



Photo:
Secant pile wall
Mangaone Stream,
near Tremaine Avenue,
Palmerston North



LOWER MANAWATŪ SCHEMES

4TH JULY 2025

VENUE: KAIRANGA HALL

LOWER MANAWATŪ SCHEMES

Lower Manawatū

Manawatū Drainage

Te Kawai

Kahuterawa

PRESENTATION FORMAT

Regional overview

1. New maintenance programme results
2. Works reporting – local examples combined & individually
3. Capital works – local examples
4. Capital works – regional overview
5. Asset Management – insurance, known asset defects
6. Regional flood vulnerability assessment
7. Regulatory matters – consenting and compliance

Local schemes – combined summary

8. Local schemes finance summary – rates, loans, reserves
9. Rates increases
10. Local schemes current context and the year ahead
11. Case studies
 - Moutoa Sluice Gates Upgrades
 - Koputoroa Stopbanks
 - Mangaone Stream, Palmerston North
 - Pump stations alternative power & communications
12. Presentation discussion, individual scheme discussions

REGIONAL MAINTENANCE AND REPAIRS SUMMARY – 34 SCHEMES

- New maintenance based programme introduced.
- Settled weather has assisted the years activity.
- Some of the repairs budget has been redirected to maintenance.
- Preliminary results show 103% of maintenance budget spent, 52% of repairs. budget.

Regional summary	Asset quantity	Works / checks	Percentage	Notes Some areas maintained more than once
Drains (km)	1,149	1,955	170%	Mostly spray, some mechanical
Floodgates (#)	755	1,114	148%	Maintenance and/or checks
Stopbanks (km)	506	982	194%	Mostly mowing
River channel (km)		454		Includes aerial spraying, gravel management
River edge protection (km)	614	118	19%	Willow maintenance
Dams (#)	54	291	539%	Maintenance and/or checks
Pump stations (#)	24	69	288%	Maintenance and/or checks
Weirs (#)	77	5	6%	Maintenance
Amenity (#)	20	2	10%	Maintenance
Flood barrier (#)	10	4	40%	Maintenance and/or checks

LOWER MANAWATŪ SCHEMES - MAINTENANCE AND REPAIRS SUMMARY

- New maintenance based programme introduced. Settled weather has assisted the years activity.
- Across the four schemes:
 - 118% of maintenance budget spent; and
 - 41% of repairs budget (as at early June).

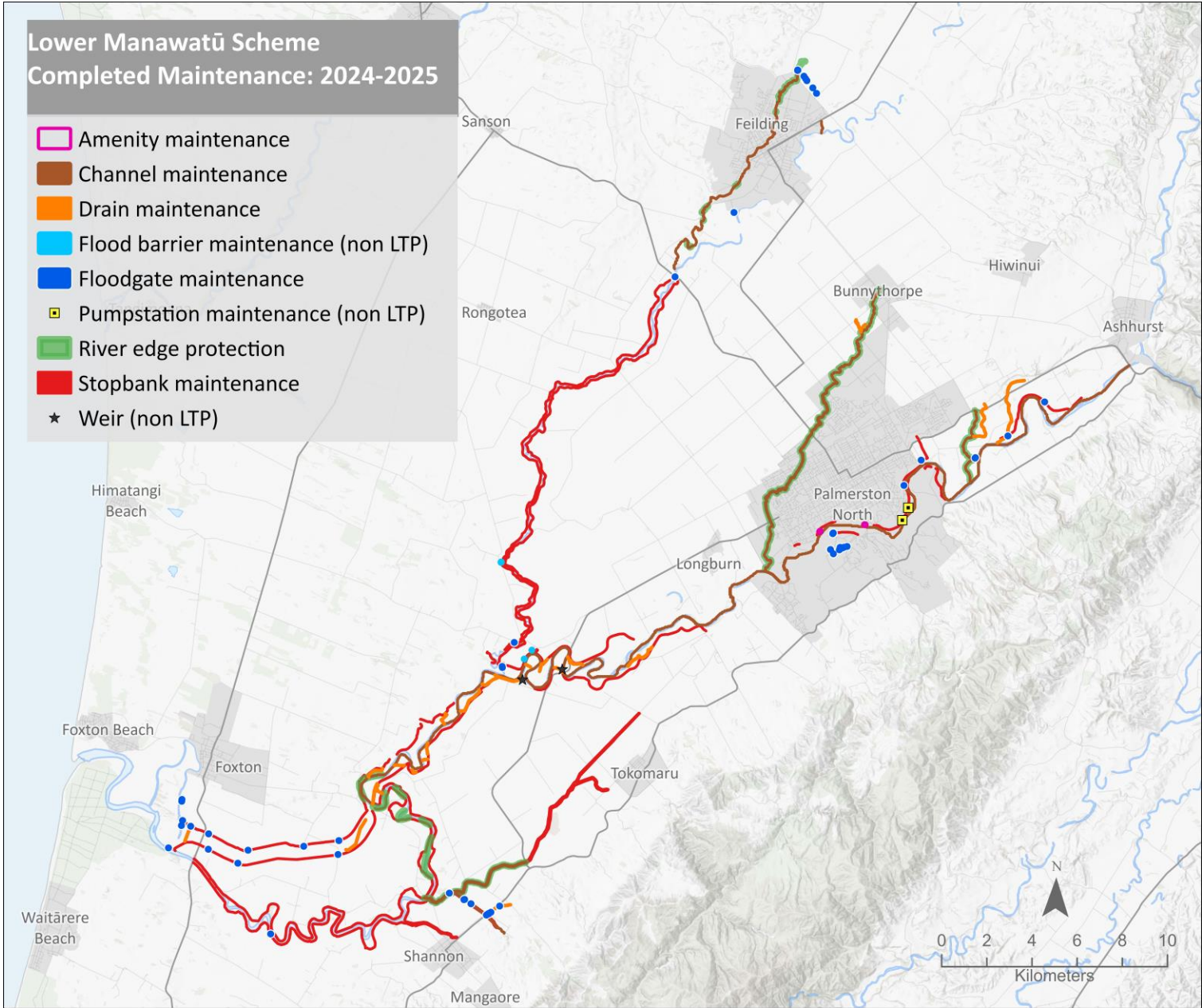
Lower Manawatū schemes summary	Asset quantity	Works completed	Percentage completed	Notes
Drains (km)	497	921	185%	Mostly spray, some mechanical
Floodgates (#)	431	226	52%	Maintenance and/or checks
Stopbanks (km)	384	920	240%	Mostly mowing
River channel (km)		103		Mainly channel clearance and beach spraying
River edge protection (km)	111	36	32%	Willow Maintenance
Dams (#)		-		
Pump stations (#)	7	13	186%	Maintenance and/or checks
Weirs (#)	5	2	40%	Maintenance and/or checks
Amenity (#)	5	2	40%	Maintenance
Flood barrier (#)	5	4	80%	Maintenance and/or checks

LOWER MANAWATŪ SCHEME WORKS 2024-25

Budget expenditure:

- Maintenance approx. 121%;
- Repairs approx. 32%; and
- Some repair budget reallocated to further maintenance.

Regional summary	Asset quantity	Works / checks	Percent
Drains (km)	33.0	48.3	146%
Floodgates (#)	253	170	67%
Stopbanks (km)	314.3	870.2	277
River Channel (km)		103.2	
River edge protection (km)	110.7	35.5	32%
Dams (#)			
Pump stations (#)	4	4	100%
Weirs (#)	4	2	50%
Amenity (#)	5	2	40%
Flood barrier	5	4	80%

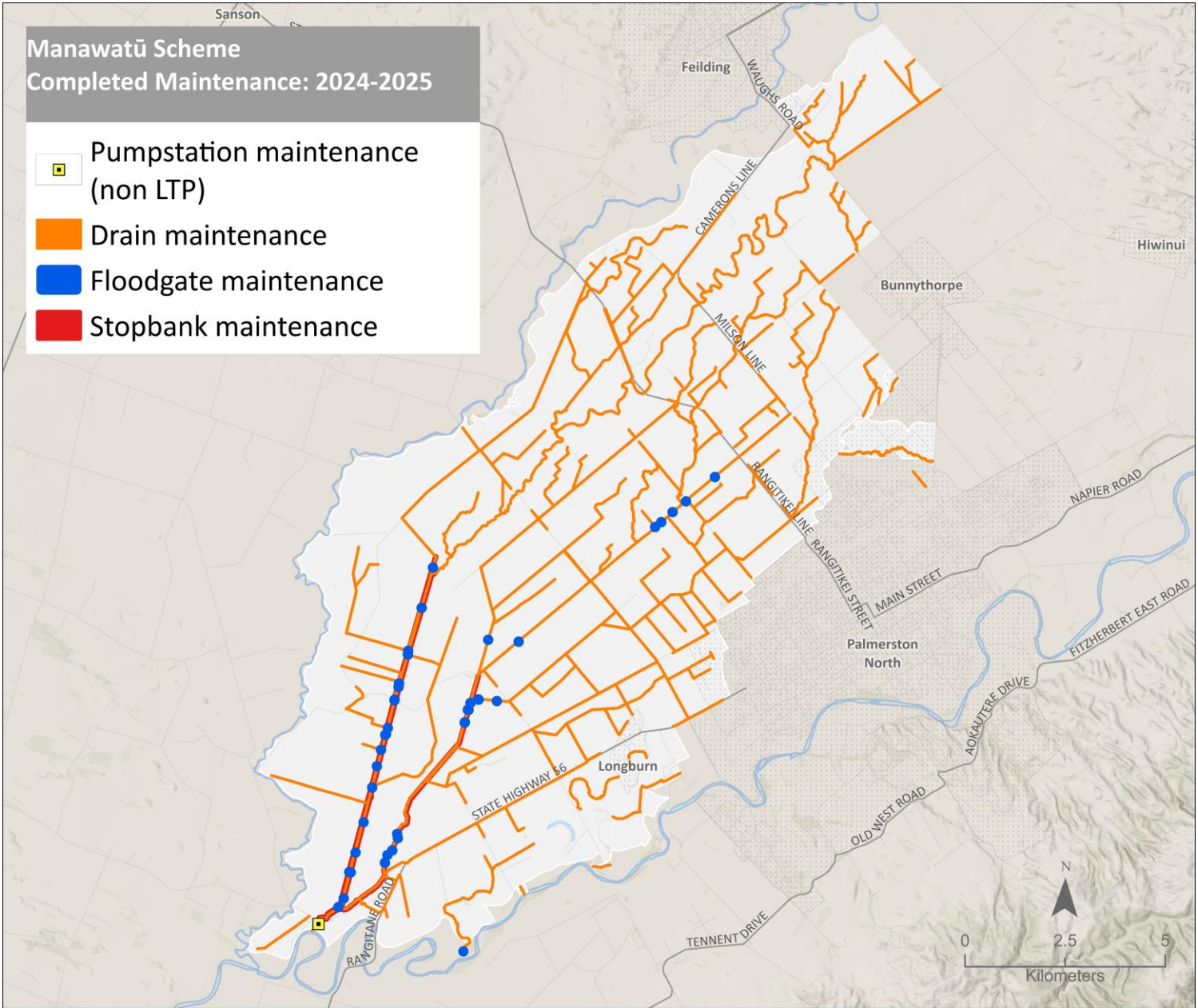


MANAWATŪ DRAINAGE SCHEME WORKS 2024-25

Budget expenditure:

- Maintenance approx. 105%;
- Repairs approx. 84%; and
- Some repair budget reallocated to further maintenance.

Regional summary	Asset quantity	Works / checks	Percent
Drains (km)	280.7	477.9	170%
Floodgates (#)	109	42	39%
Stopbanks (km)	34.3	47.5	138%
River Channel (km)			
River edge protection (km)			
Dams (#)			
Pump stations (#)	1	2	200%
Weirs (#)	1	0	0%
Amenity (#)			
Flood barrier (#)			

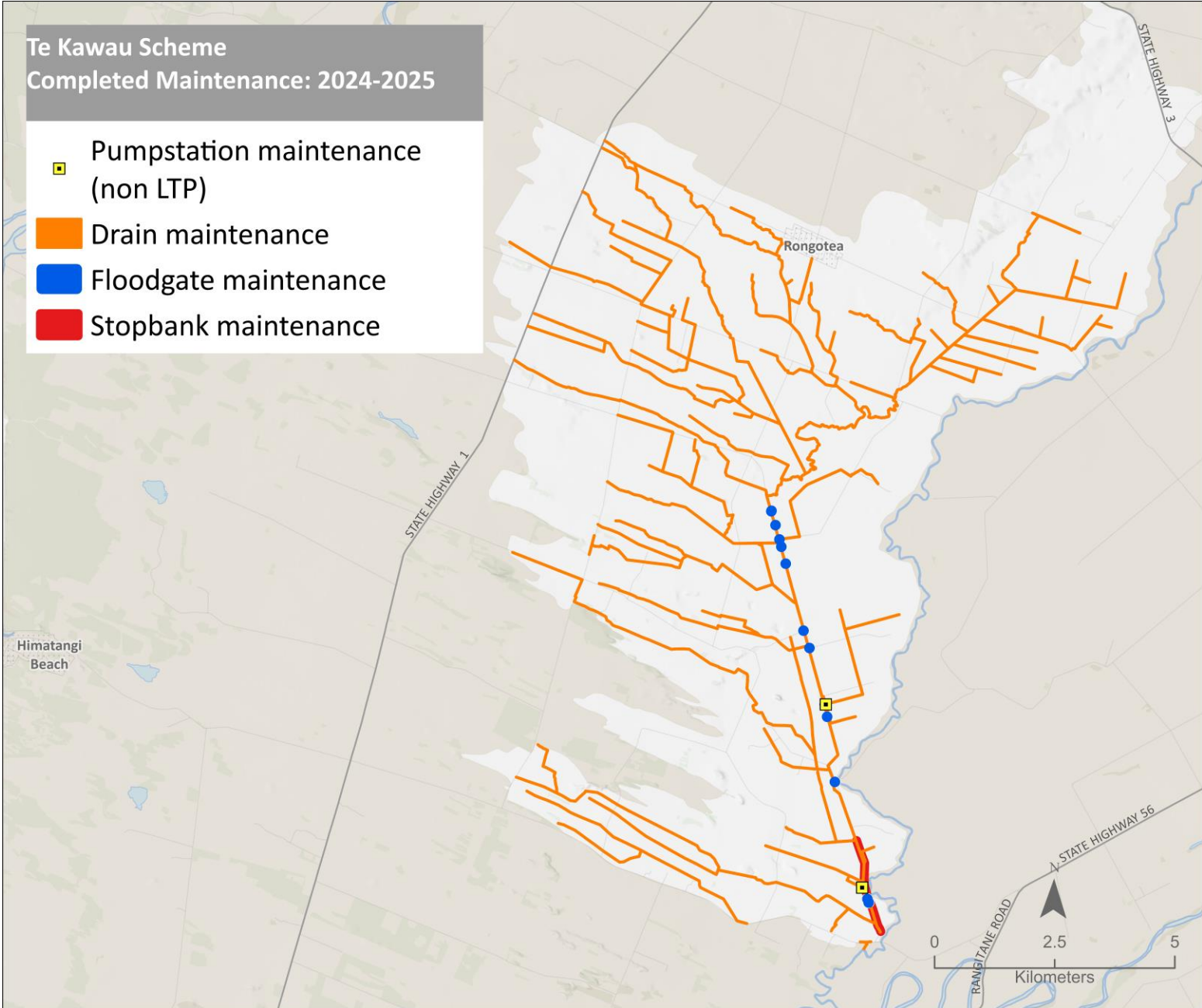


TE KAWAU SCHEME WORKS 2024-25

Budget expenditure:

- Maintenance approx. 140%;
- Repairs approx. 50%; and
- Some repair budget reallocated to further maintenance.

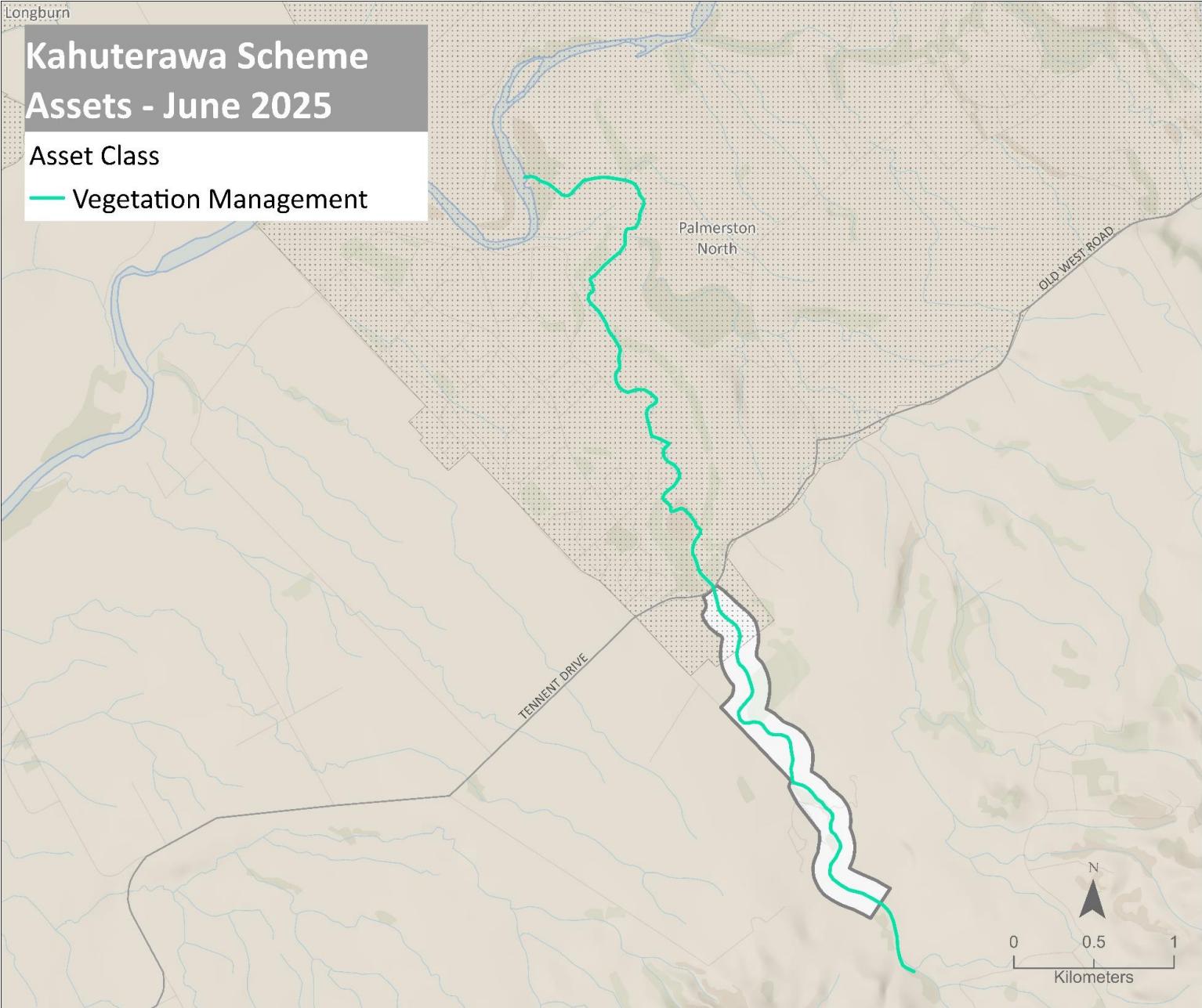
Regional summary	Asset quantity	Works / checks	Percent
Drains (km)	183.5	395.1	215%
Floodgates (#)	69	14	20%
Stopbanks (km)	35.3	1.9	5%
River Channel (km)			
River edge protection (km)			
Dams (#)			
Pump stations (#)	2	7	350%
Weirs (#)			
Amenity (#)			
Flood barrier (#)			



KAHUTERAWA SCHEME WORKS 2024-25

- Budget expenditure:
 - Maintenance approx. 0%; and
 - No assets or repair budget.
- Smallest of the schemes
- Considered more efficient to do work once every two years. No work this year.

Regional summary	Asset quantity	Works / checks	Percent
Drains (km)			
Floodgates (#)			
Stopbanks (km)			
River Channel (km)			
River edge protection (km)			
Dams (#)			
Pump stations (#)			
Weirs (#)			
Amenity (#)			
Flood barrier (#)			



CAPITAL PROGRAMME SUMMARY

Regional overview

- Delivery tracking to approx. \$19M, nearly double previous year \$10.5M.
- Last year for most government co-funded projects.
- \$11M of government co-funding toward \$29M budget.
- Main underspend was Te Pūwaha (Whanganui) where construction is now underway and the budget carries forward into the new year.
- Next years budget \$7M. Te Pūwaha, Feilding and Palmerston North.
- Flood vulnerability assessment to inform the future work programme.

Local examples

The Lower Manawatū Scheme completed multiple capital projects including:

- Climate resilience project works including Moutoa Gates upgrades, Koputoroa, Tokomaru, Belvedere Crescent and Te Matai Road stopbank upgrades. Foxton sheet piling and pumping upgrades. Design work for Rangiotu Gates and fabrication of the new Moutoa wet gates.
- The pump stations upgrades projects also purchased generators and fitted plugs to enable alternative power to be used at a range of pump stations.



Photo: New winch system as a part of the upgrades at Moutoa Gates.



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Manland Area

REGIONAL CAPITAL PROGRAMME 2024-25

Area	Whanganui	Rangitīkei	Palmerston North	Horowhenua
Project	Te Pūwaha	Climate resilience	Climate resilience	Climate resilience (lower Manawatū)
Supported by	PGF (Kanoa), WDC, HRC	Kanoa	Kanoa, HRC	Kanoa, HRC
Purpose	River Training	Room for river	Flood protection	Flood protection
Delivery 24-25	Construction started southern side	Vegetation and gravel management, room for river report, planting, track upgrade at Scotts Ferry.	Te Matai Road and Tremaine Avenue works completed. Belvedere Crescent works started, to finish in spring.	Upgrades to Moutoa sluice gates and wet gates, Tokomaru and Koputoroa stopbanks. Rangiotu gates design updated.
Area	Whanganui	Manawatū	Horowhenua	Foxton
Project	Pūtiki resilience	Feilding flood resilience	Pump Station upgrades	Climate Resilience (Foxton)
Supported by	HRC, Pūtiki community, WDC & Waka Kotahi	HRC with governance group, MDC, iwi and landowner rep.	Cyclone recovery unit, HRC.	Kanoa, HDC, HRC, governance group community and hapū reps.
Purpose	Investigations	Flood protection	Alternative power supply and comms.	Flood resilience
Delivery 24-25	Hydrology study and options assessment.	Options assessment, further work on Reid Line spillway upgrade. Land Purchase.	Generators purchased, plugs installed.	Sheet piling Kings Canal Pumps purchase and set up for use.

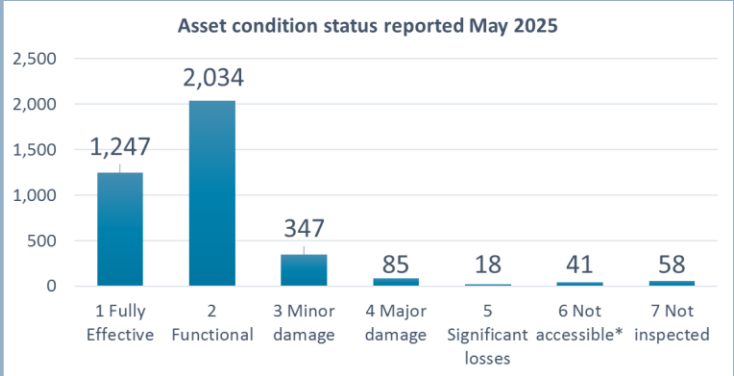
ASSET MANAGEMENT

Regional Overview

- Over 3,800 assets valued at over \$1.2 Billion.
- Maximum insurance claim per event is up to \$0.1 Billion.
- Assets insured total \$0.811 Billion.
- Single asset management plan produced to replace 27 plans (more efficient, to be updated annually).

Regional Asset Condition

- 103 (5%) of assets have major or significant damage.
- A further 347 (9%) have minor damage.



Regional Asset Defects

- 477 assets at least one of the 1,104 known defects
- Capacity and information systems are limiting defects management. The Annual Plan has prioritised this.

Defects reporting by area	Number of assets (total)	Number of assets with active defects ¹	Number of active defects
Eastern	812	70	105
Northern	562	42	77
Southern	1,244	92	197
Central	1,210	273	725
Total	3,828	477 ²	1,104

Lower Manawatu Schemes Asset Defects

- These schemes area in the central area where:
 - There are 1,210 assets.
 - Of which 273 (22%) have at least one known defect.
 - There are 725 known defects.

* May 2025 reporting. <https://www.horizons.govt.nz/HRC/media/Media/Agenda-Reports/Integrated-Catchment-Committee-Folder/Integrated-Catchment-Committee-2025-14-05/2559%20Catchment%20Operations%20Group%20Regional%20Summary%20Report.pdf> Pages 63 to 65

FLOOD VULNERABILITY ASSESSMENT (FVA)

Regional Overview

- Infrastructure strategy recommendation to define a strategic approach to future work programmes.
- Co-funded by Cyclone Recovery Unit funding as part of a larger project.
- The FVA work programme is shown to the right.
- Note work around assets and more detailed flood modelling for the lower Manawatū are also included.

What will it mean for the Lower Manawatu

Project aims to inform/ prioritise work programmes for:

- Future flood modeling (may inform district planning);
- Emergency management planning/response; and
- Future flood protection design and works (e.g. how do Feilding and other towns fit within priorities?).

Work Programme

1. Review existing flood mapping

- Consolidate and review.
- Comment suitability for various purposes.

2. Develop a regional flood model

3. Produce flood maps for various size events

- With/without climate change & flood defences.

4. Produce a flood vulnerability assessment

- Regional level – 50 towns & settlements.
- District summary.
- Individual town/settlement summaries.

5. Provide a report - including commentary on interpretation and recommendations for future flood modelling work.

REGULATORY MATTERS

Regional overview

- Obtaining and complying with approvals is essential to getting work done.
- Approvals take many forms - consents, landowners, treaty legislation, community buy-in, national legislation etc.
- Obtaining approvals and complying is increasingly complex.
- Most of the schemes have not budgeted for this.
- Restructuring has enabled more capacity for this work.
- Systems and processes have been improved.

Local regulatory work over the year

- A lot of assessments have been completed prior to undertaking operational works.
- Have been prioritising capital programme consents over operational consents.
- Ōroua gravel management and Feilding flood protection.

For more information please refer to May 2025 reporting.

<https://www.horizons.govt.nz/HRC/media/Media/Agenda-Reports/Integrated-Catchment-Committee-Folder/Integrated-Catchment-Committee-2025-14-05/2559%20Catchment%20Operations%20Group%20Regional%20Summary%20Report.pdf> Pages 81 to 88

Consenting and compliance

- Schemes have over 200 consents and 4,000 conditions.
- New consents are required when consents expire and when new works are proposed.
- Over 30 consent processes this year. Some ongoing.
- No significant non-compliances in 2024-25.
- A region wide abatement notice has been issued.
- One prosecution is being responded to, works in June 2024
- All significant works are now assessed via a panel.

Local consenting work required

- Gravel management consents & aerial spraying consents.
- Important that landowners and contractors do not do work that is outside the scope authorised when jobs are undertaken.
- Feilding flood protection related consents are a priority.



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LOWER MANAWATU AREA SCHEMES – FINANCE SUMMARY

- The 4 Lower Manawatū area schemes are a mix of channel maintenance, flood protection and drainage.
- These schemes have approximately \$773M of assets, 65% of the regional total.
- Predicted year start for 2025-26: Annual rates budget \$9.0M, \$37.3M loans, \$4.3M reserves.

Scheme	Purpose	Total assets (\$, June 2024)	Rates Budget 2025-26 (\$)	Loans* (\$)	Emergency Reserves* (\$)	Renewal Reserves* (\$)
Lower Manawatū (Inc special project)	Protection of rural and urban land	693,930,357	7,355,240	36,656,899	3,458,635	13,760
Manawatū Drainage	Drainage and flood protection of rural land	60,764,839	1,233,521	610,491	177,010	313,943
Te Kawau	Drainage and flood protection of rural land	18,634,122	389,895	-	123,026	169,408
Kahuterawa	Channel maintenance	-	20,379	-	24,491	-
Sub-total (4 schemes)		773,329,318	8,999,035	37,267,390	3,783,162	497,111
Regional Total		1,197,889,972	17,675,414	50,049,333	14,635,681	1,144,487
% of Regional total		65%	51%	74%	26%	43%

* Forecast value at 1 July 2025.

LOWER MANAWATŪ SCHEMES – RATE INCREASES

- Lower Manawatū rate increases range from 5.5% to 9.9%.
- Key drivers are inflation, additional funding for maintenance and repairs, loan impacts from additional capital work.

Scheme	Rates (\$) 2024-25	Rates (\$) 2025-26	Rates (\$) change	Rates % change	Notes
Lower Manawatū	5,841,944	6,419,093	577,149	9.9%	Increase in maintenance and repair funding and scheme management cost.
Manawatū Drainage	1,125,995	1,233,521	107,526	9.5%	Increase in maintenance and repair funding and scheme management cost.
Te Kawai	356,163	389,895	33,732	9.5%	Increase in maintenance and repair funding.
Kahuterawa	19,318	20,379	1,060	5.5%	Increase in maintenance and repair funding.
Sub-total (4 schemes)	7,343,420	8,062,888	719,467	9.8%	
Regional Total	16,574,577	17,675,414	1,100,837	6.6%	
% of Regional Total	44.3%	45.6%	65.4%		

LOWER MANAWATŪ SCHEMES – CURRENT CONTEXT AND YEAR AHEAD

Current context

- Government co-funded projects have enabled a lot of work to be completed and are now finished.
- These projects stretched staff resources, while there was a lot of change in the programme.
- Some follow ups are required Rangiotu gates, Moutoa wet gates, siltation at Moutoa Gates.
- Asset management information is improving, still a lot to do to understand and resolve defects.
- Gap in stopbank at Te Arakura remains a risk.
- Gravel build up in Palmerston North requires a management options assessment.
- Lease review underway.
- Staffing has been relatively stable within the central and southern teams.

The year ahead

Priorities for the year will include:

- Implementing a further year of the maintenance based programme.
- Operating within regulatory frameworks.
- Responding to the prosecution.
- Progressing consenting requirements .
- Using asset information to prioritise repairs, upgrading tracking of defects.
- Reviewing the findings of the flood vulnerability assessment and assessing next steps.
- Responding to any high flow events as they occur.
- Emergency management/ response training.
- Implementing smaller capital programme investigations focused Te Arakura, Reid Line, Feilding and Mangaone stream (Palmerston North).

CASE STUDIES



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CASE STUDY: MOUTOA SLUICE GATES UPGRADE

Overview

- Project was in response to asset inspection information.
- Established in 1962, some components required renewal as there was risk of the gates failing to operate.
- Government co-funding was redirected to this work post Cyclone Gabrielle. Project budget approx. \$3.5M.
- The work is part of the Lower Manawatū Climate resilience project with co-funding via Kanoa.

Electrical and mechanical upgrades included

- Electrical cable rewiring. New gate control drives.
- Relocating power lines.
- New mechanical hoist systems.

Project completion and next steps

- Electrical upgrades are complete.
- 7 of 9 gates are operational, all operational by 4 July 25.
- Siltation at the gates will be measured and some removal may be undertaken this year.



One of the 9 old hoist systems, and 1 of the 9 new hoist systems



One of two new H-Structure poles for Overhead Lines



Newly installed variable speed drives for gate motor control

CASE STUDY: KOPUTOROA STOPBANK

Koputoroa stopbank upgrade

- The Koputoroa stop bank upgrade project has been underway over three years.
- The project is co-funded by Horowhenua District Council (via consent condition), Kanoa and Horizons.
- The Kanoa contribution is via the Lower Manawatū Climate Resilience Fund project.
- Total costs are estimate to be in the order of \$1.25M.
- Approximately 2km of upgrade.
- Project completed in June 2025, noting some fencing still to be completed.



Photos: Upgraded stopbank in the Koputoroa

CASE STUDY: MANGAONE STREAM, PALMERSTON NORTH

Mangaone Stream resilience upgrades

- The “Tremaine Avenue gabion baskets” replacement project was at an identified weak point upstream & downstream of bridge over the Mangaone Stream.
- This was part of the Palmerston North Climate Resilience Fund project co-funded by Central Government (Kanoa).
- Total costs in the order of \$4.5M.
- Project completed in June 2025, noting some restoration of the tracks along the stopbank are still to be completed.

Belvedere Crescent

- Downstream from the above work, a project is strengthening the stopbank where a shed had been built into the stopbank and this area was identified as a weak point in the stopbank.

Future work

- The Mangaone Stream in Palmerston North remains a priority.
- An investigation of resilience options will be undertaken this year.



Protecting stopbanks via designations & regulatory actions

- Horizons are currently working to establish and/or update designations (legal protections) with both Palmerston North City Council and Manawātū District Council.
- Also working with Horizons regulatory team where non-consented construction has been identified on stopbanks.

CASE STUDY: PUMP STATIONS ALTERNATIVE POWER & COMMUNICATIONS

Overview

- Following Cyclone Gabrielle Horizons secured \$1.1M (97%) from the Local Government Flood Resilience Co-investment Fund toward pump stations back up power & comms.

Four generators were purchased

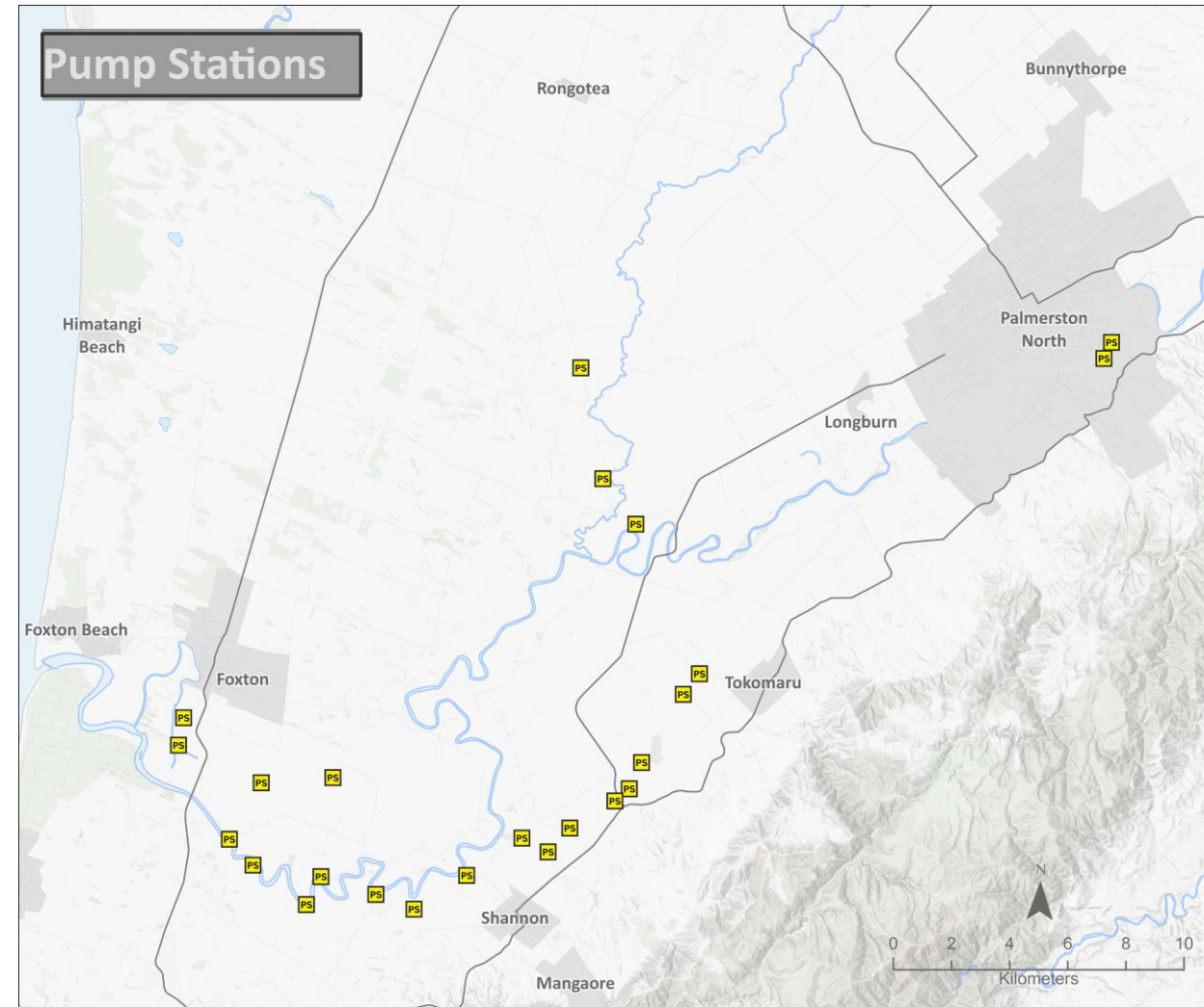
- Three sizes were purchased to cover varying pump sizes.
- One 250 KVA, one 500KVA and two 300KVA.
- The 250 KVA has arrived, 3 others are due into NZ in July.
- Operating protocols will be developed over 2025-26.

Generator connections fitted to 10 of the 23 stations

- Diagonal, Okuku, Cooks, Boundary, Kop 1, Kop 2, Bernie Coombs, Dixons, Kerekere Road & Raupo Road.

Communications upgrades to 21 of the 23

- Equipment is fitted and will be commissioned later in 2025.
- Reporting dashboards e.g. operational status, webcam views and alerting are also being developed/upgraded.



PUMP STATION RESILIENCE – ALTERNATIVE POWER SUPPLY



New 250KVA Generator



New fuel bowser



Generator connector plugs

CASE STUDY: MANAWATŪ ROOM FOR RIVER

Overview

- Following Cyclone Gabrielle Horizons secured \$300,000 from the Ministry for the Environment (MfE).
- Funding is via the Nature Based Solutions for Resilience Planning Fund.
- The project is exploring Room for the Rivers concept in the Manawatu River between the Pohangina and Ōroua confluences.
- The aim is investigate how to flood management could work with the natural environment to minimise the need for engineering interventions and ongoing maintenance.

Next steps in the process

- Tonkin + Taylor have been engaged to complete a Room for the River Report.
- The report will provide draft river management lines to inform the potential development of a management corridor.
- No decisions re implementing this project have been made.
- The annual plan process has provided for an ongoing room for river work programme. Noting the MfE funding has ended.

Room for River: 2 methods, hybrid recommendations

- Method 1: hydraulic engineering management lines.
- Method 2: morphological & geological management lines.
- Combined: recommended management lines, a mix of both methods.

CASE STUDY: ŌROUA CONSENTING

Ōroua global gravel consent

- Four consents are being merged into a single application.
- A consent application is being prepared.

Pohangina and Ōroua aerial discharge

- Consent application lodged. Existing use rights confirmed.
- A request for further information is being worked on.
- Extending coverage area further upstream.

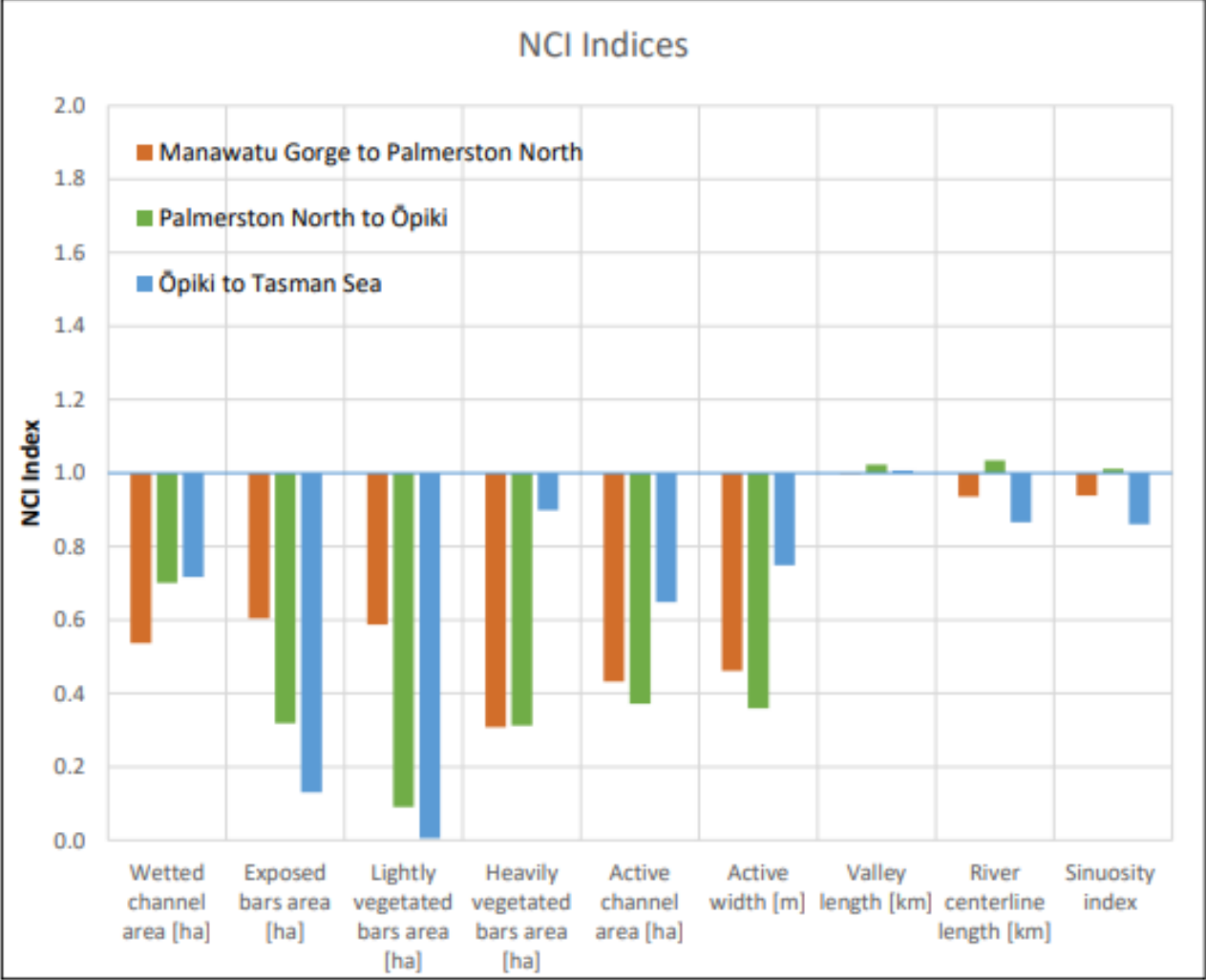


Figure 3.1: Comparison of NCI results for each parameter, with 1 (no change) being the horizontal axis. This graph shows that the largest relative changes are for the bars (exposed, lightly vegetated, and heavily vegetated). Sinuosity experienced the least relative change. All change was in the negative direction (the assessed parameter was lower in 2022 than in 1941), except for a small increase in sinuosity between Palmerston North and Ōpiki.

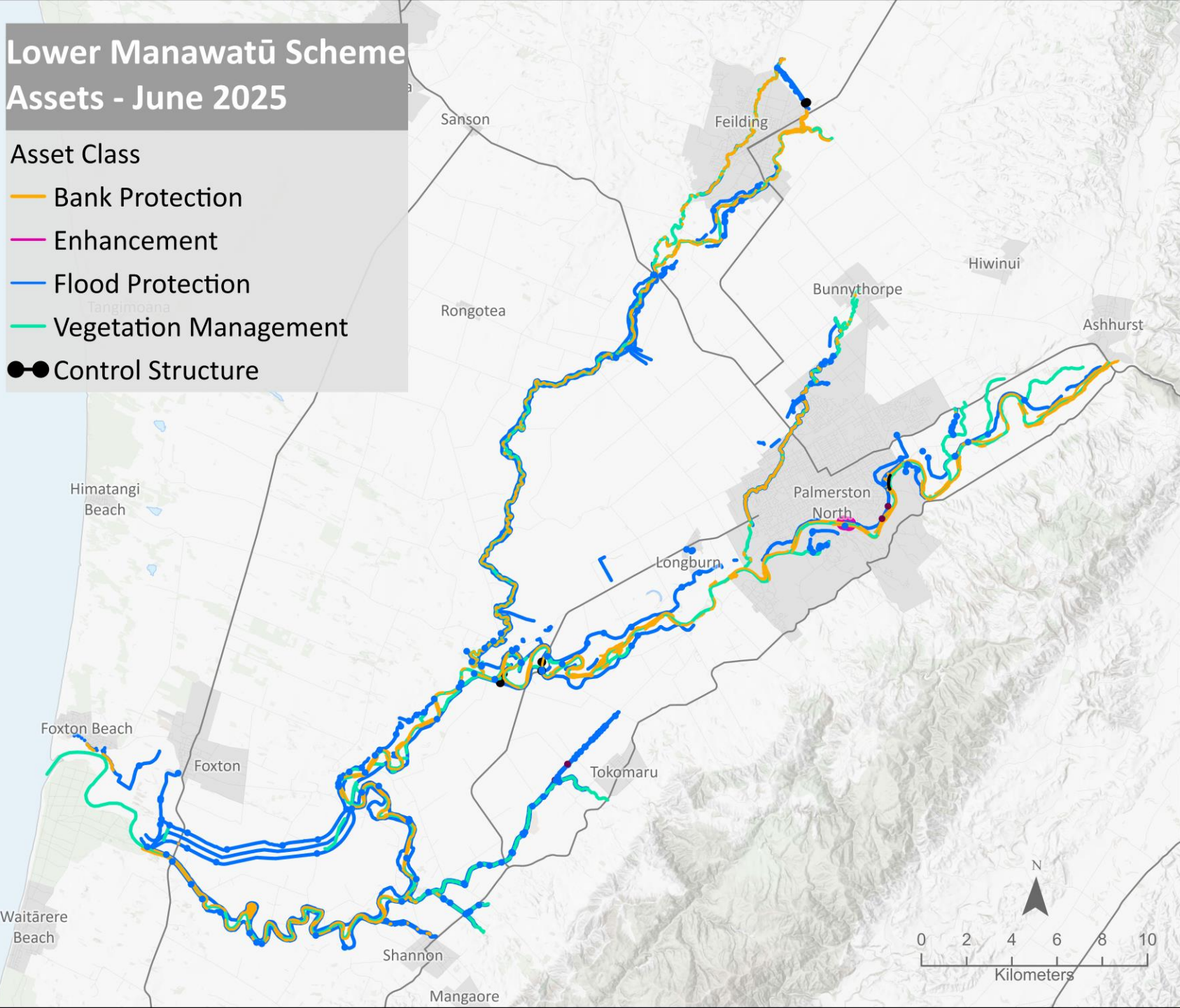
INDIVIDUAL ASSET SCHEME SUMMARIES



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Lower Manawatū Scheme Assets - June 2025

- Asset Class
- Bank Protection
 - Enhancement
 - Flood Protection
 - Vegetation Management
 - Control Structure



LOWER MANAWATŪ SCHEME - ASSETS

Scheme assets include:

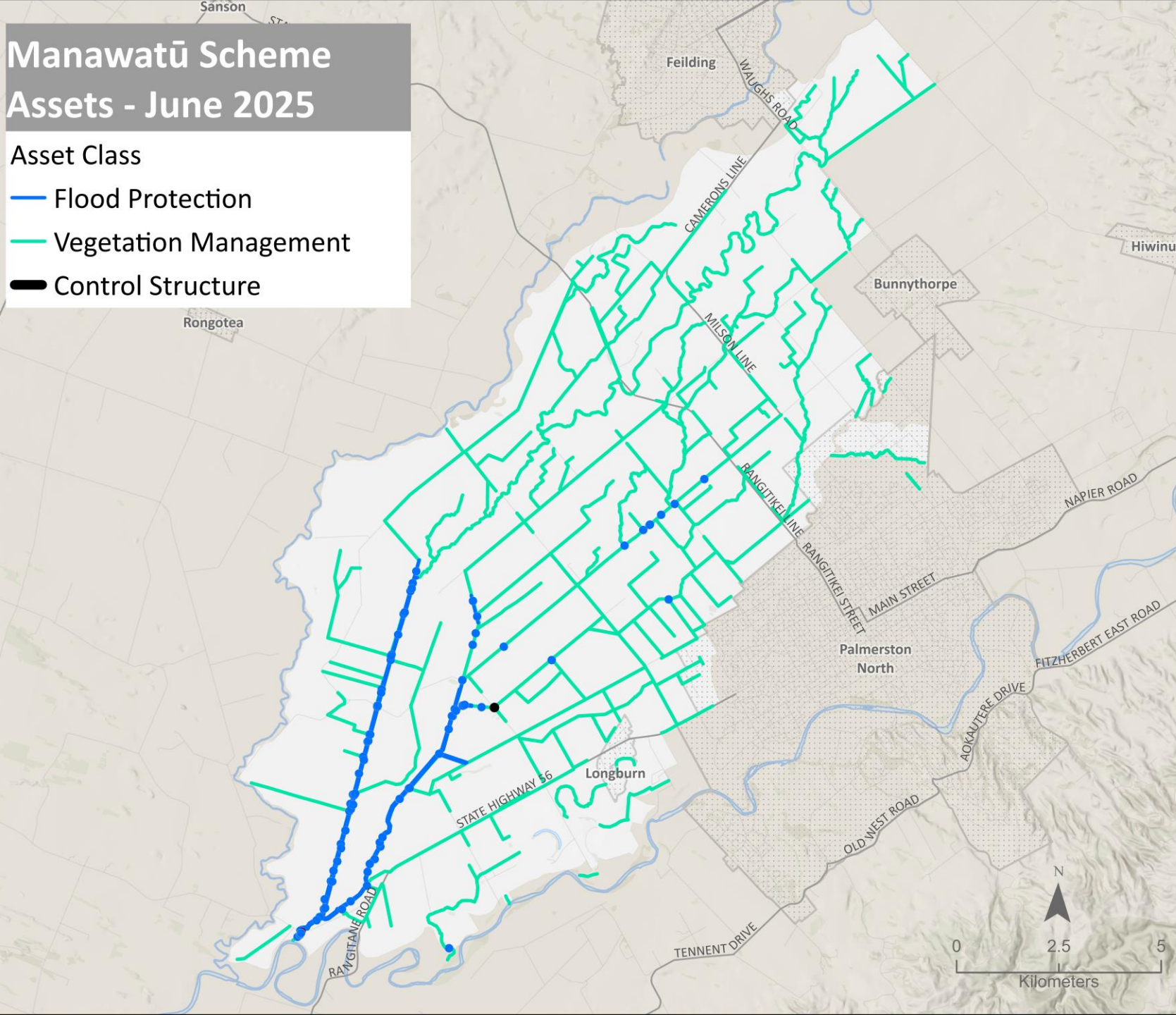
- 33 km of drains
- 253 floodgates
- 314.3 km of stopbanks
- 4 pump stations
- 4 weirs
- 5 amenity enhancements
- 5 flood barriers

This scheme also completes channel maintenance and some areas where this occurs may not be shown on the map.

Manawatū Scheme Assets - June 2025

Asset Class

- Flood Protection
- Vegetation Management
- Control Structure



MANAWATŪ DRAINAGE SCHEME - ASSETS

Scheme assets include:

- 280.7 km of drains
- 109 floodgates
- 34.3 km of stopbanks
- 1 pump stations
- 1 weir



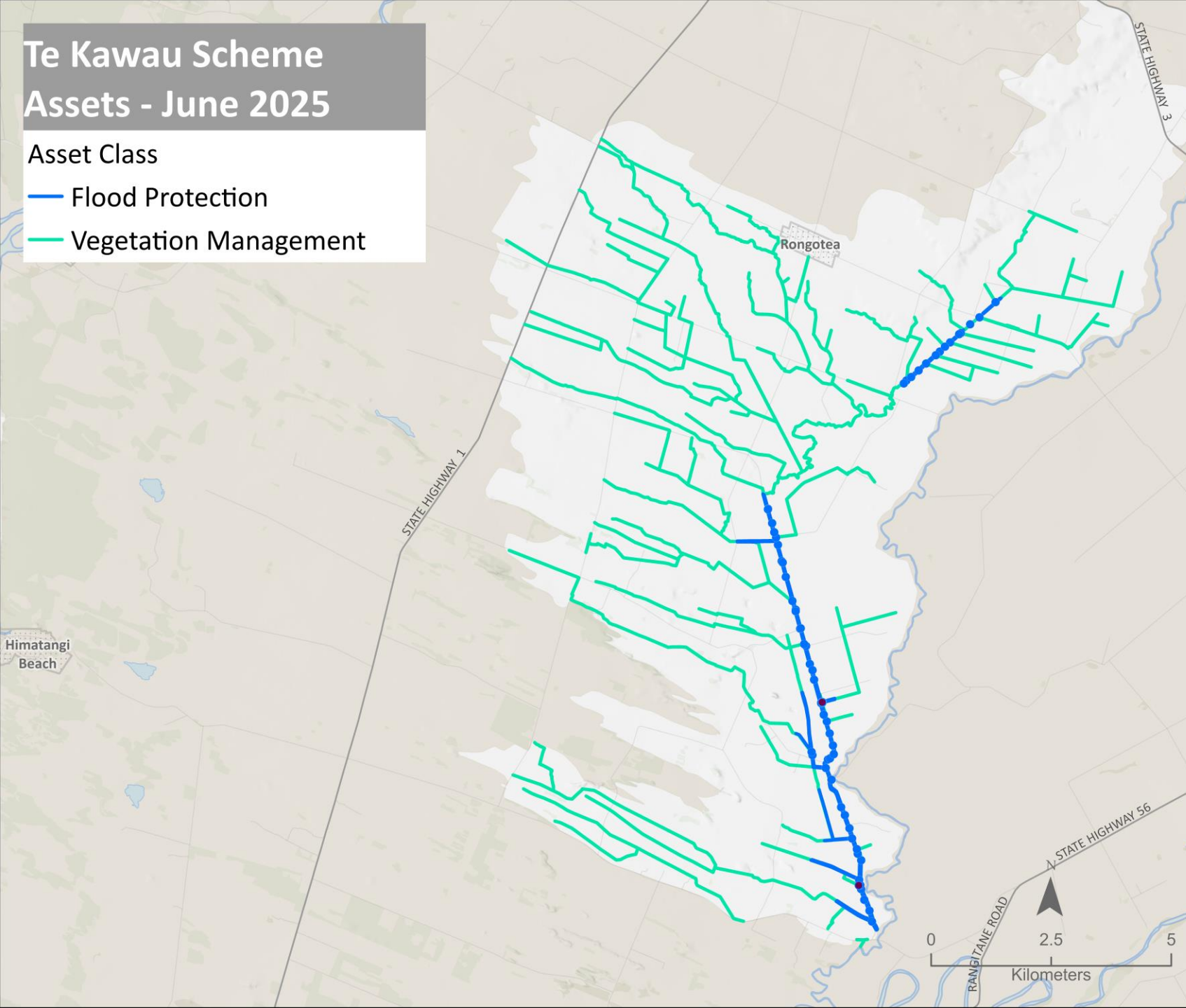
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Te Kawau Scheme Assets - June 2025

Asset Class

— Flood Protection

— Vegetation Management



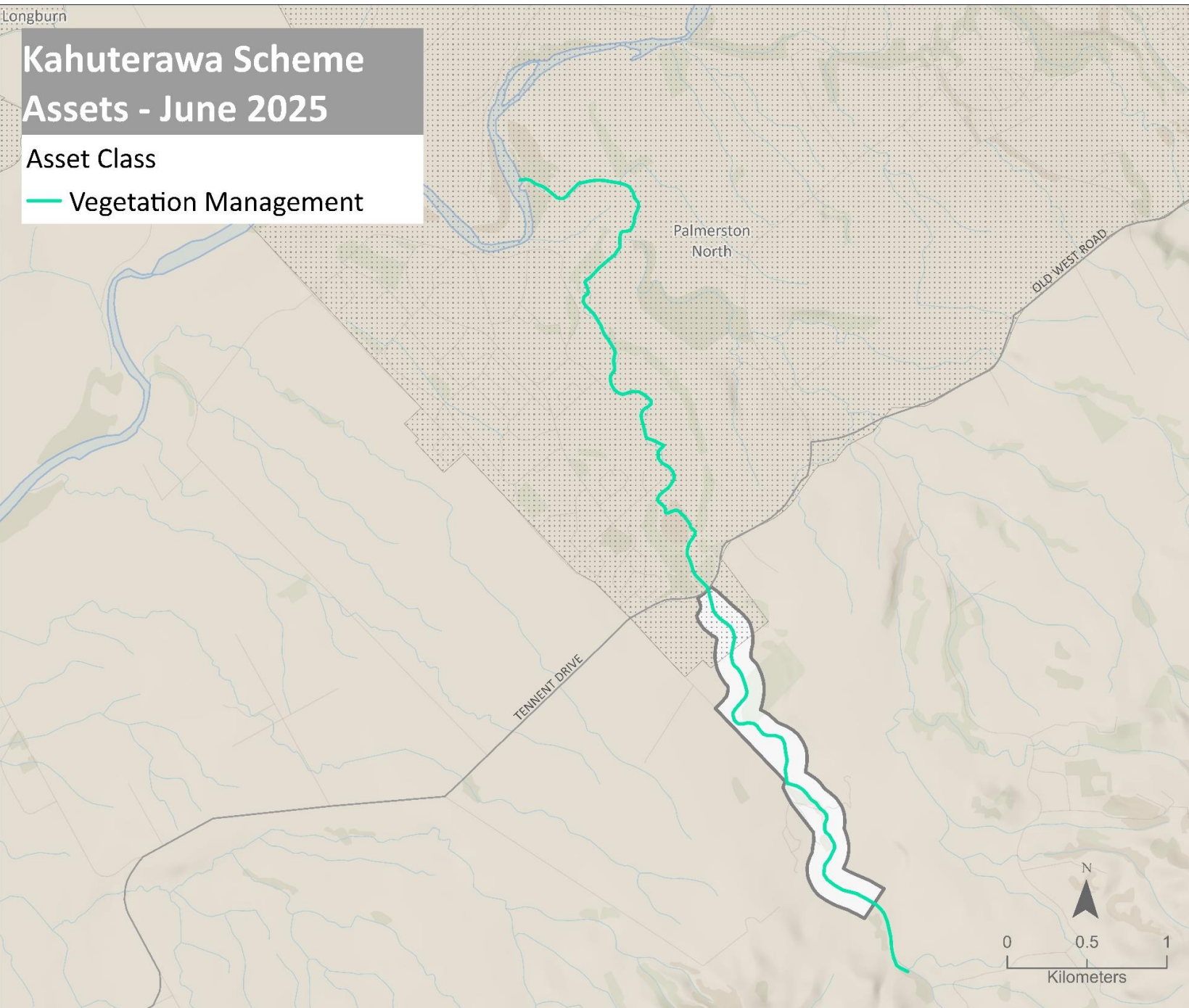
TE KAWAU SCHEME ASSETS

Scheme assets include:

- 183.5 km of drains
- 69 floodgates
- 35.3 km of stopbanks
- 2 pump stations.



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KAHUTERAWA

SCHEME ASSETS

- This scheme is a vegetation management scheme.
- There are no assets.
- This is the smallest of the schemes.
- No work was completed this year as it is considered more efficient to complete the work every second year.



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or freephone Horizons on **0508 800 800**