in the draft Annual Plan process**.** Some investigations are complementary to existing capital works projects and are being incorporated into this work programme where appropriate. The 2023/24 maintenance budgets are being reviewed in light of the additional information and may need to be revised.

3.5. The Committee will appreciate that investigating this number of flooding issues in a compressed timeframe requires a large number of engineers to support the programme. Along with internal Project Delivery Unit and Asset staff, there is currently assistance from six engineering consultants to support the programme. However, internal staff are

also maintaining their "Business as Usual" workload and no consultant has been able to provide full time support and hence progress is solid but cannot be made rapidly.

3.6. It is also worth noting that the investigations require an experienced engineer to undertake the work because, although many of the issues are localised in nature, they are often complex and require some knowledge and expertise to be able to understand the issues involved and determine appropriate solutions without the benefit of costly and time consuming detailed investigations.

4. ISSUES AND OPTIONS

Progress of Investigations

4.1. A total of 685 drainage service requests and 130 sewer service requests were received related to the flooding in July 2022 and, together with the investigations from earlier events, complied into 143 investigations and 321 maintenance actions. The current status of these are summarised in the following tables:

Phase	At at 9th Feb 22 (last U&R update)	As at 10th March 2023	Change	Comment
Triaging	0	0	0	Initial review
Scoping	2	1	1	Pending starting investigation
Under Investigation	37	21	-16	Under investigation
Review and approval	9	16	7	Internal Asset Manager review
In Implementation	40	43	3	Under design or construction
Subject to budget process	41	48	7	Pending AP or LTP considerations
Completed	14	14	0	Completed
Total	**143**	**143**		

Maintenance items				
To be started	61	37	-24	To be scoped
Work in progress	175	138	37	Either being scoped or with contractor
Completed	92	155	63	No further action required
Total	**321**	**330**		

Outcomes from investigations

4.2. While progress is being made on the 143 investigations, addressing the issues through physical works or changes to maintenance practice (if it is WDC's responsibility) is the outcome that is most sought by the affected residents. The following table provides a summary of the solutions being identified by the investigations to date.

Implementation Solutions	This report
Not yet determined	19
Physical Works FY22/23	54
Future year capex	38
O&M changes	16
No action/Customer Advice	16
Total	**143**

Communications

4.3. A programme of regular communications has been implemented to support the recovery programme. In particular, the following key activities are being undertaken:

- A fortnightly dashboard and detailed tracking sheet published on the website.
- A bulk email contact to assure service request submitters that work is ongoing.
    - The last series prior to and immediately following Christmas.
- Personal phones calls or emails from investigators to submitters when investigation begin to understand the issue with follow up communications to confirm the outcomes.
- A street meeting in Stalkers Road, Woodend Beach was held in late January.
- Close out emails or communications with submitters as appropriate when each investigation is complete.

Three Waters projects funded by Emergency Flood Recovery Budget

4.4. Council approved the following range of drainage and wastewater budgets as 'unbudgeted expenditure'. These projects and budgets were scoped and estimated with limited information and hence are subject to further development. In particular, the investigations and subsequent design processes are informing the individual scope of works required.

4.5. With investigations well advanced, the team are now turning towards accelerating the delivery of these physical works. Note that design costs of several of the projects below are accommodated within investigations costs noted in section 5 below or under other project budgets.

Project Name	Budget	Spent to 31 Jan	Forecast Spend	Comment
Weka Street Upgrade	$ 40,000.00	$ -	$ 40,000.00	Additional work to existing capex project
Kairaki Sewer – Upgrade of Pipework	$ 100,000.00	$ 30,449.80	$ 100,000.00	Main works complete. Manhole and materials in Featherstone Ave remaining. Note potential for additional cost to be added from other codes
Main North Road Culvert Upgrade	$ 100,000.00	$ -	$ 60,000.00	Tenders close shortly
Okuku River ECAN Works	$ 25,000.00	$ -	$ 25,000.00	Ecan programmed work for March-June 2023.
Kiln Place / Fairweather Crescent Wastops & Bund	$ 80,000.00	$ 22,234.29	$ 43,000.00	Starting Monday 13th March 2023
Old North Road Collapsed Culvert	$ 40,000.00	$ 19,302.93	$ 19,302.93	Works completed
Wolffs Road Culvert Upgrade	$ 80,000.00	$ -	$ 80,000.00	In consultation phase. Construction planned for May/June 2023 at end of irrigation season.
Bradleys Road / Vicenza Culvert Upgrade	$ 50,000.00	$ -	$ 30,000.00	In procurement phase
Pearson Lane Culvert Upgrade	$ 50,000.00	$ 28,891.73	$ 30,000.00	Works mostly complete
Williams Street Lateral Replacement	$ 30,000.00	$ -	$ 30,000.00	Investigation underway
Hinemoa Park Drainage Improvements	$ 40,000.00	$ -	$ 40,000.00	About to commence on site
Pegasus Main Street Overflow Pipe	$ 50,000.00	$ -	$ 50,000.00	Infiltration testing underway to scope extent of works required
Kaiapoi Urupa – Install new Drain	$ 60,000.00	$ -	$ 30,000.00	Design underway

Project Name	Budget	Spent to 31 Jan	Forecast Spend	Comment
Washington Place – Restore Drainage Channel	$ 20,000.00	$ -	$ 20,000.00	Investigation not complete
Ashley Gorge Road	$ 50,000.00	$ -	$ 50,000.00	In consultation phase
Kings Avenue Wastewater Pump Station	$ 50,000.00	$ -	$ 50,000.00	In design phase
Mandeville Septic Tanks – Modifications	$ 100,000.00	$ -	$ 20,000.00	Part of larger project
Tuahiwi / Fernside – Modifications	$ 50,000.00	$ -	$ 30,000.00	Scoping underway
Fuller St SW Improvements		$ -	$ 40,000.00	Additional works from investigation. In design phase.
	$ 1,015,000.00	**$ 100,878.75**	**$ 787,302.93**	

Future and potential Three Waters Capital Projects arising from the flood recovery

4.6. From the investigations, a range of capital projects have been recommended and staff have included the following projects in the draft Annual Plan and outer years. The second table provides a schedule of future potential projects that have not yet been included in any recommendations but will form part of consideration for the Long term Plan (2024-2034) and to the new Water Services Entity.

4.7. It should be noted that the scope and cost estimates of these works are of a rough order of accuracy and require a more detailed feasibility study before staff can have confidence that both the recommended scope and estimated cost are sufficiently robust for Annual Plan budgeting purposes.

4.8. There are other projects relating to stormwater in the Annual Plan and Long terms Plan and hence this schedule should not be considered as all inclusive, but a summary of those originating from the flooding experience during 2021 and 2022.

Three Waters projects currently included in draft Annual Plan or outer years

Ref	Location	Scope of work	Rough order budget	Proposed Financial year	Potential funding source
NS1	Percival Street	Sewer upgrade from in Percival Street from Charles Street to Matawai Park	$500,000.00	FY25/26	EDSS
FT46	Stalkers Road	Install swales and culverts and upgrade downstream	$ 240,000.00	FY23/24	Coastal Urban
FT44	SH1	Swales/drains in SH1 and in property. In property works by landowner	$ 220,000.00	FY23/24	Coastal Urban
FT38	Pearson Drain	Upgrade to channel and culverts plus potential diversion	$ 330,000.00	FY23/24	Oxford Urban Drainage
FT34	Bay Road	Upgrade to culverts plus possible diversion	$260,000.00	FY24/25	Oxford Urban Drainage
H36	Kaikanui Stream	Diversion of the lower Kaikanui Stream below the railway line to alleviate flooding.	$1,500,000.00	FY24/25 FY 25/26	Kaiapoi Urban
N01	Flannigans Drain	Upgrade conveyance	$500,000.00	FY24/25	Oxford Urban Drainage
FT51	Cust Road	Drainage upgrades to provide a secondary overland system from the	$310,000.00	FY24/25	District Wide Drainage

Ref	Location	Scope of work	Rough order budget	Proposed Financial year	Potential funding source
		low point at 1838 Cust Road.			
FT36	Burnett Street	Channel and bunding A&P Showgrounds to Pearson Drain	$330,000.00	FY25/26	Oxford Urban Drainage
H21	Belmont Avenue, Rangiora	Refresh infiltration and install overflow	$46,000.00	FY27/28	Rangiora Drainage
N13	Beach Crescent, Waikuku Beach	Pumping and bund system. Possibly with campground	$1,050,000.00	FY28/29	Coastal
FT17	Cridland Street West	Pump station and pipework feeding	$1,940,000.00	FY30/31	Kaiapoi Urban
$7,626,000.00					

Three Waters projects to be considered as part of Long Term Plan process and/or advice to New WSE

Ref	Location	Scope of work	Rough order budget	Proposed Financial year	Potential funding source
FT42	Wilson Drive	Secondary flow-path and upsizing existing pipe.	$200,000.00	TBC	Ohoka Rural
FT56	Depot Road	Major swale and culvert system	$700,000.00	TBC	District Wide Roading / District Wide Drainage / Environment Canterbury
H14	Woodfields Road	Upgrade culverts and bund low lying property. Possible diversion	$50,000.00	TBC	District Wide Drainage
H18	Greens Road, Tuahiwi	Culvert upgrade	$30,000.00	TBC	District Wide Drainage
H25	Island Road, Kaiapoi	Bund in park	$20,000.00	TBC	Greenspace
H32	Washington Place, West Eyreton	Culvert and channel upgrade and new cut off drain	$160,000.00	TBC	District Wide Drainage
H41	Burgesses Road and Tram Road	Culvert upgrade and cut-off drains (note two separate sites)	$400,000.00	TBC	District Wide Roading
N18	Northside Drive, Waikuku Beach	Raise bund. Form channel	$50,000.00	TBC	Coastal Urban
N22	Helmore Street, Rangiora	Bund and channel to cut off flow	$75,000.00	TBC	District Wide Drainage
N31	Rossiters Road, Loburn	Cut off Swale and culverts	$50,000.00	TBC	District Wide Roading
Gen	General	Allowance for incomplete investigations	$2,000,000		
Approx. $2.0 m					

5. IMPLICATIONS FOR COMMUNITY WELLBEING

5.1. There are implications on community wellbeing by the issues and options that are the subject matter of this report.

5.2. Safe and reliable Roading and 3 Waters infrastructure is critical for wellbeing. 3 Waters infrastructure includes adequate drinking water and drainage for health and Roading infrastructure is required to provide safe egress and enable residents to access goods and services within the community.

5.3. The Management Team has reviewed this report and support the recommendations.

6. COMMUNITY VIEWS

Mana whenua

6.1. Te Ngāi Tūāhuriri hapū are likely to be affected by or have an interest in the subject matter of this report as it relates to impacts on waterways and rivers. Staff will update the Runanga at the executive meetings and where relevant on specific projects or consents engage with Mahaanui Kurataio.

Groups and Organisations

6.2. A number of the issues in this report cross over with Environment Canterbury (ECAN) in terms of consenting, or in relation to rivers and natural waterways assets and services they maintain. Staff from ECAN and WDC are working to proactively coordinate where necessary.

6.3. There are some drainage related issues that also relate to water races and irrigation races. Where this is the case staff are coordinating with Waimakariri Irrigation Limited.

Wider Community

6.4. The wider community is likely to be affected by, or to have an interest in the subject matter of this report, as the wider community has been impacted by the recent flood event.

7. OTHER IMPLICATIONS AND RISK MANAGEMENT

Financial Implications

7.1. The updated cost estimate and spend to date for the works associated with recovery from the flood is summarised below with the assessment of the funding source.

Area	Estimate	Spent to date	Forecast expenditure	Preliminary Funding Source
Roading	$1,940,000	$1,096,571	$1,940,000	Roading (assumed Waka Kotahi co-funding rate of 51%)
Stormwater	$615,000	$313,047	$561,735	Relevant Urban Drainage scheme
Land Drainage	$400,000	$19,500	$339,500	District Drainage account
Rivers	$25,000	0	0	District Drainage account
Wastewater	$340,000	$70,029	$270,000	EDSS account
Flood Response Investigations	$500,000	$317,760.85	$461,061.67	Drainage Operations account
TOTAL	**$3,820,000**	**$1,816,908**	**$3,572,296**	

7.2. It is noted that Waka Kotahi have not yet provided a decision with regards to the emergency works funding request submitted in July 2022, and the status is currently noted as:" Under review". Staff are continuing to liaise with Waka Kotahi investment staff.

7.3. The following table summarises the capital works budgets that are arising from the flood investigations:

Category	Forecast	Status
Emergency Flood recovery	$3.82 million	In progress
Annual Plan and LTP	$7.626 million	Subject to FY23/24 decisions
Not currently budgeted	$2.0 million	To be addressed in 2024-2034 LTP and by WSE

Sustainability and Climate Change Impacts

7.4. The frequency and severity of flood events is likely to increase due to the impacts of climate change.

Risk Management

7.5. There are risks arising from the adoption/implementation of the recommendations in this report.

7.6. A risk-based approach has needed to be adopted around the management of the Lees Valley slips and this will also be the case when assessing and agreeing on repairs for the Okuku Pass Road slips as well as bridge approach repairs. In these cases, the best whole of life cost needs to be considered when agreeing the extent of repair and there is a residual risk of ongoing repairs being required due to further rainfall events.

Health and Safety

7.7. There are health and safety risks arising from the adoption/implementation of the recommendations in this report.

7.8. Physical works will be undertaken to repair flood damage and as per standard process for any physical works, the contractor will be required to provide a Site Specific Health & Safety Plan for approval prior to work commencing on site.

8. CONTEXT

Consistency with Policy

8.1. This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

Authorising Legislation

8.2. The Land Transport Management Act is the relevant legislation in relation to Roading activities.

Consistency with Community Outcomes

8.3. The Council's community outcomes are relevant to the actions arising from recommendations in this report.

8.4. This report considers the following outcomes:

There is a safe environment for all

- Harm to people from natural and man-made hazards is minimised.
- Our District has the capacity and resilience to quickly recover from natural disasters and adapt to the effects of climate change.

- Crime, injury and harm from road crashes, gambling, and alcohol abuse are minimised.

Transport is accessible, convenient, reliable and sustainable

- The standard of our District's roads is keeping pace with increasing traffic numbers.
- Communities in our District are well linked with each other, and Christchurch is readily accessible by a range of transport modes.

Core utility services are sustainable, resilient, affordable; and provided in a timely manner

- Harm to the environment from sewage and stormwater discharges is minimised.
- Council sewerage and water supply schemes, and drainage and waste collection services are provided to a high standard.
- Waste recycling and re-use of solid waste is encouraged, and residues are managed so that they minimise harm to the environment.

Authorising Delegations

8.5. Relevant staff have delegation to authorise unbudgeted emergency works where needed.

WAIMAKARIRI DISTRICT COUNCIL

REPORT FOR DECISION

FILE NO and TRIM NO:	RDG-32-115-02 / 230131011979
REPORT TO:	RANGIORA ASHLEY COMMUNITY BOARD
DATE OF MEETING:	8 March 2023
AUTHOR(S):	Kieran Straw – Civil Projects Team Leader Aaron Kibblewhite – Senior Project Engineer Joanne McBride – Roading & Transportation Manager
SUBJECT:	Approval of Scheme Concept for Consultation – Transport Choices Project 2 – Railway Road / Torlesse Street / Coronation Street / Country Lane

ENDORSED BY:
(for Reports to Council, Committees or Boards)

General Manager

Acting Chief Executive

1. SUMMARY

1.1. This report is seeking approval of the scheme design for the Rangiora Town Cycleway for the purposes of consultation with the directly impacted residents, and stakeholders.

1.2. The route is providing an alternative cycle route through Southbrook via Railway Road, Torlesse Street, Coronation Street, Country Road (unformed road reserve), and a short length of South Belt to connect the cycleway into King Street.

1.3. The route is as approved on the Walking and Cycling Network Plan.

Attachments:

i. Rangiora Cycleway Scheme Design Drawing Set (Trim No. 230216020650[v2])
ii. Community Engagement Plan (Trim No. 230131012350)
iii. Draft Parking Removal Schedule (Trim 230221023538)
iv. Draft Tree Removal Schedule (Trim 230223024638)
v. Tracking Curve Drawing for Railway Road / Marsh Road intersection (Trim 230223025132[v2])
vi Cycle Lane Separators Examples

2. RECOMMENDATION

THAT the Rangiora Ashley Community Board:

(a) **Receives** Report No. 230131011979

(b) Recommends to the Utilities and Roading Committee that it

i. **Approves** the scheme Concept as per Attachment i of this report for the purposes of consultation.

ii. **Notes** that staff will present the approved Scheme Concept to directly impacted residents and stakeholders for feedback.

iii. **Notes** that feedback from the consultation will be fed into the Detailed Concept, and that the Detailed Concept will be reported back to the Board in May 2023.

iv. **Notes** the scheme design requires the removal of 7 on street car parking spaces at the locations detailed within the draft No Stopping Schedule included as attachment iii of this report, and that the final approval of any parking spaces to be removed will be included within the detailed design report in May 2023.

v. **Notes** that any parking to be removed as result of the Scheme Concept will be communicated directly with the immediate adjacent residents.

vi. **Notes** that the scheme design required the removal of 12 existing street trees, which are required to be replaced in alternative locations as noted in attachment iv of this report, and that final approval of the removal of any street trees will be included within the detailed design report in May 2023.

vii. **Notes** that the removal of street trees has been discussed with Greenspaces, who are represented on the Project Control Group. Greenspace are supportive of the removal of the identified trees provided that they are replaced elsewhere along the length of the route.

viii. **Notes** that this project is funded through the "Transport Choices" funding stream (which is still subject to final signing and confirmation), and this requires that all works is complete by June 2024.

ix. **Notes** that the funding agreement between Waka Kotahi and the Waimakariri District Council is dependent on the site having been though an independent Road Safety Audit process, which will proceed upon acceptance of this report, and that the safety audit may result in further minor design changes.

3. BACKGROUND

3.1. The Waimakariri District Council have committed to improving multi-modal transport options throughout the District. The intention is to provide safe and accessible facilities which encourage active movements within the community.

3.2. The Walking and Cycling Network Plan has been derived to deliver upon the actions which were agreed and endorsed in the Waimakariri Walking and Cycling Strategy 2017-2022. The vision of this strategy is "Waimakariri residents choose to walk and cycle, and that the environment is friendly, safe and accessible for walkers and cyclists". Overall, the aim of the strategy is to encourage walking and cycling, both for recreational and commuter travel. This policy was developed with alignment to Regional Transport Plans and other national/regional policy documents.

3.3. A previous report was taken to all of the individual Community Boards in August 2021 seeking approval to consult on the draft Walking and Cycling Network Plan. This report then went on to be approved by Council in October 2021. Refer to TRIM No. 210920151361 for further background information.

3.4. Following this district wide consultation, a further report was taken to the Community Boards and then the Council in October 2022 seeking adoption of the Walking and Cycling Network Plan, and associated Infrastructure Prioritisation Programme.

3.5. At the time of the adoption of the Walking and Cycling Network Plan, there was a Council funded budget of $660,000 within the 2023 / 2024 financial year for all the "Priority One" sites. This budget was inadequate for this work, so it was also noted within that report that additional funding was being sought though Waka Kotahi "Transport Choices" of the following links:

x. Woodend to Pegasus / Ravenswood.

xi. Kaiapoi to Woodend.

xii. Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane.

xiii. Ashley Street/Ivory Street/Percival Street.

xiv. Tram Road (School path).

xv. McHughs Road/Mandeville Road (Sportsground path).

3.6. The Waimakariri District Council's funding application was approved on an interim basis for all links, with funding agreements yet to be confirmed.

4. ISSUES AND OPTIONS

4.1. The Scheme Design for this cycleway route has been broken into sections and described below. The following descriptions should be read in conjunction with Attachment I of this report.

4.1.1. Railway Road (Lineside Road to Marsh Road intersection

Railway Road starts off with kerb & channel on both sides, with a width of approximately 10m. This width is inadequate to install a separate on-road facility without the loss of parking at the southern end.

Therefore, the proposed design is to install a 2.5m Shared Path against the kerb (leaving approximately 700mm berm between property boundary and the path).

This alignment will require the removal of 5 street trees, which will be replaced either on the opposite side of Railway Road, or in on-road kerb build outs along this length.

4.1.2. Railway Road / Marsh Road intersection

There is a future project improve the level crossing at the Marsh Road / Railway Road intersection. This project is too complex to be designed and consulted on in to be included within the current scope of works. Therefore, the proposed cycleway will pass through the Marsh Road intersection with no other improvement works proposed at this time. This is considered a short term solution only, and the cycleway through this intersection will be reconsidered as part of the future Marsh Road / Railway Road Level Crossing project. In order to ensure an acceptably safe solution in the meantime, the staff will consider appropriate measures at detailed design such as signage, markings etc.

4.1.3. Railway Road (Marsh Road to Torlesse Street)

The cycleway (and any roading infrastructure) must remain a minimum of 5m from the railway line. A fence will be installed, and the shared path extended to the culvert north of the Pak n Save commercial vehicle entrance. It is important that the Pak n Save delivery vehicles are not mixing with cyclists. Due to the separation requirements from the railway line, and the need to retain on-street truck stacking / waiting near the Pak n Save entrance, the existing kerb and channel, and 6 street trees on the western side of Railway Road will need to be removed to create the required width to accommodate all parties.

Please note that Pak n Save have expressed a number of strong objections to the presence of a cycleway along Railway Rd, which are expanded on further below in Section 5.2 below.

Beyond the Pak n Save commercial entrance, the shared path will transition to a "Neighbourhood Greenway". The existing angle parking against the railway line will be replaced with parallel parking to ensure cars do not reverse into the path of cyclists. Although the change to angle parking will reduce the number of

vehicles that park south of Dunlop's Road, additional on-street parking spaces will be marked north of Dunlop's Road to make up for this. Therefore there will be no loss of parking in this stretch.

4.1.4. Torlesse Street

The road carriageway width of Torlesse Street is currently 17m between Railway Road and Marshall Street. This additional width is due to the angle parking on the northern side outside the Southbrook School, and the former school drop off zone behind this parking (removed as part of the Torlesse Street signalisation project currently underway).

The Council has worked with Southbrook School on producing a School Travel Plan, and is currently working separately with the Southbrook School on school travel plan actions. A verbal update will be provided at the meeting.

From Marshall Street to Southbrook Road, the road carriageway reduces to 14.2m, which is still significantly greater than required.

The proposed solution for the full length of Torlesse St is to utilise the excess width with a separated bi-directional on-road path. This path width is to be 2.9m wide, and separated from the parking lane by 0.5m kerb separators.

The design minimises the loss of on-street parking, however one parking space will be required to be removed to accommodate the transition at the Torlesse / Southbrook intersection.

The road crossing at Southbrook Road will be fully signalised, and the works to prepare for this is included within the current signalisation project.

4.1.5. Coronation Street

A shared path is proposed to meander between the existing street trees on southern side of Coronation Street. One Street tree outside No. 10 Coronation Street will be required to be removed to accommodate the path. This tree will be replaced west of the Buckleys Road intersection.

The shared path will continue on the south side of Coronation Street, to the west of Buckleys Road.

A kerb and channel extension is required to formalise the cul-de-sac head at the western end of Coronation Street to provide separation from the shared path on the southern side of the street. The replacement street trees from Railway Road, outside Pak n Save, will be reinstated in Coronation Street.

4.1.6. Ellis Rd (Road Reserve behind Southbrook Park)

Construction of a 3.0m wide shared path to be constructed along the length of the unformed road reserve through to South Belt.

There is an opportunity to provide additional trees and landscaping within this length to improve the amenity and environmental value of this facility.

4.1.7. Country Lane

The northern section the unformed road becomes Country Lane, which is formed to 6.0m wide. This short length is proposed to become a short length of

"Neighbourhood Greenway". Discussions with Country Lane residents are ongoing and a verbal update will be made at the meeting.

4.1.8. South Belt (Country Lane to King Street)

This section is just 120m in length and will serve as the connection to align with King Street, which is the proposed future route to the Rangiora Town Centre.

It is proposed to install kerb and channel build outs at each end along this length to allow for a 3.0m separated path. The installation of a build-out at the eastern end will require the existing bus stop to be relocated 20m to the east, outside No. 93 Southbrook Road, which results in the loss of one on-street car parking space.

4.2. Implications for Community Wellbeing

There are implications on community wellbeing by the issues and options that are the subject matter of this report.

The addition of walking and cycling infrastructure encourages a greater uptake of walking and cycling, both for commuters and recreation. An uptake in walking and cycling also contributes to improved health and wellbeing of members within the community. Further to this, including infrastructure which caters for a wide range of skill levels encourages less confident cyclists, who may have otherwise chosen to travel via motor vehicle, to use the provided facilities.

The project will include a significant landscaping allowance to further enhance the user experience, amenity, environmental aspects of this project.

4.3. The Management Team has reviewed this report and support the recommendations.

5. COMMUNITY VIEWS

5.1. **Mana whenua**

Te Ngāi Tūāhuriri hapū are not likely to be affected by, or have an interest in the subject matter of this report.

The cycleway is within the urban limits of Rangiora, and is not passing through (or near to) Māori Reserve land. There is also no Archaeological Authority required for this route.

5.2. **Groups and Organisations**

There are groups and organisations likely to be affected by, or to have an interest in the subject matter of this report.

Initial conversations have been had with Pak n Save, Southbrook School, and Country Lane residents. Their feedback has been taken on board in informing this recommendation.

Once the Scheme Design (attachment i) has been approved for consultation, then all directly impacted residents and stakeholders will be written to and offered an opportunity to meet. The stakeholders included within this section include the Walking & Cycling Reference Group, which includes representatives from the Southbrook School, Police, and the Waimakariri Access Group.

Pak n Save

At a recent meeting with Pak n save representatives, they expressed concern about the lack of communication with them on this matter, and the inherent risks involved in locating the cycleway along railway Rd, at the rear of their operation.

Each of the points made is responded to as follows:

5.2.1

As a key stakeholder to this proposal Foodstuffs South Island Properties Limited and Rangiora PAK'n SAVE were not provided notice of this proposed cycleway and were not provided an opportunity to formally respond to the proposal. We were not notified via post, direct contact or mailbox drop.

The Cycle Network Plan consultation was carried out by using Reach Media. With this method, a flyer is inserted in every letterbox in the intended area (in this case the whole district). This issue has highlighted a flaw in the council's current approach, in that it would not reach businesses which did not have a letterbox. It is likely that this would be the situation with Pan n Save.

It is noted that the Council recognises the importance of Pak n Save to the District, and in general maintains good communication with them on a range of matters including traffic lights at Pak n save, traffic lights at Coronation St/Torlesse St and Southbrook Rd long term improvements. However, this particular issue did not trigger that level of communication.

In this instance it is recognised that the Council could have done better at communicating and consulting.

Pak n Save however are represented within the Southbrook Reference Group, and this project, including the proposed cycleway, has been discussed within these meetings.

5.2.2

Rangiora PAK'n SAVE attracts thousands of vehicle movements per day to site including up to 30 large truck and trailer movements per day through its truck loading operation located on the corner of Station and Railway Road, Rangiora. Ensuring customers, staff, the community, and delivery operations at the PAK'nSAVE remain safe at all times is of paramount concern. Rangiora PAK'nSAVE are a PCBU. Health & safety of existing operations and the health & safety of future operations are at risk of failure due to the very likely conflict between cycleway users and truck deliveries.

The number of truck movements using Pan n Save is recognised. Also it is agreed that safety of customers, staff and the community remain paramount to all concerned, including the Council.

However it is worth noting that the proposed cycleway past Pak n Save is a separated path on the far side of Railway Rd, with kerb and channel providing separation between the shared path and the carriageway. Further delineation and / or barriers may be considered during detailed design, however it is suggested that this will actually decrease the risk of conflict, and increase safety, as it will concentrate all cyclists and pedestrians into a dedicated path separated from vehicles (including trucks), whereas at the moment any cyclist or pedestrian will be in the roadway. While it is accepted that the numbers will rise, the fact that they are taken out of the carriageway will reduce the risk of conflict.

5.2.3

Council have only just relocated the truck queuing area along Railway Road. The cycleway proposes to relocate this closer to the supermarket building, changing lines of sight for the queuing vehicles, making entrance into the rear store more practically challenging for turning circles of large delivery vehicles and puts it in a less operationally useful and practical location.

It is acknowledged that the timing is frustrating. However, staff at the time were responding to an imminent safety concern as previously trucks were queuing on the east of the road with considerably higher risks associated with the proximity of the railway line. At the time these discussions took place, the cycleway routes had not been developed.

The issues of useability are addressed below.

5.2.4

Staff at Rangiora PAK'n SAVE have provided immediate emergency responses to accidents involving the train and vehicles at the Railway Road/Marsh Road railway intersection. Locating a cycleway directly beside and aligned with this uncontrolled railway crossing is unsafe and reckless.

Responding to accidents is very traumatic and distressing. It is recognised that there are safety concerns at the intersection that need addressing, and work is beginning to look at addressing this. The addition of cycles into this area is certainly an element that needs considering. However given the possibility of cyclists using this now, and the intention to put in appropriate safety mitigation, staff do not believe that the risk is significantly higher.

KiwiRail will also be requiring that the cycleway is fenced from the Rail Corridor.

5.2.5

The proposed cycleway will interact with the delivery vehicles to and from the PAK'nSAVE in three separate locations. Truck turning and the location of the proposed cycleway are in direct conflict.

As noted above, the staff do not believe that there will be multiple interactions or conflicts. By providing a separate path for cyclists, we will be removing them from conflicting with the delivery vehicles.

5.2.6

As a PCBU the cycleway creates a responsibility to the PAK'n SAVE and Foodstuffs which is in direct opposition to the health and safety of our operations.

Any PCBU needs to respond to changes in its surrounding environment in terms of ensuring the health and safety of its operation, and Pak n Save will need to consider the implications of a new cycleway on its operations and respond accordingly. As noted above, the staff believe that the presence of a separated path that takes all cyclists and pedestrians out of the conflict zone with Pak n Save delivery vehicles will improve rather than decrease the safety of their operation. However, we would be open to discussing any changes to their operation that Pak n Save see as necessary and consider how we can further mitigate this.

5.2.7

We understand that council is time pressured to undertake the cycleway to ensure NZTA funding is retained. We believe that the haste to complete the project has distracted Council from securing the safest route for the community.

While the council does have a very tight timeframe, the suggestion that this has distracted it from considering safety is rejected. This particular route was chosen precisely because it was seen as the safest route (along with other reasons). Since then the Council staff are carefully considering the safest concept design, and will be carefully considering appropriate risk mitigation measures during detailed design.

5.2.8

The design is unsafe, does not safely include existing infrastructure such as culverts and access points.

The concept design does include consideration of culverts and access points as can be seen on the plans supplied. More detailed consideration of exact design elements will be considered as part of detailed design.

5.2.9

The location should not be placing the community at risk by aligning a cycleway through a heavy industrial area and unsafe railway crossing

Unfortunately, there are no perfect options for a cycleway, especially one that needs to pass through Southbrook. All of the alternative options had significant issues, and the task is to accept the best option and then design accordingly.

5.2.10

To be invited to attend and speak to our concerns at the Community Board and full Council meetings.

Information has been forwarded to Pak n Save on how to seek to present.

5.2.11

For Council to provide us with full tracking of 19.3 metre truck & trailer tracking and 22 metre b-train tracking of delivery vehicles which detail truck tracking entering and departing from the PAK'n SAVE and the intersection of Station and Railway Road in the context of the proposed cycleway alignment.

Tracking curves have been sent to Pak n Save, and are included in Attachment v of this report.

5.2.12

Confirmation from Council of how they will respond to safety concerns in relation to providing a cycleway (which will promote primary school children to utilise it) through an industrial area past three large vehicle dominating activities, being NPD, Carters and Rangiora PAK'n SAVE.

As noted above, any route from Lineside Road to South Belt will involve multiple risks to be addressed. With regard to the specific activities noted, and will be subject to a full independent Road Safety Audit.

NPD – the path will be off road and on the opposite side of the road.

Carters – the path will be located close to the kerb to maximise distance from the boundary, and the boundary fence is chain link so visibility would not be an issue.

Pak n Save - the path will be a separated path with a barrier kerb, on the other side of the road.

5.2.13

Confirmation from Council that several alternative route investigations have been undertaken including locating the cycleway through rural land in the ownership of Council at 141 Marshs Road. The property located at 141 Marshs Road avoids the heavily populated industrial area and railway intersection.

A number of alternative routes were considered in some detail, including Ellis Rd, along South Brook stream, and along Southbrook Rd. All were not favoured due to significant health and safety issues.

The option of 141 Marsh Rd was not considered as it would require cyclists to cross the railway twice, it leads cyclists away from a desire line of accessing the town centre, and only gets cyclists to Marsh Rd where they would still face getting past Pak n save.

5.2.14

Confirmation from Council that the Station Road/Marsh Road/Railway Road intersection meets both KiwiRail and all associated safety audits. The proposed cycleway alignment places primary school students and vulnerable cycleway users through this uncontrolled railway intersection with no proposed safety mechanisms and controls.

As noted above the above intersection does not meet required safety levels, and is on the Council's programme for improvement. A road safety audit will be carried out of the proposed cycleway during the design phase and consideration will be given to any recommendations that result. The design will be carried out in a way to make it clear that the cyclists do not have right-of way, and appropriate control mechanisms put in place to reinforce this.

5.2.15

Confirmation that the step out at the Marsh Road railway intersection interface does not place cycle users in conflict with truck and trailer tracking, including the swing of the back articulated trailer.

The Council staff would be pleased to meet with and discuss any concerns about the location and dimensions of specific elements, in order to ensure that concerns such as this were mitigated.

Southbrook School

Southbrook School have been consulted on a number of occasions and have been supportive of all of the work in this area. Discussions are continuing in terms of implementing the school travel plan, which includes walking and cycling.

KiwiRail

Meetings have been held with KiwiRail with regard to the Railway Rd / Marsh Rd / Station Rd intersection, and all parties have expressed concern about it. The Council has budgeted an upgrade in the next 2-3 years, and ongoing discussions will be held as this investigation progresses. Separately, WSP have been requested to look at options to initiate discussions.

Meetings have been arranged with Kiwi Rail in regards to the design of the shared path and separation requirements to the adjacent rail corridor. A verbal update will be given on this at the meeting.

Feedback from all stakeholders will be reported on when the Detailed Design is presented for approval in May 2023.

5.3. **Wider Community**

The wider community is likely to be affected by, or to have an interest in the subject matter of this report.

Feedback from the wider community was reported on during the consultation of the proposed route selection as part of the Walking and Cycling Network Plan. It is not

considered necessary to consult he wider community on the Scheme Design of the proposed facilities.

Feedback from the adjacent residents will be reported on when the Detailed Design is presented for approval in May 2023.

6. OTHER IMPLICATIONS AND RISK MANAGEMENT

6.1. Financial Implications

There are financial implications of the decisions sought by this report.

The Council has been informed that it has been successful in receiving Transport Choices funding of $1,416,100 for this project but this is subject to the "Transport Choices" funding agreement, which is yet to be confirmed.

The funding application is based on the estimate below:

Activity	**TOTAL Estimated Cost ($)**
Project Management	45,000
Communications and engagement	10,000
Monitoring and evaluation	25,000
Investigate / Design / Safety Audits	85,000
Statutory processes/consents/approvals	0
Implementation (TTM, construction, adaptation/maintenance costs before June 2024)	1,011,000
Contingency (20%)	240,000
Local share contribution (33%)	
TOTAL	**$1,416,100**

6.2. Sustainability and Climate Change Impacts

The recommendations in this report do have sustainability and/or climate change impacts.

Creating a safe and accessible walking and cycling network, which comes with improving infrastructure, increases the uptake of these activities for both recreational and commuter users. This results in a subsequent decrease in the number of people using single occupancy vehicles, particularly for shorter trips. This comes with many benefits, including health and the reduction of greenhouse gas emissions.

6.3 Risk Management

There are risks arising from the adoption/implementation of the recommendations in this report.

There is a risk that the funding will be reduced or removed. This will be managed by delaying key commitments until after the funding is confirmed. However, we need to proceed in the interim in order to meet the very tight timeframes.

There is a risk that residents may not favour the inclusion of a facility along their street. To minimise this risk, staff will begin engaging with residents during the design phase of facilities. This will show residents exactly what is proposed along the road corridor and enable them to notify staff early on if there are aspects which they are not in favour of. This feedback will be fed directly into the design process, and reported back to the Utilities and Roading Committee in May 2023.

There are risks that accidents will occur along the proposed cycleway, due to the increased use by cyclists, and potential for conflicts with vehicles. This needs to be carefully managed through a mixture of good design, signage and education, which should minimise these risks. However, a residual risk will remain, and this needs to be recognised.

There is a risk that objections to the location or the design of the cycleway will delay the project to the point that it cannot be constructed in time. This needs to be managed by open communication with affected stakeholders, seeking to mitigate their issues. However even with these actions, this remains a risk.

6.3 **Health and Safety**

There are health and safety risks arising from the adoption/implementation of the recommendations in this report.

The Scheme Design that is included as attachment i of this report has yet to go through an independent Road Safety Audit. Staff will send these drawings for auditing upon approval of this report, and in conjunction with the consultation phase.

Contractors engaged for the works will be required to be SiteWise registered, and complete Site Specific Safety Plans prior to commencing works on site.

7. CONTEXT

7.1. **Consistency with Policy**

This matter is not a matter of significance in terms of the Council's Significance and Engagement Policy.

7.2. **Authorising Legislation**

Local Government Act 2002

7.3. **Consistency with Community Outcomes**

The Council's community outcomes are relevant to the actions arising from recommendations in this report.

Public spaces and facilities are plentiful, accessible and high quality, and reflect cultural identity.

- There are wide-ranging opportunities for people to enjoy the outdoors.
- The accessibility of community and recreation facilities meets the changing needs of our community.

Core utility services are sustainable, resilient, affordable, and provided in a timely manner.

- Climate change considerations are incorporated into all infrastructure decision-making processes.

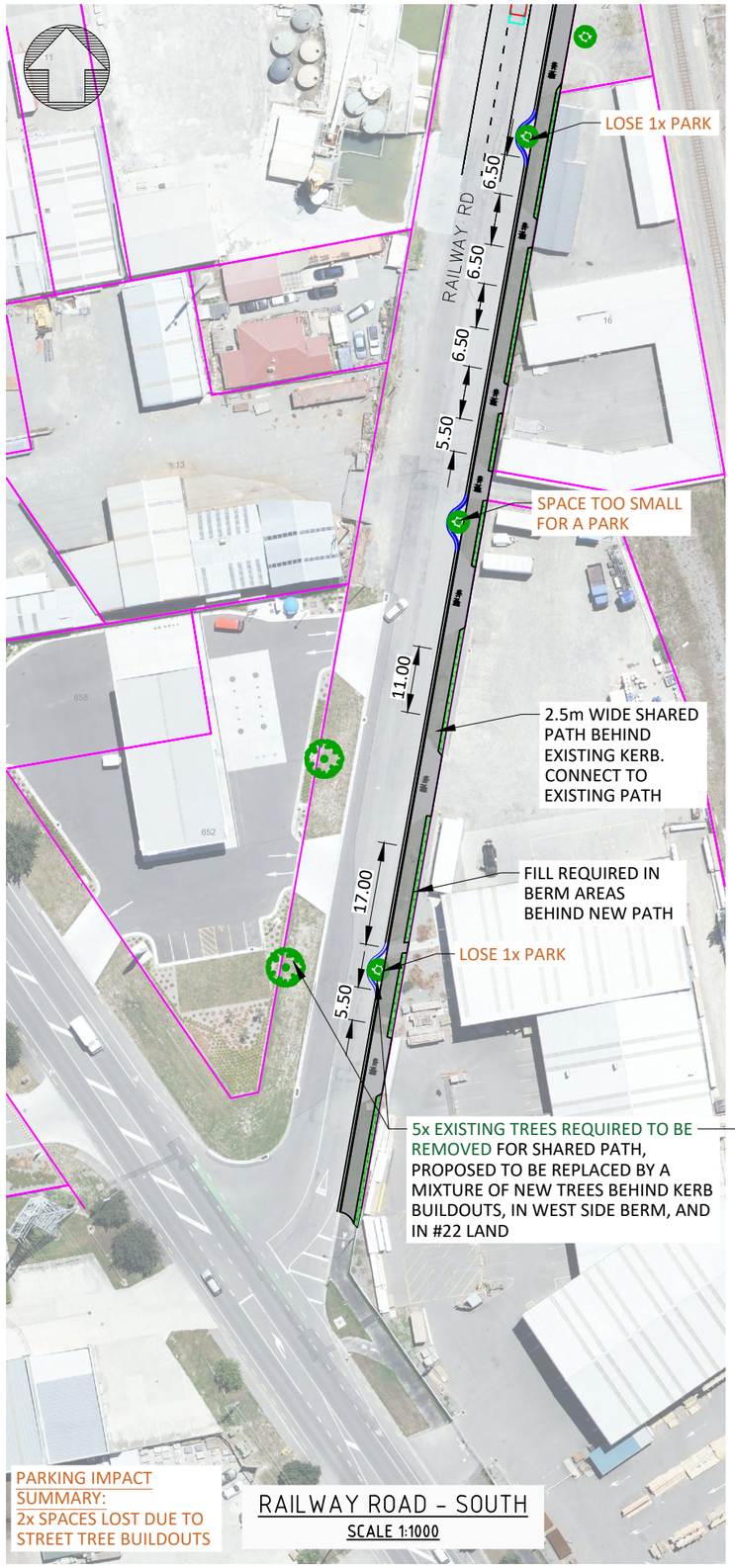
Transport is accessible, convenient, reliable, and sustainable.

- The standard of our District's transportation system is keeping pace with increasing traffic numbers.
- Communities in our District are well linked with each other and Christchurch is readily accessible by a range of transport modes.

7.4. **Authorising Delegations**

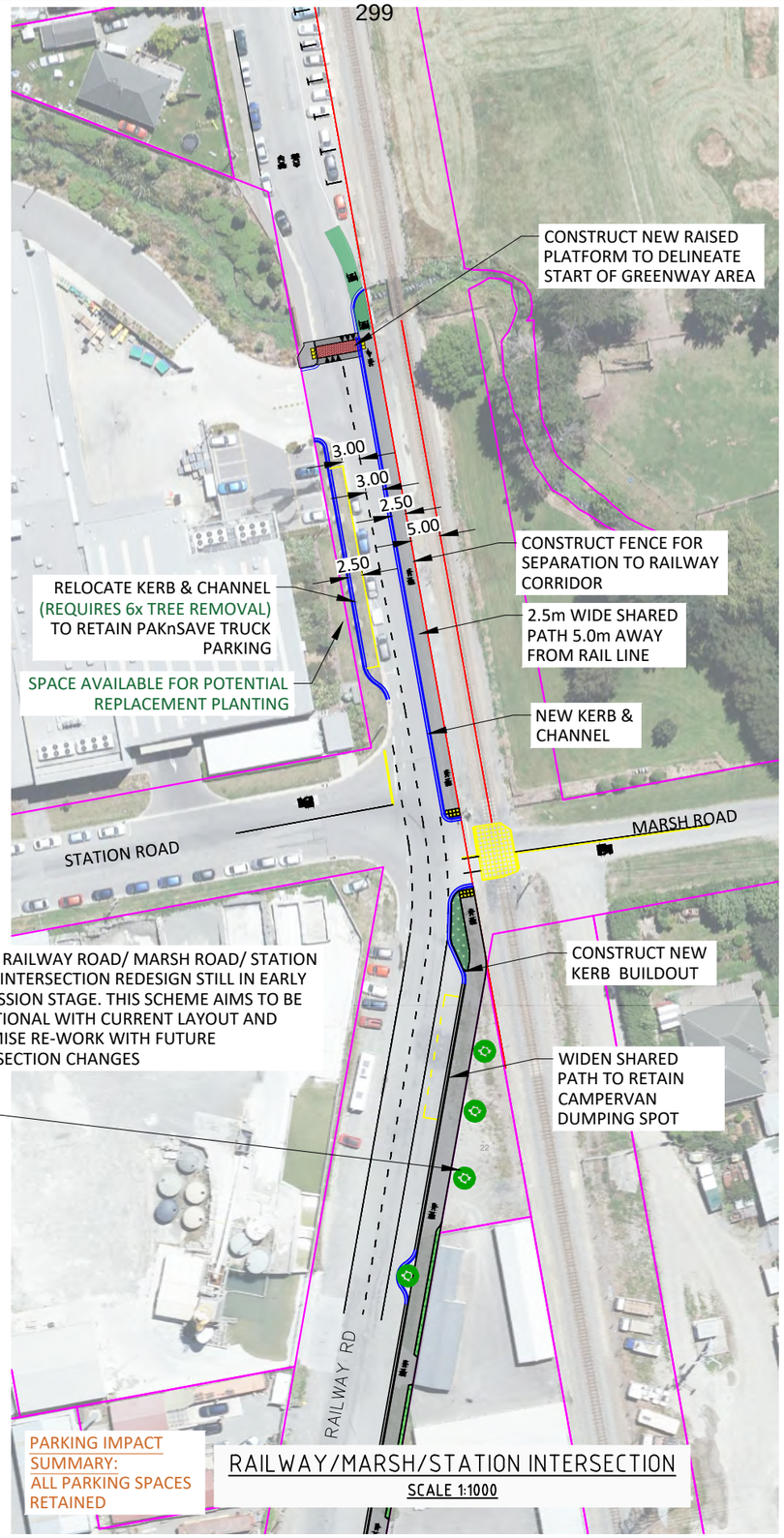
The Community Boards are responsible for considering any matters of interest or concern within their ward area and making a recommendation to Council.

The Utilities and Roading Committee have the Delegations to accept this report, and approve the Scheme Design of this cycleway.



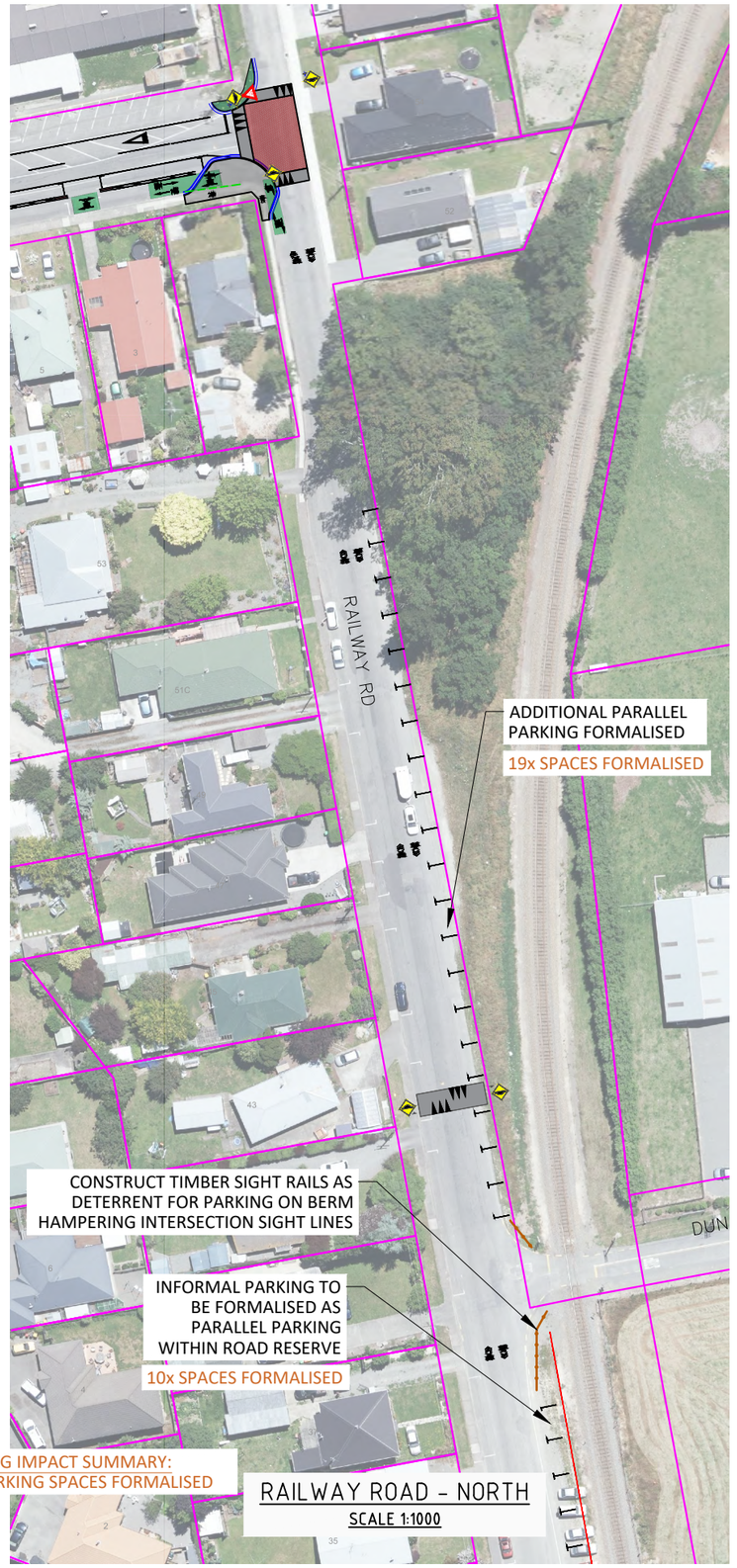
RAILWAY ROAD – SOUTH

SCALE 1:1000



RAILWAY/MARSH/STATION INTERSECTION

SCALE 1:1000



RAILWAY ROAD – NORTH

SCALE 1:1000

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	AK	---	---	16/02/2023

SURVEYED	---	---	PROJECT No
DRAWN	AK	16/02/2023	CON No 22/50
DRAWING CHKD	---	---	SCALE (A3) NTS
DESIGNED	---	---	DATUM ORIGIN
DESIGNED CHKD	---	---	HORIZONTAL NZTM GD2000
APPROVED	---	---	VERTICAL

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

RANGIORA TOWN CYCLEWAY

SHEET TITLE

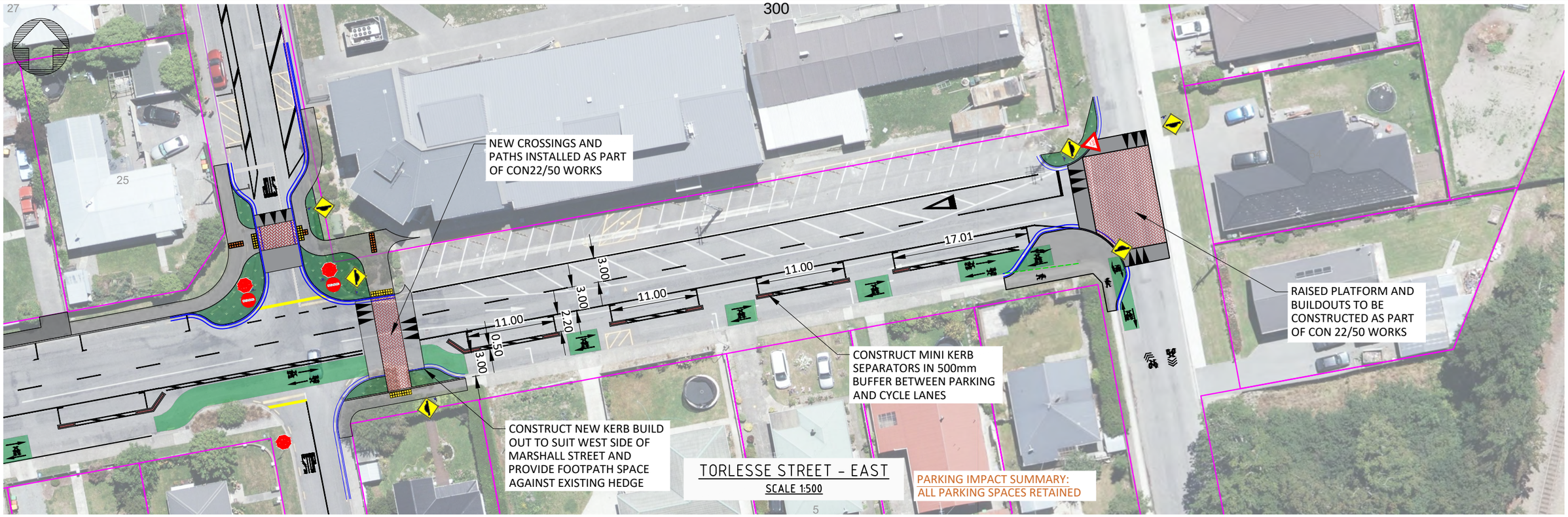
RAILWAY ROAD
SCHEME DESIGN

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING 4354

SHEET 1 | REVISION A

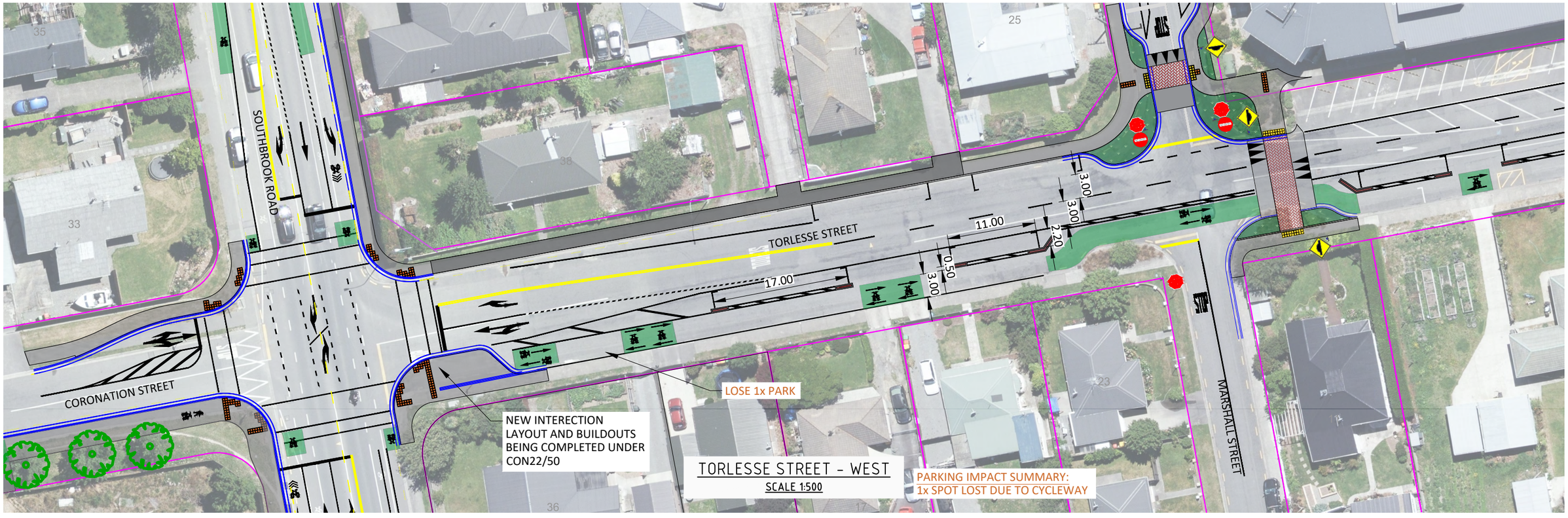
PLOT DATE: 10/03/2023 FILE: C:\USERS\AARONK\DOCUMENTS\LOCAL CAD FILES\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG - CYCLEWAY PLAN.DWG



TORLESSE STREET - EAST

SCALE 1:500

PARKING IMPACT SUMMARY:
ALL PARKING SPACES RETAINED



TORLESSE STREET - WEST

SCALE 1:500

PARKING IMPACT SUMMARY:
1x SPOT LOST DUE TO CYCLEWAY

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	AK	---	---	16/02/2023

SURVEYED	---	---	PROJECT No
DRAWN	AK	17/02/2023	CON No 22/50
DRAWING CHKD	---	---	SCALE (A3) 1:500
DESIGNED	---	---	DATUM ORIGIN
DESIGNED CHKD	---	---	HORIZONTAL NZTM GD2000
APPROVED	---	---	VERTICAL

WAIMAKARIRI DISTRICT COUNCIL

PROJECT: RANGIORA TOWN CYCLEWAY

SHEET TITLE: TORLESSE STREET

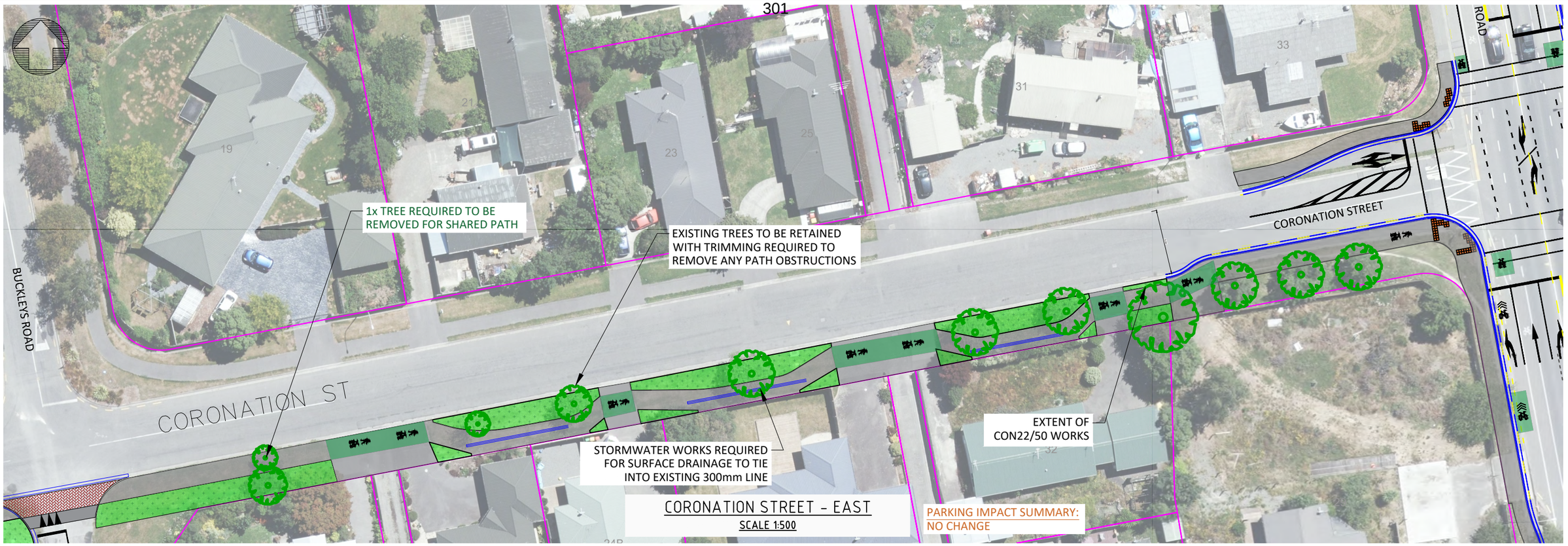
PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING 4354

SHEET 2

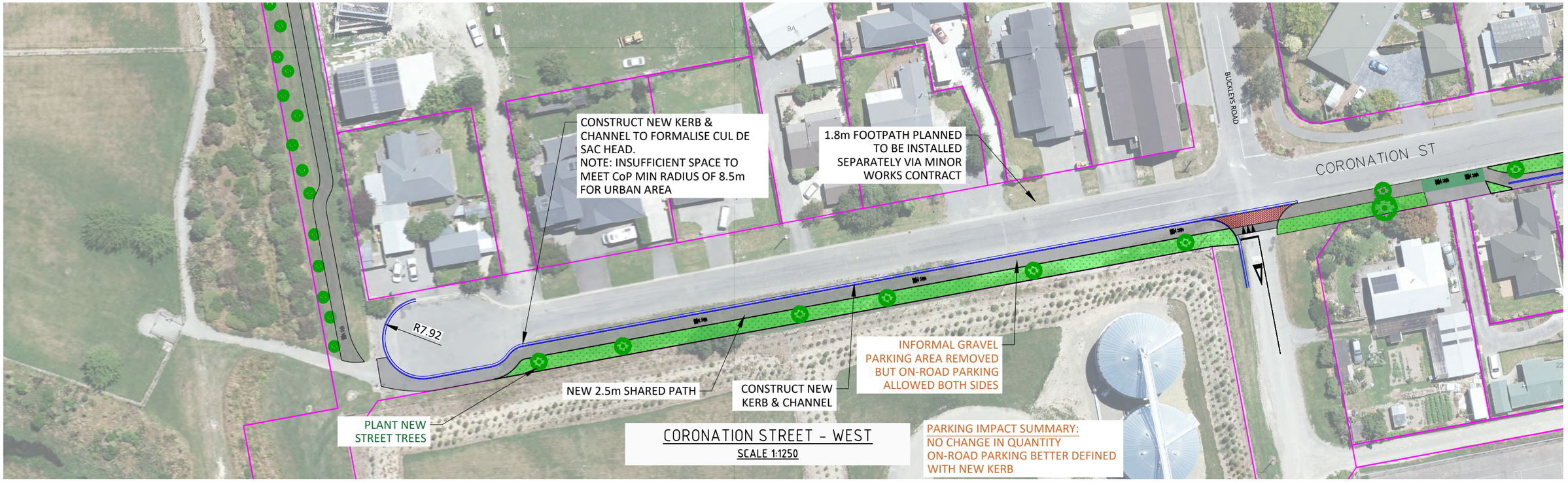
REVISION A

PLOT DATE: 10/03/2023 FILE: C:\USERS\AARONK\DOCUMENTS\LOCAL CAD FILES\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG - CYCLEWAY PLAN.DWG



CORONATION STREET - EAST
SCALE 1:500

PARKING IMPACT SUMMARY:
NO CHANGE



CORONATION STREET - WEST
SCALE 1:1250

PARKING IMPACT SUMMARY:
NO CHANGE IN QUANTITY
ON-ROAD PARKING BETTER DEFINED WITH NEW KERB

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	AK	---	---	16/02/2023

SURVEYED	---	---	PROJECT No	
DRAWN	AK	16/02/2023	CON No	22/50
DRAWING CHKD	---	---	SCALE (A3)	NTS
DESIGNED	---	---	DATUM ORIGIN	
DESIGNED CHKD	---	---	HORIZONTAL	NZTM GD2000
APPROVED	---	---	VERTICAL	

WAIMAKARIRI DISTRICT COUNCIL

PROJECT
RANGIORA TOWN CYCLEWAY

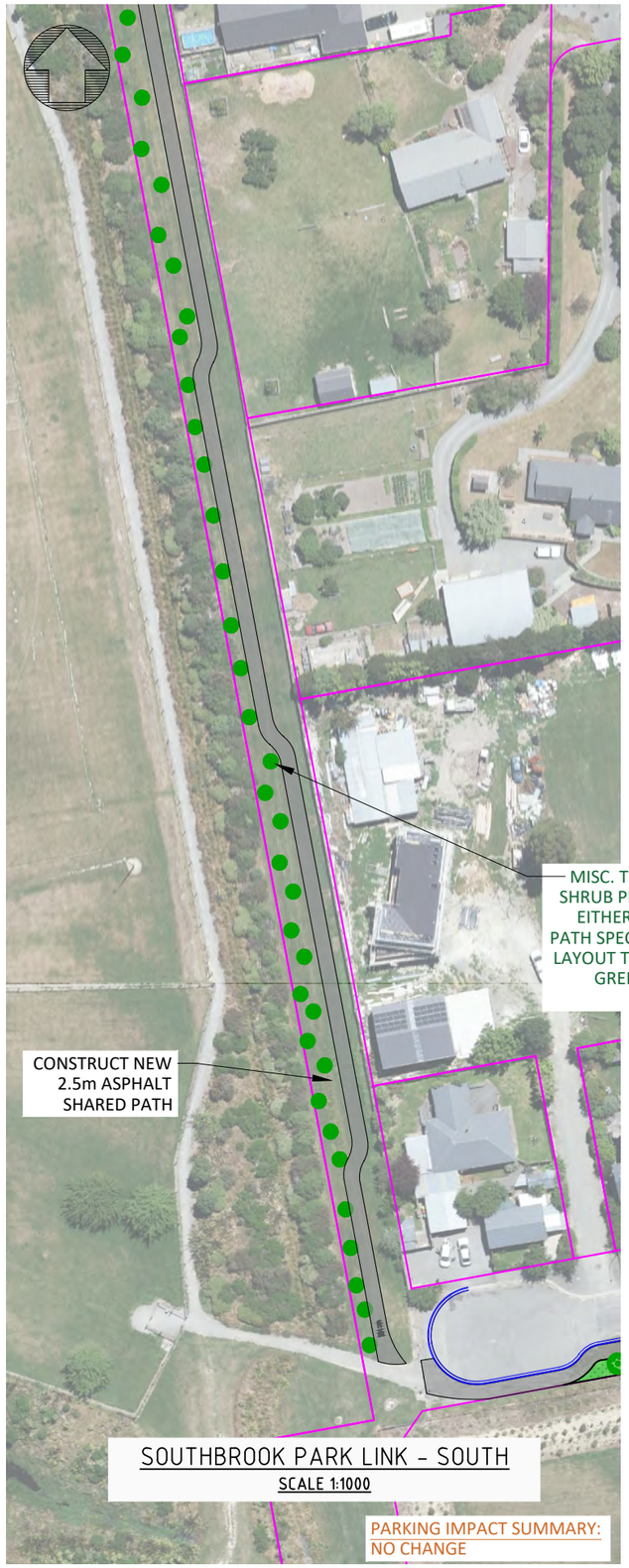
SHEET TITLE
CORONATION STREET

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING 4354

SHEET 3 | REVISION A

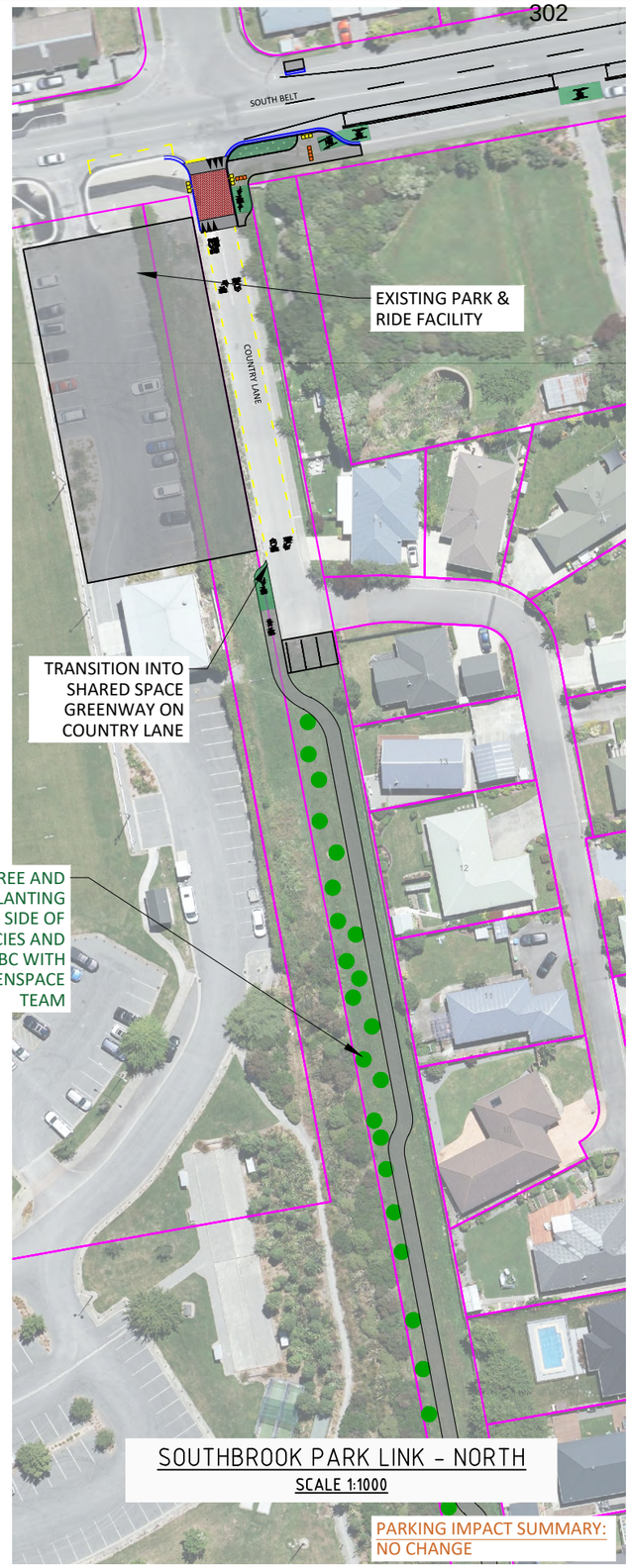
PLOT DATE: 10/03/2023 FILE: C:\USERS\AARONK\DOCUMENTS\LOCAL CAD FILES\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG - CYCLEWAY PLAN.DWG



SOUTHBROOK PARK LINK - SOUTH

SCALE 1:1000

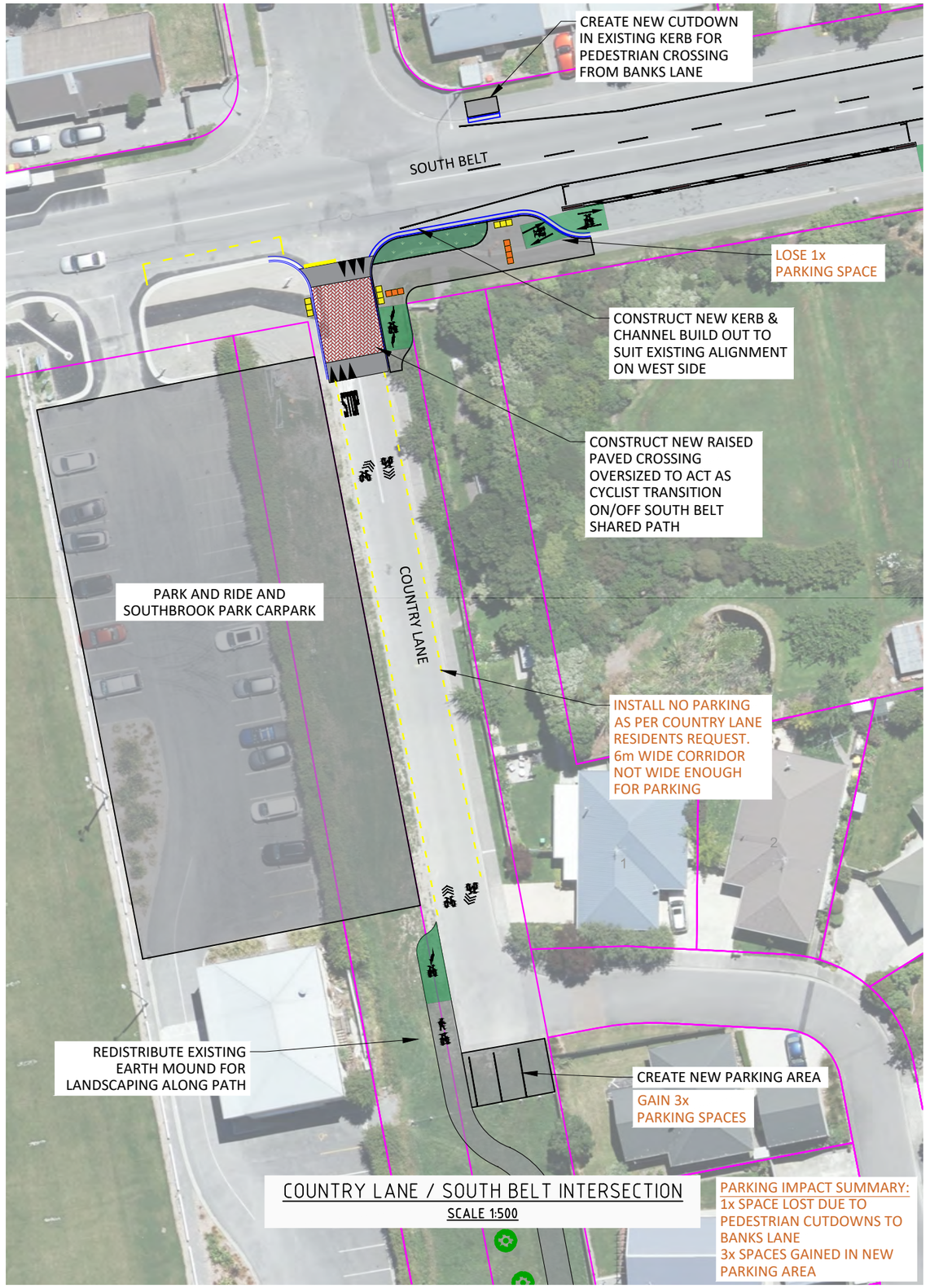
PARKING IMPACT SUMMARY:
NO CHANGE



SOUTHBROOK PARK LINK - NORTH

SCALE 1:1000

PARKING IMPACT SUMMARY:
NO CHANGE



COUNTRY LANE / SOUTH BELT INTERSECTION

SCALE 1:500

PARKING IMPACT SUMMARY:
1x SPACE LOST DUE TO
PEDESTRIAN CUTDOWNS TO
BANKS LANE
3x SPACES GAINED IN NEW
PARKING AREA

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	AK	---	---	16/02/2023
B	ADJUSTMENTS MADE FOLLOWING RESIDENT STREET MEETING	AK	---	---	08/03/2023

SURVEYED	---	---	PROJECT No
DRAWN	AK	08/02/2023	CON No 22/50
DRAWING CHKD	---	---	SCALE (A3) AS SHOWN
DESIGNED	---	---	DATUM ORIGIN
DESIGNED CHKD	---	---	HORIZONTAL NZTM GD2000
APPROVED	---	---	VERTICAL

WAIMAKARIRI DISTRICT COUNCIL

PROJECT
RANGIORA TOWN CYCLEWAY

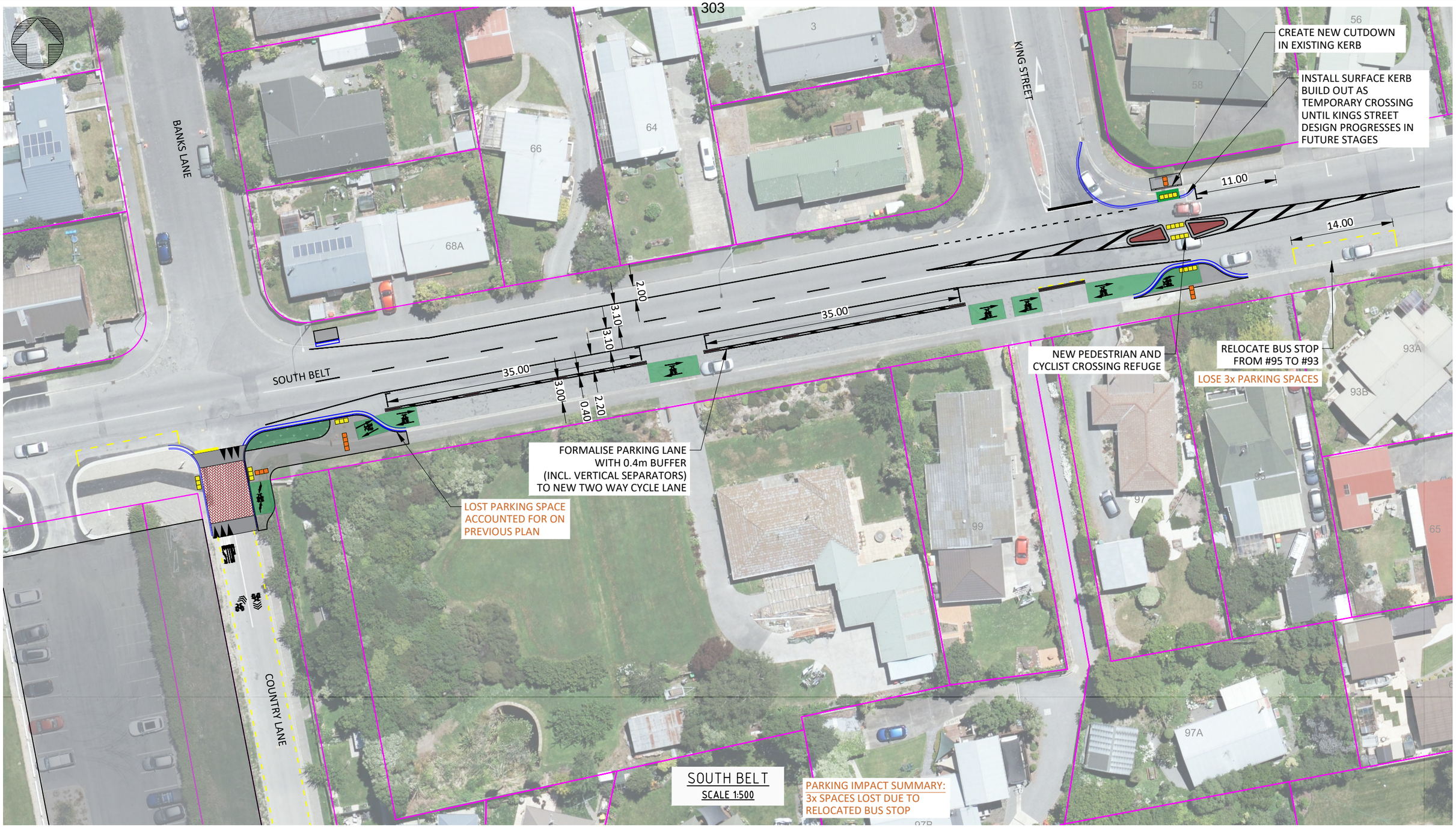
SHEET TITLE
COUNTRY LANE / SOUTHBROOK PARK

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING 4354

SHEET 4 | REVISION B

PLOT DATE: 10/03/2023 FILE: C:\USERS\AARONK\DOCUMENTS\LOCAL CAD FILES\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG - CYCLEWAY PLAN.DWG



REV	REVISION DETAILS	DRN	CHK	APP	DATE
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SURVEYED	---	---	PROJECT No
DRAWN	AK	16/02/2023	CON No 22/50
DRAWING CHKD	---	---	SCALE (A3) 1:500
DESIGNED	---	---	DATUM ORIGIN
DESIGNED CHKD	---	---	HORIZONTAL NZTM GD2000
APPROVED	---	---	VERTICAL

WAIMAKARIRI DISTRICT COUNCIL

PROJECT: RANGIORA TOWN CYCLEWAY

SHEET TITLE: SOUTH BELT

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING 4354

SHEET 5 | REVISION A

PLOT DATE: 10/03/2023 FILE: C:\USERS\AARONK\DOCUMENTS\LOCAL CAD FILES\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG - CYCLEWAY PLAN.DWG

Transport Choices - Walking and Cycling Infrastructure Implementation Communications & Engagement Plan

DRAFT FOR APPROVAL

Project Sponsor	Joanne McBride	
Communications and Engagement Advisor	Karen Lindsay-Lees	
Media Spokesperson	Joanne McBride/Don Young	
Trim Reference:	RDG-32-115; 230131012350	
Budget	$30,000	GL:

Version	Notes	Author	Date
0.1	Initial Draft	Karen Lindsay-Lees	19/01/23
0.2	PCG Review		
0.3	Final Revision		
0.4			
1.0	Finalised & Adopted		

1. Project Background/Purpose

The Walking and Cycling Strategy, developed by the Council, is a comprehensive plan that aims to improve the accessibility and safety of walking and cycling networks in the community. The strategy was created in partnership with the community and was adopted in 2017.

It has a vision that residents in Waimakariri will choose to walk and cycle more often, and that the environment will be friendly, safe and accessible for walkers and cyclists.

Key Priorities:

- Inclusive Infrastructure
- Community Connections
- Safe Travel
- Healthy Lifestyles

The Walking and Cycling Network Plan is a key task that supports the strategy to increase the accessibility and safety of walking and cycling networks. The plan was developed in conjunction with Community Boards, Councillors and a community reference group. The plan was further refined and prioritised with extensive engagement with the community.

The final plan and infrastructure prioritisation programme was adopted by Council in October 2022. The projects proposed for Climate Emergency Response Funding – Transport Choices (CERF) align with the priorities of the Walking and Cycling Network Plan and aims to address gaps in the network.

The plan was developed with regional coordination in mind and alignment with the strategic direction of the Greater Christchurch Partnership. It includes strategic linkages and alignment with the public transport network, key activity centres, and essential services. Additional planning is underway to create strong connections from homes to destinations, and mode change points to make alternative modes of travel competitive and facilitate mode shift.

The following routes were including in Priority One in the infrastructure prioritisation programme:

- Pegasus to Woodend

- Kaiapoi to Woodend
- Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane
- Ashley Street/Ivory Street/Percival Street
- Tram Road (School path)
- McHughs Road/Mandeville Road (Sportsground path)

These projects were put forward for the CERF Transport Choices funding stream, and the Woodend to Kaiapoi connection was also put forward for the 'Better Off' funding stream (Three Waters Reform). Council has since secured this funding. Council now needs to design and build these projects by June 2024.

This plan focuses on community engagement on the following priority routes only, as these projects will require the highest level of communications and engagement:

- Pegasus to Woodend
- Kaiapoi to Woodend
- Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane

Targeted engagement will be undertaken with residents and stakeholders for the other projects, however due to the much smaller scale of the communication / consultation and the fact this will be specifically targeted, this is not covered in this plan

Table 1. Indicative funding programme.

Programme of Improvements	**Transport Choices Share**	**Council Share**	**Total**
Delivering strategic cycling / micro mobility networks	67%	33%	100%
Woodend to Kaiapoi Cycleway	$ 2,000,000	$ 1,000,000*	$ 3,000,000.00
Railway Road/Torlesse Street/Coronation Street/Ellis Road	$ 950,600	$ 465,500	$ 1,416,100.00
Woodend to Pegasus (SH1)	$ 449,500	$ 220,500	$ 670,000.00
Ashley Street/Ivory Street/Percival Street	$ 489,900	$ 240,100	$ 730,000.00
Wayfinding Signage	$ 50,000	$ -	$ 50,000.00
Cycle stands	$ 20,000	$ -	$ 20,000.00
Supporting safe green and healthy school travel			

Tram Road (Mandeville to Swannanoa School path)	$ 300,300	$ 147,000	$ 447,300.00
Mandeville Road (McHughs Road to Mandeville Sports Ground)	$ 68,700	$ 34,300	$ 103,000.00
Southbrook Schools Traffic Calming & Pedestrian Facilities	$ 67,000	$ 33,000	$ 100,000.00
Creating walkable neighbourhoods			
New footpaths in urban areas	$ 400,000	$ 200,000	$ 600,000.00
			$ 7,186,400.00

** Council share of the Woodend to Kaiapoi Connection is from "Better Off" funding.*

2. Key Milestones

The proposed timeline includes:

2022

- Adoption of the Walking and Cycling Network Plan and Infrastructure Prioritisation Programme
- Secure funding to design and construct priority one routes in the infrastructure prioritisation programme

2023

March:

- Report to the Utilities and Roading Committee:
    - Pegasus to Woodend (Approval to consult on scheme design)
    - Kaiapoi to Woodend (Approval to consult on scheme design)
    - Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane (Approval to consult on scheme design)
    - Ashley Street/Ivory Street/Percival Street (Approval of design)

- Kaiapoi-Tuahiwi Community Board (Approval to consult on scheme design)
    - Pegasus to Woodend
    - Kaiapoi to Woodend
- Woodend-Sefton Community Board (Approval to consult on scheme design)
    - Pegasus to Woodend
    - Kaiapoi to Woodend
- Rangiora-Ashley Community Board
    - Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane (Approval to consult on scheme design)
    - Ashley Street/Ivory Street/Percival Street (Approval of design)

April/May:

- Let's Talk Community Engagement on the scheme design for the following routes:
    - Pegasus to Woodend
    - Kaiapoi to Woodend
- Targeted community information session for residents and businesses on Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane

May:

- Detailed design Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane – Utilities and Roading Committee for Approval

June – September:

- Tender process, award and build Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane
- Collate community feedback from Let's Talk
- Detailed design completed on:
    - Pegasus to Woodend

Kaiapoi to WoodendOctober:

- Detailed Design for Approval – Utilities and Roading Committee
    - Pegasus to Woodend
    - Kaiapoi to Woodend
- Detailed Design for Approval – Kaiapoi-Tuahiwi Community Board
    - Pegasus to Woodend
    - Kaiapoi to Woodend
- Detailed Design for Approval – Woodend-Sefton Community Board
    - Pegasus to Woodend
- Kaiapoi to WoodendTender, Award and Build: The timeframe for delivery of the projects in the Transport Choices Package is as per the programme submitted with the funding agreement, and varies across the various projects.

3. Communications Approach

Based on the IAP2's Public Participation Spectrum, the level of public engagement to be used is 'Consult'.

INFORM and CONSULT	
Public Participation Goals	Provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions. "We will keep you informed" To obtain public feedback on analysis, alternatives and/or decisions. "We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. We will seek your feedback on drafts and proposals"

4. Communications Objectives

To support the delivery of the infrastructure prioritisation programme, the communication objectives are to:

- Seek community feedback on the proposed scheme designs for:
    - Pegasus to Woodend
    - Kaiapoi to Woodend
    - Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane
- Raise residents' awareness of the cycleways within the District as a viable commuter route between towns and into Christchurch City, promoting the greater connections and ease of movement.
- Promote the cycleways as an accessible, safe and healthy way for people to travel between Pegasus, Woodend, Kaiapoi, and the wider Waimakariri District.
- Ensure details of the cycleways are easy to find and accessible.
- Ensure it is easy to provide feedback, and that a variety of feedback methods are available to suit the different needs within the community.
- Ensure all business owners and property owners within the vicinity of the cycleways are provided with information on the project and have the opportunity to give feedback.
- The community are given a range of opportunities to participate in this engagement and have their voices heard.
- Make sure other relevant stakeholder groups are provided with information on the project and have the opportunity to have a say.

5. Risks and Mitigation

Communication Risk	Mitigation
Why are we wasting money on cycleways?	Highlight the significant government funding to build these cycle connections.

	Explain the background to the project and the level of previous public consultation. Mandate from the public to deliver more connections between towns and areas of interest for walkers and cyclists and higher investment in these facilities. Link back to the engagement as well as our community outcomes.
Backlash from members of the public or business owners who disagree on the scheme design, routes or disagree that Council should be funding the construction of a new cycleways.	Closely monitor social media channels and use replies to encourage complainants to make a formal submission with their concerns. Correct inaccurate information posted by residents if and as required.
The public are apathetic about the project resulting in lack of feedback.	Clear messaging about the project and benefits to the wider community. Clearly explain the process and impact. Widely promote the project and its benefits. Use multiple communication channels.
Community members do not read communication material or engage in the feedback process.	Use multiple communication tools to target key stakeholders. We will measure awareness as a key metric to quantify the reach of our engagement material. **At all stages we will encourage members of the public to engagement in the submission process.**
Key stakeholders don't receive information, read communication material or engage with the engagement.	Use multiple mediums of communication to target key stakeholders. Make sure every business owner and landowner in the area receives written information about the project. Visit businesses in the area in person. Build and maintain a current stakeholder database. Ensure good briefings of the Councillors and the Community Boards
The Community feel that they haven't been consulted well.	Use multiple mediums of communication to reach residents and businesses. Make sure it's easy to provide feedback. Hold public drop-in sessions.

	Use advertising and local media. Ensure community board members and resident associations, cycling interest groups and businesses are well informed.
Residents are not willing to engage with Council to discuss solutions.	Use face-to-face meetings and discussions where possible and ensure all opportunities to talk to Council are followed through.
People feel that their view is not taken into account because something different to what they want is implemented.	The final decision, rationale why, and benefits of the changes are explained following the adoption of final design plans. Close the loop by sharing feedback received and decision-making process through Bang the Table and other channels.
Media portray the project or engagement in a negative light.	Brief media about the project before engagement begins and discuss with them key messages. Find interesting perspectives and stories for the media to use. Correct inaccurate information if it arises.

6. Audience and Stakeholders

Directly affected	• Waimakariri District residents along each route • Local Businesses • Schools
Internal	• Roading & Transport Manager – Joanne McBride • Senior Engineering Advisor – Don Young • Civil Projects Team • Roading Team • Greenspace Team • Senior Communication and Engagement Advisor – Karen Lindsay-Lees • Community Boards • Mayor and Councillors • Management Team
Other Stakeholders	• Walking advocate • Cycling advocate • Waimakariri Access Group • Age Friendly Advisory Group • Councillors and Board reps • Youth Council • School Representative • Enterprise North Canterbury • Oxford Promotions Action Committee • Kaiapoi Promotions Association • Rangiora Promotions Association • Pegasus Residents Group • Pines and Kairaki Beach Association • Kaiapoi East Residents Association • Woodend Community Association • Environment Canterbury • Waka Kotahi • Emergency Services • Key Businesses?

7. Key Messages

- The community prioritised these projects through previous community engagement and mandated for a higher level of investment in walking and cycling projects – we're delivering on this
- Funding to build these connections has been secured from the Better Off Fund and CERF (Transport Choices)
- We are committed to providing safe walking and cycling opportunities across the District
- Building these connections between our main towns make the routes safer and accessible for everyone
- Everyone benefits when we have accessible infrastructure like cycleways which encourage people to move around the district in different ways
- There are holistic benefits of making it easier to walk and cycle around Waimakariri
- It means fewer cars on the road and in turn more availability of parking. For people who walk and bike it's knowing you're moving around in a way that is good for your health – you also never need to worry about where to park
- Transport Choices key messaging
    - The funding is part of the Transport Choices package included within the Climate Emergency Response Fund (CERF), and it is an ambitious programme of work that will open our streets and help people in communities across the country get to where they need to go safely and efficiently.
    - Waka Kotahi will be working with local councils to progress strategic cycle networks, create walkable neighbourhoods and safer, greener, and healthier school travel, and make public transport more reliable, affordable, and easier to use.
    - Transport is a major source of emissions. Transport Choices will help reduce these emissions from transport and create fairer, safer, and healthier environments for people to live, work and play across the country.
- CERF key messaging
    - We need to think clearly about how we can contribute to tackling one of the biggest challenges of our time, climate change. When it comes to transport, it means looking at how we can offer safer, healthier, and more accessible alternatives for everyone across New Zealand to move around their towns and cities more easily.
    - By providing more low-carbon travel options, we will be able to make our towns and cities more people friendly and pleasant places to live, work and visit. In doing so, we can help to create a better future for ours and future generations.
    - The CERF programme includes transport initiatives that will enable people across New Zealand to help mitigate climate change – it will provide increased transport options, improved health, social and equitable outcomes, and deliver a healthier future for us all.
    - Budget 2022 also provided $1.2 billion to Waka Kotahi to reduce emissions through the Climate Emergency Response Fund.
        - The three areas of focus for transport are:
            - reduce reliance on cars and support people to walk, cycle and use public transport
            - rapidly adopt low-emissions vehicles and fuels
            - begin work now to decarbonise heavy transport and freight

8. Communications Channels

	Tactic	Who
Distribution Consultation Document	Let's talk booklet with key messages, information about scheme designs and maps. Split into main routes with specific scheme design feedback options. Limited printing in-house.	Comms & PCG
	Email let's Talk material to Community / Special Interest Groups and invite to engagement event.	Comms / PCG
	Email e-copy consultation documents for schools and local businesses with link to Let's Talk page. Email with invite to relevant engagement event.	Comms /PCG
	Information display and copies of all documents at all Council Service Centres and Libraries. Pull-up banner and copies of consultation document.	Comms
Engagement	Drop-In Session / Business Breakfast / Engagement Event	PCG
	Maintain an updated stakeholder contact list. Including reference group and those special interest groups – North Canterbury Cycle Club and various walking groups.	PCG
	Re-do voiceover on video produced for social media and promote online engagement	Comms
Advertising	Regular newspaper adverts through engagement period in the Northern Outlook / North Canterbury News / Kaiapoi Advocate / Oxford Observer / Woodend Woodpecker	Comms

	Radio advertising on Compass FM and on-air interviews with spokesperson.	Comms / Spokesperson
	Facebook Advertising Campaign	Comms
Online Presence	Engagement page set up on Bang the Table. Ensure the page remains updated with progress. We will keep submitters up-to-date throughout the engagement period and close the loop when decisions are made	Comms
	News articles on Council website as required with links to the engagement page.	Comms
	Regular social media posts using the Council's digital channels – use video.	Comms
Media	Issue media releases as appropriate and pro-actively work with media as opportunities arise.	Comms
	In-person briefings with local media before the engagement opens and supply with graphics/photos.	Comms

9. Budget and Resources

Several assumptions are made in preparing this budget:

1. Primarily using internal resources for graphic design, photography, videography and engagement.
2. Advertising restricted largely to local media outlets.
3. Use of internal facilitators for engagement events.
4. The following refers to these schemes only unless stated otherwise:
    a. Pegasus to Woodend
    b. Kaiapoi to Woodend
    c. Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane

Product	Notes	Who	When	Budgeted Cost
Advertising	Newspaper	Comms	April/May	$3000
	Social Media			$2000
	Radio			In-house
	Video Production			$3000
	Digital Billboard			$2000
	Digital Screens			In-house
Document – Design & Print	Let's Talk and feedback form content development	Comms	Feb/March	In-house
	Graphic Design			In-house

	Photography			In-house
	Let's talk flyer to targeted residents			$5000 - $7000
	Production of full scale decals and other props or display items			$5000
	Specific Targeted Community Meeting Flyer - Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane		March	In-house
Online presence	Bang the Table page	Comms	April/May	In-house
	Latest news article			In-house
	Facebook/Twitter			In-house
Engagement Events	Banners / Posters / Display Printing	Comms	April/May	$2000
	Drop-in sessions			$500
	Targeted community meeting Railway Road/Torlesse Street/Coronation Street/Ellis Road/Country Lane		Early April	In-house
TOTAL				**$24500**

Evaluation/Measures of Success

Outputs:

- Distribution of scheme designs and feedback form
- Number and reach of advertisements
- Number of people reached through engagement events
- Number of media releases and responses to media enquiries
- Number of conversations had with the public
- Number and reach of social media postings
- Number and variety of stakeholder events
- Number of collaborative meetings with key stakeholders and interest groups

Outcomes:

- Feedback from our partners and key stakeholder on engagement during the engagement process
- Quantity and quality of submissions received
- Number of people attending engagement events, including drop-ins
- Quantity and quality of comments and engagement on social media
- Volume and integrity of media coverage of the scheme designs, especially during the engagement phase

10. Debrief

For large engagements, a debrief should be held following that looks at:

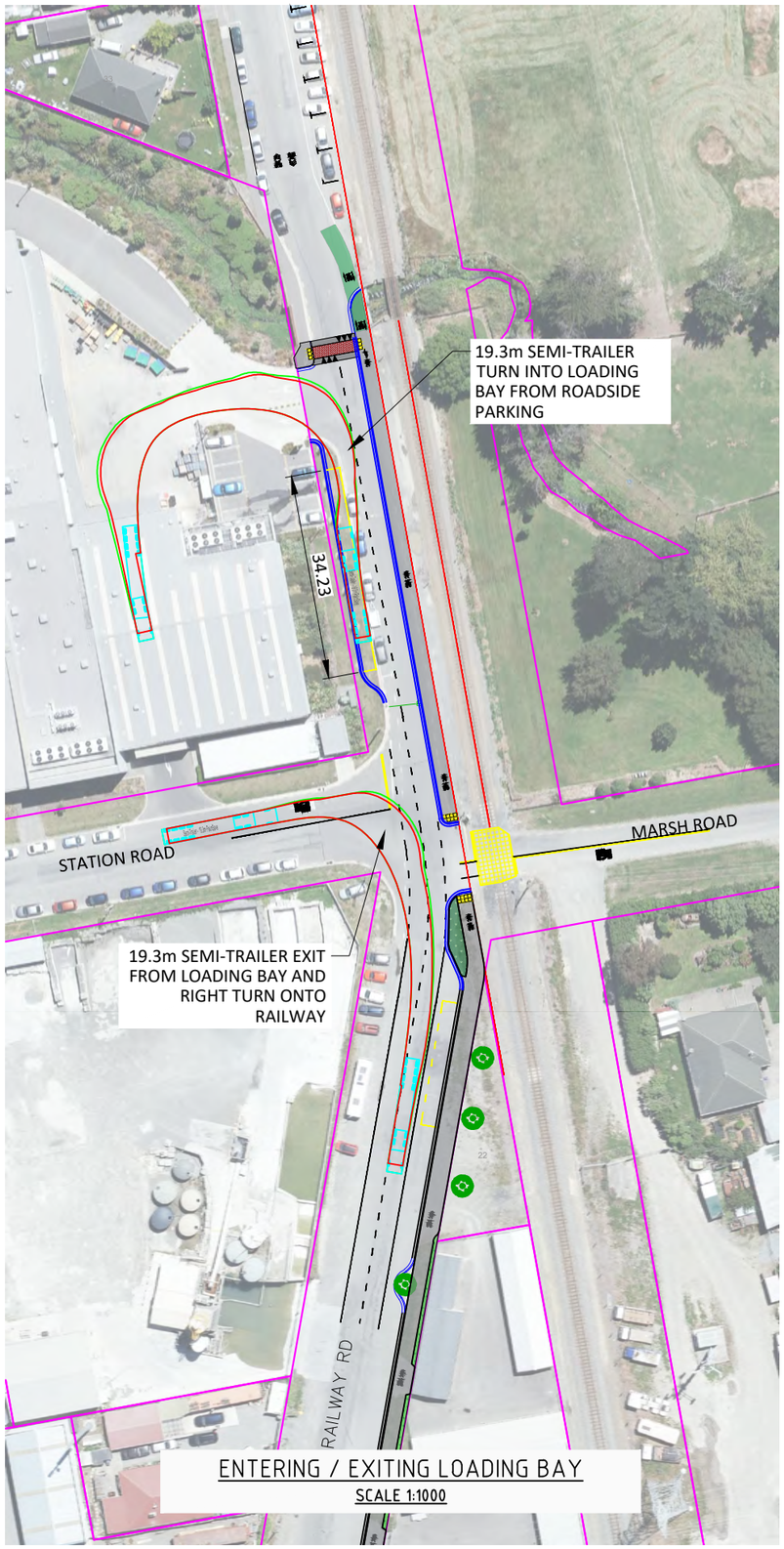
1. What worked?
2. What didn't work?
3. How can we communicate the results of the process to our stakeholders and community?
4. How can we learn from this process?

Waimakariri District Council: No-Stopping Restriction Schedule associated with Rangiora Town Cycleway Project

Item	Locality	Street	Side of Street	Location	Distance [m]	No. of spaces impacted	Notes
	Rangiora	Railway Road	West	Outside 642 Lineside Road (southern end)	4	1	Planted kerb build out (i.e not no stopping lines)
	Rangiora	Railway Road	West	Outside 642 Lineside Road (northern end)	4	0	Planted kerb build out (too small for parking currently)
	Rangiora	Railway Road	West	Outside 16 Railway Road	4	1	Planted kerb build out (i.e not no stopping lines)
	Rangiora	Railway Road	East	Angle parking south of Dunlops Rd	65	10*	Informal angle parking converted to formal parallel parking spaces. Additional on-road spaces will be added north of Dunlops to balance this.
	Rangiora	Torlesse Street	South	Outside No 36 Southbrook Rd (Torlesse St side)	6	1	Required to fit off-road cycle facility in conjunction with traffic signals
	Rangiora	Coronation Street	West	Cul-de-sac head	45	0	Alters parking to remove parking from turn around area. No formal existing spaces lost
	Rangiora	South Belt	South	No. 95	20	0	Existing bus stop to become kerb build out
	Rangiora	South Belt	South	No. 93	20	3	Relocate bus stop outside No. 93
	Rangiora	South Belt	South	No. 101	8	1	New pedestrian cutdown to Banks Lane

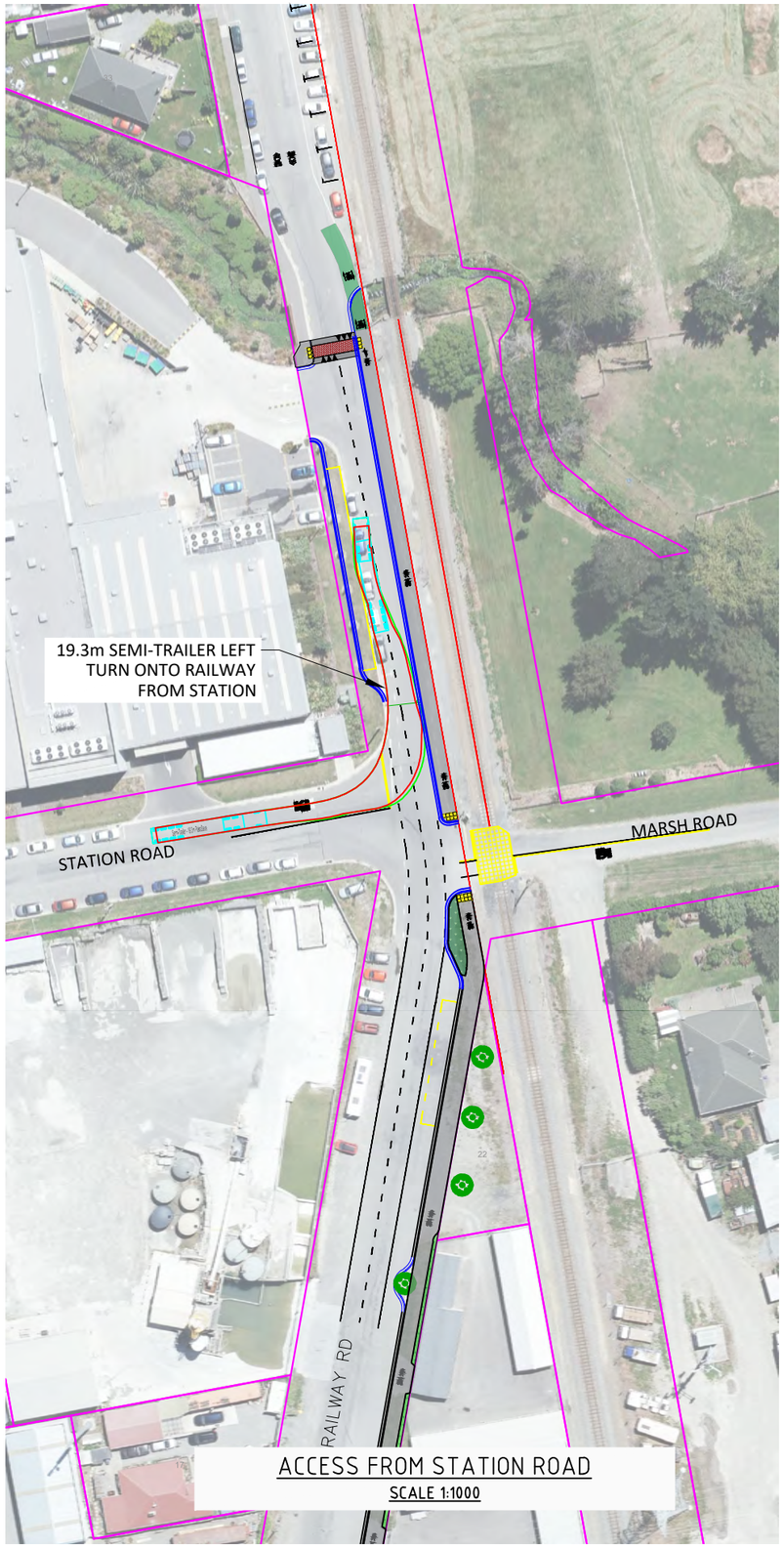
Waimakariri District Council: Schedule of Trees to be removed

Item	Locality	Street	Side of Street	Location	Asset ID	Notes
	Rangiora	Railway Road	East	Outside Carters	TR009715	To be replaced in kerb build out within carriageway
	Rangiora	Railway Road	East	Outside Carters	TR009713	To be replace in berm on western side of road
	Rangiora	Railway Road	East	Outside Carters	TR009712	To be replaced in kerb build out within carriageway
	Rangiora	Railway Road	East	Outside Carters	TR009711	To be replace in berm on western side of road
	Rangiora	Railway Road	East	Outside Carters	TR009714	To be replaced in kerb build out within carriageway
	Rangiora	Railway Road	West	Outside Pak n Save	not recorded	To be replaced with new on Coronation Street
	Rangiora	Railway Road	West	Outside Pak n Save	not recorded	To be replaced with new on Coronation Street
	Rangiora	Railway Road	West	Outside Pak n Save	not recorded	To be replaced with new on Coronation Street
	Rangiora	Railway Road	West	Outside Pak n Save	not recorded	To be replaced with new on Coronation Street
	Rangiora	Railway Road	West	Outside Pak n Save	not recorded	To be replaced with new on Coronation Street
	Rangiora	Railway Road	West	Outside Pak n Save	not recorded	To be replaced with new on Coronation Street
	Rangiora	Coronation Street	South	No. 10 Coronation St	TR007688	To be replaced west of Buckleys Road



ENTERING / EXITING LOADING BAY

SCALE 1:1000



ACCESS FROM STATION ROAD

SCALE 1:1000

REV	REVISION DETAILS	DRN	CHK	APP	DATE
A	SCHEME DESIGN	AK	---	---	16/02/2023
B	19.3m CUSTOM SEMI-TRAILER TRACKING VEHICLE	AK	---	---	02/03/2023
C	REVISED MARSH ROAD KERB BUILDOUTS	AK	---	---	07/03/2023

SURVEYED	---	---	PROJECT No
DRAWN	AK	16/02/2023	CON No 22/50
DRAWING CHKD	---	---	SCALE (A3) 1:1000
DESIGNED	---	---	DATUM ORIGIN
DESIGNED CHKD	---	---	HORIZONTAL NZTM GD2000
APPROVED	---	---	VERTICAL

WAIMAKARIRI DISTRICT COUNCIL

PROJECT

RANGIORA TOWN CYCLEWAY

SHEET TITLE

RAILWAY ROAD
PAKnSAVE TRACKING CURVES

PRELIMINARY
NOT FOR CONSTRUCTION

DRAWING 4354

SHEET 00

REVISION C

PLOT DATE: 08/03/2023 FILE: C:\USERS\AARONK\DOCUMENTS\LOCAL CAD FILES\SOUTHBROOK TORLESSE\SOUTHBROOK DETAILED DESIGN - WORKING DWG - CYCLEWAY PLAN.DWG

Riley® Kerb

Riley® Kerb with FG 300 Channelizers