WHAKATĀNE
District Council
Kia Whakatāne au i ahau

Whakatāne Urban Stormwater

Catchment Management Plan

January 2023

whakatane.govt.nz

Executive summary

Whakatāne District Council ("**the Council**") manages the urban stormwater network via a comprehensive stormwater consent ("**CSC**") granted under the Resource Management Act 1991 ("**RMA**"). The CSC authorises discharges of stormwater from the Whakatāne township and the associated network structures located in the bed or bank of a river or stream, and/or in the coastal marine area ("**CMA**").

As Whakatāne has grown, stormwater systems have been installed which use the natural environment as well as pipes, canals, open drains, overland flow paths, pump stations, floodgates, detention dams, and stormwater ponds to carry rainfall to the nearest waterway. Stormwater from within the catchment generally relies on gravity to convey it to the Whakatāne River as fast as possible.

Historically the stormwater systems were designed primarily to maximise stormwater conveyance and minimise flooding. Given Whakatāne is in a flood prone area, the intensity of run-off in significant rainfall events often creates flooding issues. The stormwater network includes a number of pump stations installed to discharge stormwater into a nearby watercourse when gravity discharge is not possible.

To help the Council plan for the future, modelling has been undertaken to better understand the catchments, overland flow paths, and the existing stormwater network. The design standard of the town's stormwater network is to be sufficient to convey a one-in-ten-year flood event. Recent investigations and modelling are assisting to identify portions of the system that do not meet this standard, as well as identifying future risks for Whakatāne's urban areas.

Information from these studies will be used by the Council to identify portions of the network that are underperforming and to assist in determining a level of affordable flood protection that can be provided to the urban areas. Recommendations from these studies will aid the Council in developing a programme to upgrade the network. Upgrades will likely be staged over time, with each programme needing to be approved by the Council, ensuring upgrades are affordable for the community.

The Whakatāne District Plan ("**District Plan**") stipulates minimum levels for building platforms and engineering standards for stormwater infrastructure development on private land within the urban catchment.

The Council is responsible for the quality of stormwater discharging from the urban environment and is working to educate the community on how to maintain a healthy stormwater network, for example through awareness campaigns, public consultation, and increased interactions with those responsible for high-risk sites.

Further development and infilling within the catchments is increasing the volume of stormwater captured and the rate at which it enters the network. Given the location and elevation of the catchments and associated discharge points, the management of this network is challenging and will require the ability to respond and adapt to evolving climatic pressures.

The CSC authorises multiple activities associated with stormwater management and discharge within the Whakatāne urban area. Under the CSC, the stormwater network will be managed through this catchment management plan ("**CMP**"), enabling the entire network to be consented and managed in a cohesive

manner. Ongoing evolution of the stormwater network design and management will also be enabled to achieve desired outcomes including:

- Minimising stormwater runoff
- Improving onsite retention and infiltration
- Filtering out debris and litter
- Inclusion of natural features within the system
- Better supporting ecological diversity
- Requiring on-site management appropriate to the products stored on-site
- Minimising property inundation and subsequent damage.

The CMP will be adaptive and responsive to environmental change and advancements in design, while providing for consistency and clarity in relation to maintenance, management, and improvements of the stormwater network.

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Table 1: Terms and acronyms

AEP	Annual Exceedance Probability
BOPRC	Bay of Plenty Regional Council
BOPRC Stormwater Guidelines	Guidelines for the Development of Comprehensive Stormwater Consent Applications and Catchment Management Plans No. 2005/02
CBD	Central Business District
CMP	Whakatāne Urban Stormwater Catchment Management Plan (this document)
CSC	Comprehensive Stormwater Consent
DGT	Diffusive Gradient in Thin film
District Plan	Whakatāne District Plan 2017
ECOP	Whakatāne District Engineering Code of Practice 2008
LTP	Long Term Plan
NES-F	National Environmental Standards for Freshwater 2020
NPS-FM	National Policy Statement for Freshwater Management 2020
NZCPS	New Zealand Coastal Policy Statement 2010
Objectives	10 Strategic Objectives based on the Urban Water Principles developed by the Urban Water Working Group
PPP	Pollution Prevention Plan
RCEP	Bay of Plenty Regional Coastal Environment Plan
RMA	Resource Management Act 1991
RNRP	Bay of Plenty Regional Natural Resources Plan
RPS	Bay of Plenty Regional Policy Statement
SC	Sub-catchments
SMP	Whakatāne Comprehensive Stormwater Consent Monitoring Plan
Stormwater AMP	Whakatāne District Council Asset Management Plan – Stormwater Drainage 2018 - 2028
The Council	Whakatāne District Council
TPH	Total Petroleum Hydrocarbons
TRONA	Te Rūnanga o Ngāti Awa
VOC	Volatile Organic Compounds

1 Introduction

Whakatāne Township was established on the fringe of the Rangitāiki Plains, a historic and predominantly low-lying flood plain area. The township is protected by a stopbank system along the Whakatāne River, which is managed and maintained by the Bay of Plenty Regional Council ("**BOPRC**").

Whakatāne District Council ("**the Council**") is responsible for the management of the Whakatāne urban stormwater network and associated discharges authorised by the Council's comprehensive stormwater consent ("**CSC**"). The Whakatāne urban stormwater network includes the Whakatāne Township and central business district ("**CBD**"), the coastal development of Coastlands Ōpihi, the residential development centred around Shaw Road, and the commercial and industrial areas of the Hub and Gateway Drive. It incorporates all the residential and commercial land in Whakatāne that drains indirectly or directly to the Whakatāne River and areas characterised by high levels of ground soakage (e.g. Coastlands Ōpihi).

Stormwater comprises any runoff from the urban area resulting from rainfall, such as rain that falls onto roofs, hard paved surfaces, carparks, and roads. The urban stormwater network is necessary to convey stormwater away from built-up urban areas and discharge it to receiving waters. Where possible, the Council also uses the network to treat stormwater. Stormwater infrastructure owned by the Council includes kerbside guttering, catchpits, pipes, manholes, pump stations, flood gates, detention ponds, stormwater reserves, and outlet structures.

The Council lodged an application with BOPRC in 2001 to consolidate and authorise existing urban stormwater[1] discharges within the Whakatāne District that required resource consent due to the promulgation of the Resource Management Act ("**RMA**") in 1991. This application has been on hold while the Council has undertaken flood modelling and prepared this catchment management plan ("**CMP**") for the Whakatāne urban area. The Council holds stormwater discharge consents granted after 2001 for new structures and/or works undertaken to improve the stormwater network, as well as consents that were transferred from developers and the associated stormwater infrastructure vested into Council ownership.

This CMP identifies the important natural and physical characteristics of the Whakatāne urban catchment, as well as the constraints that control the form and intensity of land use, built form, and appropriate stormwater related interventions.

This CMP represents an adaptive management approach to stormwater. It is designed to change over time in response to an evolving stormwater network, climate change, compliance monitoring, and the development of technology. The CMP should therefore be regarded as a living document that will be updated at least every six years, coinciding with every second Long Term Plan ("**LTP**").

[1] *stormwater means run-off that has been intercepted, channelled, diverted, intensified or accelerated by human modification of a land surface, or run-off from the surface of any structure, as a result of precipitation and includes any contaminants contained within (***National Planning Standards 2019***)*

1.1 Scope

The CMP deals with stormwater issues from two key aspects:

- **Conveyance,** which covers all aspects of collecting stormwater and safely conveying it to a discharge point such that desired levels of service for surface ponding and protection of property from inundation are met. The capacity of stormwater infrastructure including pipes, drains, and outfalls is covered under conveyance; and
- **Water quality,** which covers all the issues of contaminants that are present in urban stormwater, and which can adversely affect the quality of water and the ecology of receiving waters.

The CMP addresses stormwater that is sourced from rainfall within the Whakatāne urban area. It also addresses stormwater flooding into the urban area from the Wainui te Whara stream that flows through the south of the town. The CMP does not address the risk of flooding from the Whakatāne River into the Whakatāne urban area because this is managed through the Whakatāne-Tauranga Rivers Scheme administered by BOPRC.

The Whakatāne urban area encompasses the following nine sub-catchments ("**SC**"), as defined in Figure 1.

1. Apanui
2. Hinemoa
3. Whakatāne South
4. Wainui te Whara
5. Awatapu
6. Wairaka
7. Wairere
8. Coastlands Ōpihi
9. Whakatāne West.

The CMP is the key planning and management tool for stormwater management and provides the Council with flexibility when determining how to manage its catchments while ensuring adverse effects are managed and mitigated and compliance with the CSC is maintained. The ability to modify how adverse effects are managed will enable the Council to better respond to monitoring outcomes.

In addition, this CMP, including the appendices, summarises all relevant information for stormwater management as it relates to the Whakatāne urban area, including:

- Statutory requirements that must be met
- Regulatory tools available to manage the stormwater network
- A description of the stormwater catchments and the networks that service them
- A description of the receiving environments to which stormwater is discharged and associated values
- Operational monitoring required to determine any adverse effects on the receiving environment
- Management practices and standards required to achieve environmental performance objectives
- Guidelines and reference material for development of Pollution Prevention Plans ("**PPP**")
- Identification of water quality and quantity issues as well as any further work required to address these issues.

Figure 1: Whakatāne urban stormwater catchment areas

1.2 Levels of service

The Council manages the stormwater network under the guidance of three key levels of service:

1. When upgrading the existing network, the Council will provide protection for the community against flooding at least from a 1 in 50 year (2%) annual exceedance probability ("**AEP**") event where it is practicable and feasible.
2. New developments require a primary system capable of disposal of surface water resulting from a 10% AEP storm event as per the Engineering Code of Practice ("**ECOP**").
3. New developments require a secondary flow system capable of carrying surface water resulting from a 1% AEP storm to ensure that such surface water shall not enter buildings as per the ECOP.

These three levels of service are used to inform the planning for the overall network, guiding the Council in its efforts to upgrade existing infrastructure and ensuring any new developments are suitably sized and designed. The determination of levels of service can be found within the ECOP and Council's Asset Management Plan - Stormwater Drainage 2018 - 2028 ("**stormwater AMP**").

1.3 Strategic objectives

One of the purposes of the CMP is to define and set objectives for catchments. The following 10 strategic objectives apply across all catchments within the Council's jurisdiction:

1. Provide a safe, affordable and resilient stormwater network
2. Reduce flooding and protect the community
3. Facilitate tāngata whenua and community involvement in stormwater management, including encouragement to take actions to reduce pollution and to maintain and restore ecosystem health
4. Recognise and respect Mana Motuhake - the Whakapapa and relationship that Mana Whenua have with water ecosystems in their rohe
5. Protect and enhance ecosystem health of all receiving environments
6. Co-design with nature, an integrated and regenerative approach to stormwater management and urban design where possible
7. Address pressures on water bodies at or close to source
8. Collect and share information to promote common understanding of urban water issues, solutions and values
9. Increase resilience to natural hazards and climate change
10. Encourage water reuse.

1.3.1 Six yearly targets

Six yearly targets, outlined in section 9.2, determine measures of how to achieve success against the CMP strategic objectives. These include a mix of qualitative and quantitative targets that, if achieved or completed, will ensure that the stormwater discharge is managed in a way that meets the strategic objectives.

1.3.2 Key outcomes

Through the implementation of the CMP, the Council seeks to achieve the following key outcomes:

- Reduce the risks and mitigate the effects of stormwater flooding on the Whakatāne urban built environment to help protect the health and safety of the people of Whakatāne, their land, and property. The built environment includes private and public property and infrastructure. Examples of the public infrastructure include district urban roads and the sewerage network.
- Minimise the rate of urban stormwater discharge to waterways where this is appropriate, realistic and cost effective.
- Avoid, remedy, or mitigate adverse effects of stormwater discharges on rivers, streams, wetlands, and aquatic ecosystems.
- Ensure stormwater discharge does not degrade the water quality in the receiving environments.
- Streamline and simplify the administration of, and compliance with, consents for stormwater discharge.

1.4 Who should use this CMP?

This CMP is intended to be used by:

- the Council's staff for all management and operational matters associated with the stormwater network
- BOPRC staff for assessing compliance under the CSC
- All persons, businesses, and land developers within the Whakatāne urban area.

The CMP details the planned management, mitigations, monitoring, and responses that the Council has committed to in its responsibility as utility owner[2] and consent holder. The Council will be responsible for ensuring qualified and experienced persons undertake the required tasks.

The Council will operate the Whakatāne urban area stormwater network in accordance with this CMP. This includes infrastructure upgrades, network maintenance, greenfield developments seeking approvals for private property connection to the network, monitoring, and any necessary interventions.

The Council will use this CMP, and associated documents, to guide infrastructure requirements that must be considered prior to vesting infrastructure to the Council. It is recommended that developers liaise with the Council early in the infrastructure design process to understand what standards must be met for the Council to accept private infrastructure into the public network. The process for vesting infrastructure from new developments to Council is further detailed in Section 10.3.

[2] Section 166 of the RMA defines network utility operator to mean a person who— (e) undertakes or proposes to undertake a drainage or sewerage system;

2 Legislative background/statutory context

Management of stormwater through the public reticulation network is established through the legal and regulatory framework. The Local Government Act 2002 ("**LGA**") addresses infrastructure management while the RMA focuses on environmental effects and outcomes of stormwater discharges and urban development.

2.1 Local Government Act 2002

The purpose of the LGA provides for local authorities to play a broad role in promoting the social, economic, environmental, and cultural well-being of their communities, taking a sustainable development approach (s3(d) of the LGA). Subpart 1 of Part 7 of the LGA requires the Council, as a territorial authority, to periodically assess drinking water, wastewater, and sanitary services. In particular, section 128 requires that:

(1) A territorial authority must assess the provision within its district of—
- *(a) wastewater services; and*
- *(b) other sanitary services.*

(2) The purpose of an assessment under subsection (1) is to assess, from a public health perspective, the adequacy of wastewater services and other sanitary services available to communities within a territorial authority's district, in light of—
- *(a) the health risks to communities arising from any absence of, or deficiency in, the services; and*
- *(b) the quality of the services currently available to communities within the district; and*
- *(c) the current and estimated future demands for any of those services; and*
- *(d) the actual or potential consequences of stormwater and sewage discharges within the district.*

(3) One type of service may be assessed in conjunction with another type of service.

There is no statutory requirement for territorial authorities to provide public stormwater drainage works, but in practice the service is provided as a 'public good'. As such, the provision of stormwater infrastructure and management is a core function for Council.

Council has an obligation to maintain stormwater infrastructure and manage stormwater related risks, as well as assessing the efficacy of the stormwater network from a public health perspective, service quality, current and future demand provision, and any actual or potential consequences arising from a public stormwater discharge.

Bylaws can be made under the LGA to protect Council infrastructure and control discharges. Council has a Combined Waters Bylaw 2017 which applies to the Council's water supply, wastewater, trade waste and stormwater systems. A draft Management of Contaminants Procedure (Appendix A) has been developed to assist the Council with the implementation of the Combined Waters Bylaw 2017 as it applies to stormwater within the Whakatāne urban area.

2.2 Resource Management Act 1991

Under the statutory framework of the RMA, there are several instruments directly relevant to the management of stormwater. These include:

- National Environmental Standards for Freshwater 2020 ("**NES-FW**")
- National Policy Statement for Freshwater Management 2020 ("**NPS-FM**")
- New Zealand Coastal Policy Statement 2010 ("**NZCPS**")
- Bay of Plenty Regional Policy Statement ("**RPS**")
- Bay of Plenty Regional Natural Resources Plan ("**RNRP**")
- Bay of Plenty Regional Coastal Environment Plan ("**RCEP**")
- Whakatāne District Plan ("**District Plan**").

Through the RMA, the CSC is a resource consent granted to authorise:

- The discharge of contaminated stormwater onto land and/or into water
- The use of associated structures in/under the beds of rivers.

The CSC authorises the discharges in accordance with a set of approved consent conditions. A requirement of these conditions is for the Council to manage the stormwater network and its associated structures in accordance with the CMP.

2.2.1 Whakatāne District Plan

The District Plan provides controls on land use and subdivision to avoid, remedy, or mitigate adverse effects on the environment resulting from urban stormwater runoff. It also specifies the standards that infrastructure intended to be vested to the Council must meet, including compliance with the ECOP.

The District Plan requires onsite stormwater management that is capable of disposing of stormwater from a 10% AEP event as well as being able to convey stormwater from a 1% AEP event in such a way that it will not enter buildings. All activities must ensure that stormwater be detained to discharge at levels no greater than pre-development levels. The District Plan also encourages onsite soakage solutions in areas identified within the Whakatāne urban area that have good ground soakage.

2.3 Key documents

The CMP is subject to a number of processes and key documents, which are depicted in **Figure 2**.

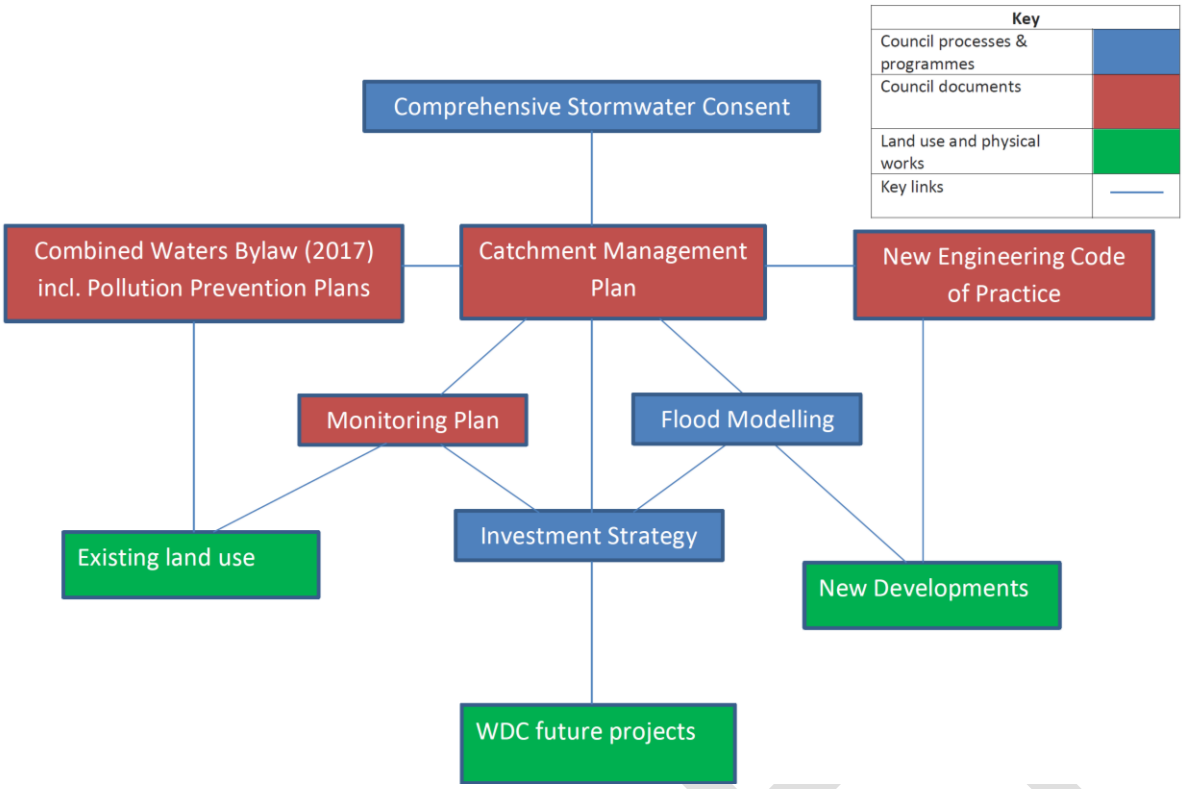

Figure 2: Key documents and processes

The Council is responsible for preparing, implementing, and reviewing the following:

- Whakatāne Comprehensive Stormwater Consent Monitoring Plan: DRAFT
- WDC Infrastructure Investment Strategy (to be developed)
- Asset Management Plan Stormwater Drainage 2018 - 2028.

These plans and strategies will work in synergy and represent how and where the Council decides to spend its funds. Outcomes from the CMP will inform the decisions made in the review/formation of these documents, and in turn these will inform the future decisions on upgrades, maintenance etc. in the next CMP.

Additionally, the CMP relies on several Council documents for the implementation of effective stormwater management and compliance:

- Asset Management Plan Stormwater Drainage 2018 - 2028
- District Plan
- ECOP
- Combined Waters Bylaw 2017.

3 Whakatāne urban stormwater overview

3.1 Overview

The Whakatāne urban stormwater network includes the Whakatāne Township and CBD, the coastal development of Coastlands Ōpihi, the residential development centred around Shaw Road, and the commercial and industrial areas of the Hub and Gateway Drive. It incorporates all the residential and commercial land in Whakatāne that drains indirectly or directly to the Whakatāne River and areas characterised by high levels of ground soakage.

The majority of the Whakatāne Township, including the CBD, is located on the floodplain of the Whakatāne River and is reliant on flood protection from the Whakatāne River floodwaters. This protection includes major stopbanks, floodwalls, riverbank protection works, and other river scheme infrastructure. The infrastructure and management is included within the Whakatāne-Tauranga Rivers Scheme.

Maintenance and upkeep of this critical infrastructure is the responsibility of BOPRC. The scheme protects the town from a 1% AEP Whakatāne River flood. The river stopbanks are designed to first spill to the rural (western) side away from the town. The true right bank (eastern / township side) is 300 mm higher than the true left bank (western side). Regardless of this, it should be noted that while the stopbanks have been designed to protect from a 1% AEP river event, stopbanks can potentially fail to protect from higher probability events.

Whakatāne DC is responsible for managing urban stormwater within the stopbanks (township side). The wider Whakatāne urban stormwater catchment has been split into SC for the purpose of hydraulic modelling, consideration of flood levels, stormwater management and associated methods for improvement. The nine SCs are:

1. Apanui
2. Hinemoa
3. Whakatāne South
4. Wainui Te Whara
5. Awatapu
6. Wairaka
7. Wairere
8. Coastlands Ōpihi
9. Whakatāne West.

The extent of each SC is illustrated in Figure 1 and discussed in further detail in section 4.

3.2 Receiving environments

The Whakatāne River is the ultimate receiving environment for stormwater generated within the Whakatāne urban area. Downstream of the Landing Road Bridge, the Whakatāne River is situated within the coastal marine area[3] (**"CMA"**), as determined within the RCEP.

Interim receiving environments that meet the 'river'[4] criteria of the RMA include the following:

- Awatapu Lagoon
- Hinemoa Stream
- Orini Canal
- Sullivan Lake
- Waiewe Stream
- Wairere Stream
- Wainui te Whara Stream.

The following water bodies are considered artificial or constructed:

- Apanui Canal
- Kōpeōpeō Canal
- Paru Wetland (stormwater pond).

All interim receiving environments ultimately discharge to the Whakatāne River and are considered within the context of their relevant SC.

3.2.1 Classification of surface water

The RNRP uses Water Quality Classification Standards and Criteria (Schedule 9 of the RNRP) to assess discharges to water, including urban stormwater. Table 2 identifies the water quality classifications for water bodies in the Whakatāne urban area. These water bodies are shown in Figure 3.

Table 2: Stream classifications

Stream name	Schedule 9 classification
Awatapu Lagoon	Unspecified Water bodies
Sullivan Lake	Unspecified Water bodies
Hinemoa Stream (Landing Road)	Regional Base Line

[3] The RMA defines the **coastal marine area** as meaning the foreshore, seabed, and coastal water, and the air space above the water—
(a) of which the seaward boundary is the outer limits of the territorial sea:
(b) of which the landward boundary is the line of mean high water springs, except that where that line crosses a river, the landward boundary at that point shall be whichever is the lesser of—
(i) 1 kilometre upstream from the mouth of the river; or
(ii) the point upstream that is calculated by multiplying the width of the river mouth by 5

[4] **river** means a continually or intermittently flowing body of fresh water; and includes a stream and modified watercourse; but does not include any artificial watercourse (including an irrigation canal, water supply race, canal for the supply of water for electricity power generation, and farm drainage canal)

Stream name	Schedule 9 classification
Various unnamed streams	Natural State
Wainui te Whara Stream	Regional Base Line
Waiewe Stream	Regional Base Line
Wairere Stream	Regional Base Line
Whakatāne River	Contact Recreational
Kōpeōpeō Canal	Drain Water Quality
Orini Canal	Modified watercourse with ecological values

3.2.2 Whakatāne River values

The lower section of the Whakatāne River is an important recreational area and ecological habitat. The ecology and water quality of the lower Whakatāne River are described in sections 3.2.1 and 3.2.2 of River Lake's report titled Whakatāne Comprehensive Stormwater Consent: Potential effects on ecology and water quality ("**Hamill Report**"), which is attached in Appendix B.

The river and riverbanks are used extensively for recreational activities, including kayaking, rowing, fishing, and swimming. The Whakatāne Rowing Club occupies the southern riverbank immediately west of the Landing Road Bridge and the Whakatāne Yacht Club is accessed from Kakahōroa Drive. The Council owns numerous structures within the Whakatāne River (refer to resource consent 63170), including a boat ramp and Whakatāne Wharf. Both structures provide for privately owned vessels to moor (with a licence) and launch. Operators include tour boats and fishing charters, commercial fishing, and recreational users. Swimming in the Whakatāne River is especially popular during the summer months, with the area near the Whakatāne Rowing Club and Wairaka Centennial Park providing easy and safe access to the water.

Ngāti Awa has a particular relationship with the Whakatāne River which is ratified through the Ngāti Awa Claims Settlement Act 2005 and Statutory Acknowledgement over the awa. The statutory acknowledgement sets out the cultural, spiritual, historical, and traditional association of Ngāti Awa to the Whakatāne River and is set out in full in Schedule 10 of the Ngāti Awa Claims Settlement Act 2005. The Ngāti Awa Environmental Plan ("**NAEP**") further expands on the relationship between Ngāti Awa and the Whakatāne River. The NAEP is an iwi management plan, recognised by BOPRC and the Council, which specifies the imperative nature of safeguarding the mauri of water for achieving sustainable management of the environment.

The Whakatāne River and its banks has been occupied by ancestors of Ngāti Awa since before the arrival of Mātaatua. The Whakatāne River is considered a life and spiritual source for its people. There are a number of wāhi tapu sites of significance to Ngāti Awa along the Whakatāne River, including within the Whakatāne urban area. The Whakatāne River holds values that include its use for gathering kai and taonga.

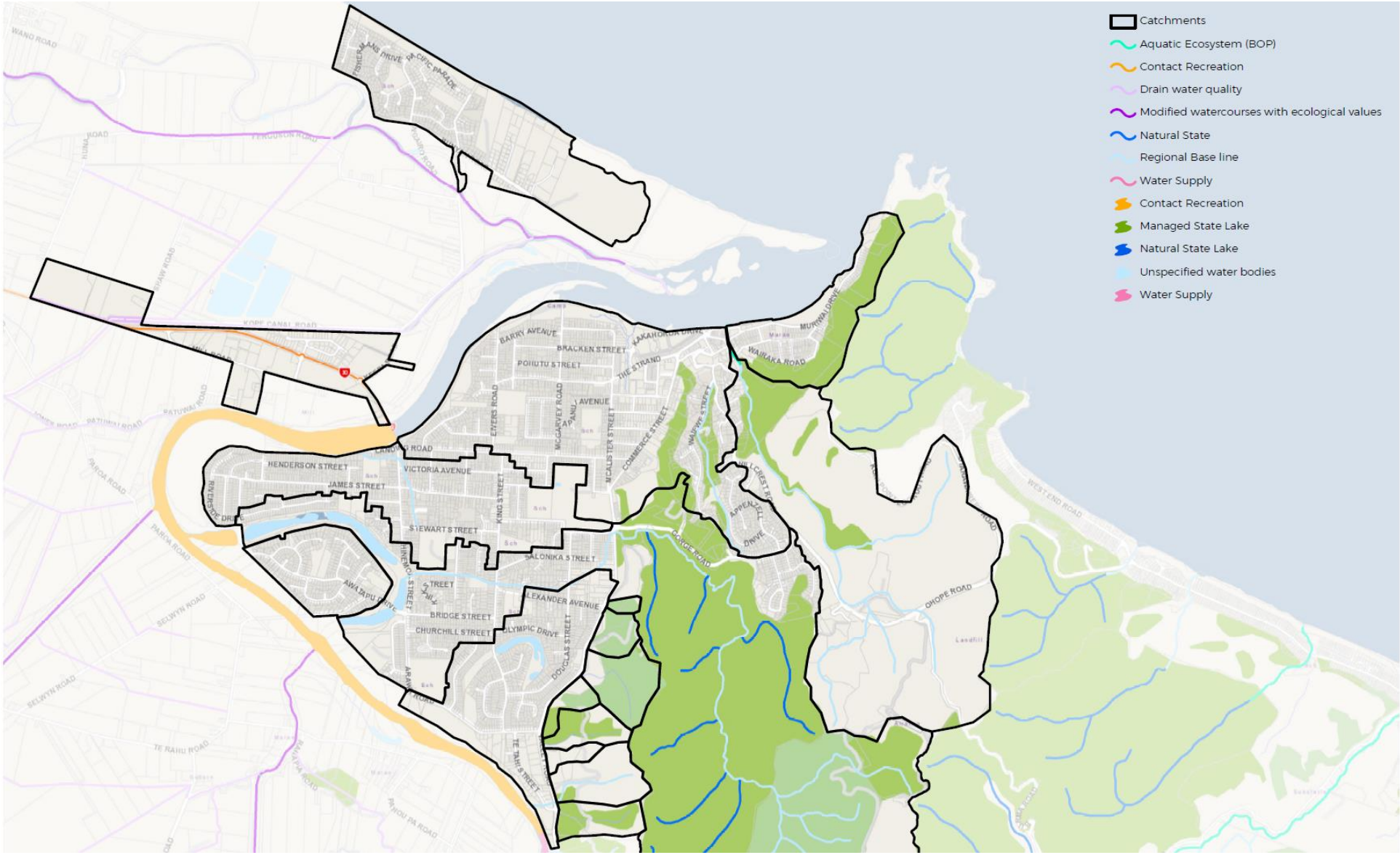

Figure 3: BOPRC classification of surface water in the Whakatāne urban area

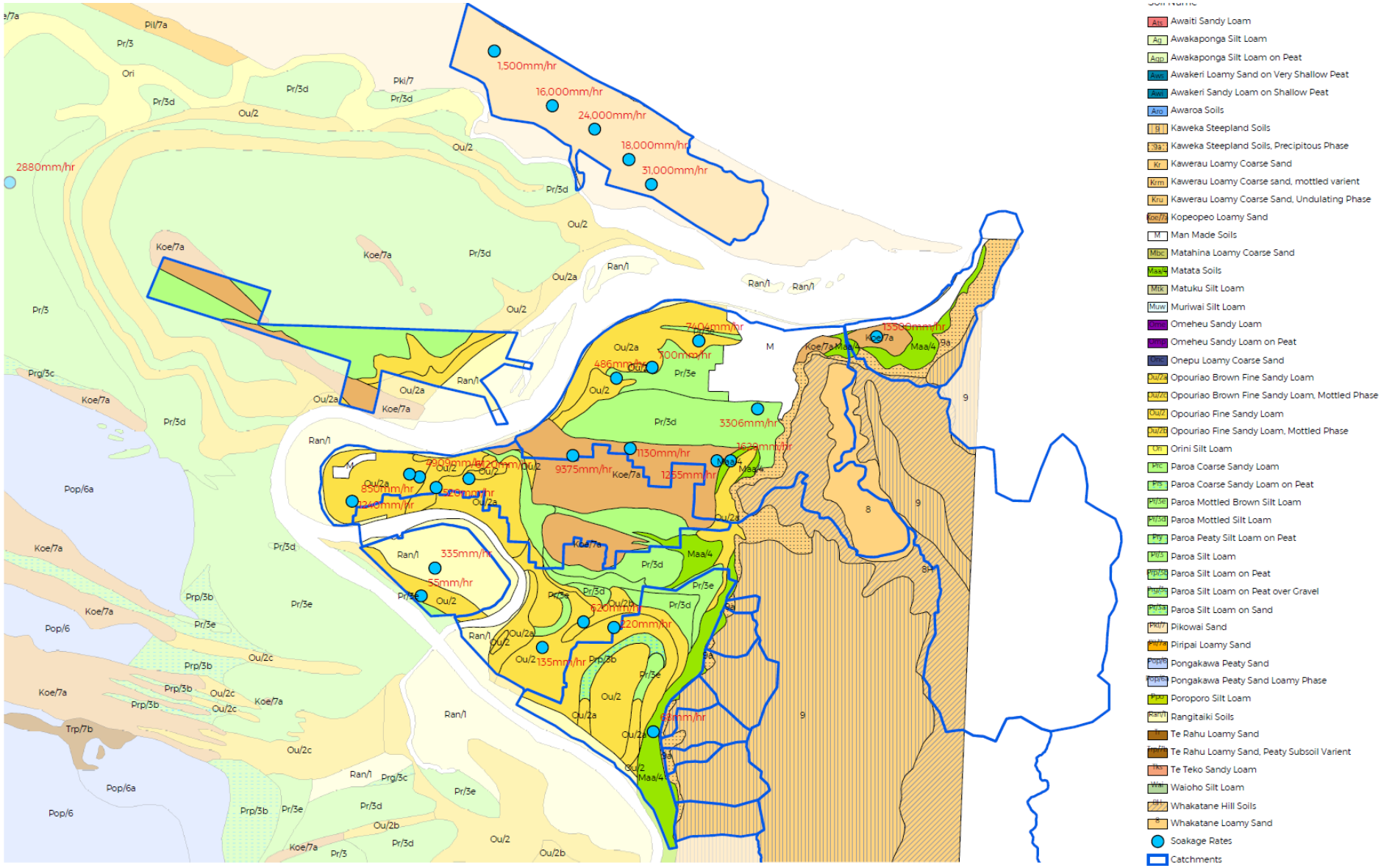

Figure 4: Soils and soakage rates for the Whakatāne urban area

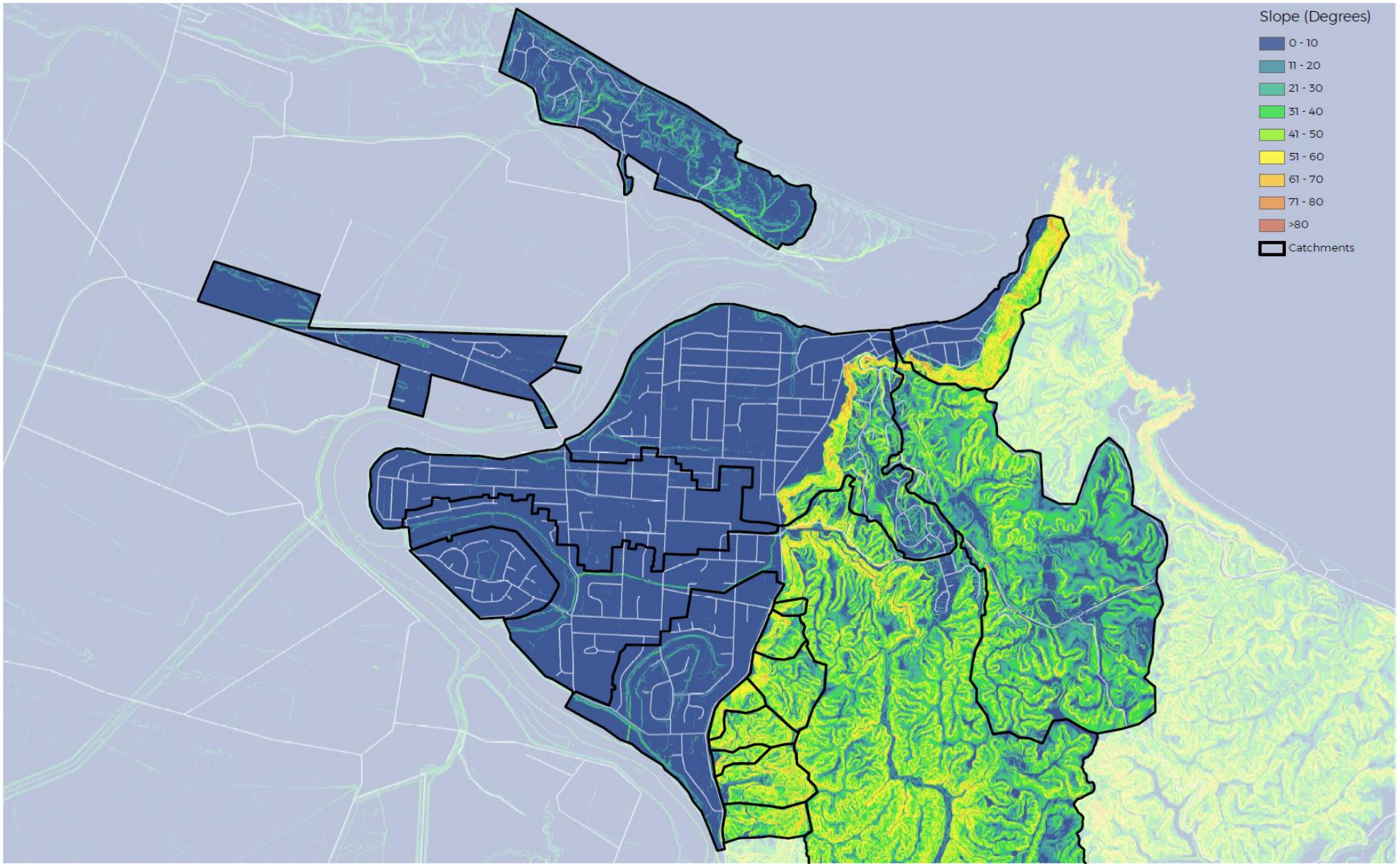

Figure 5: Slope (degrees) in the Whakatāne urban area

3.3 Land use

3.3.1 Existing land use

Figure 7 outlines the zoning of the Whakatāne urban area as specified within the District Plan.

The Whakatāne West SC is dominated by Light Industrial zoned properties, which typically have a high degree of impermeably. Some are yet to be developed but are zoned as Light Industrial. There is also an area of Large Format Retail Zone where the Hub and associated developments are located. Much of this land is contaminated, due to historic use as a site for mill works. The Industrial Zone property that is the Mill is not included in the catchment area or the CSC, but there is an area of Industrial Zone land that is included within the SC, though under different ownership.

Further west in this catchment is the residential subdivision commonly referred to as the Shaw Road subdivision. There are some undeveloped residential properties, and further west is land that is zoned as Deferred Residential, where the Julian's Berry Farm is located. Whakatāne DC has had preliminary discussions with the landowners about rezoning the land, but no formal application has been made. The SC is generally bounded by Rural Plains zoned land.

Coastlands Ōpihi is dominated by Residential land with spots of non-residential land, such as an Education Zone site, which is designated as Te Kura Kaupapa Māori o Te Orini. There are also areas of Active Reserve within the SC, and the SC is generally bounded by Coastal Protection Zone. Part of this land is within the Coastal Hazard Erosion Risk Area, Rural Coastal Zone, and Rural Plains Zone. There is a small area zoned Business Centre where the Coastlands Dairy is located.

The Whakatāne Township includes large areas of Residential Zone, with an area of zoned to accommodate higher density known as the Urban Living Zone, which is centred around Kōpeōpeō. There are also numerous parks that are generally zoned as Active Reserve, and various schools which are either designated for that purpose or are in the Education Zone.

Further, there are some areas of Light Industrial Zone land, generally near Te Tahi Street, and the eastern end of Alexander Avenue. There is a small area of Commercial Zone land near the Kōpeōpeō centre, and an area to the west of the Whakatāne CBD area, and on the western side of the Apanui Canal. To the east of this is a large area of the Whakatāne CBD which is zoned as Business Centre. Between the Residential zoned land and Business Centre zoned land are areas zoned as Mixed Use.

The Whakatāne Township is generally bounded by areas zoned as Rural Foothills, Rural Plains, or Active Reserve. The township also contains areas that have been identified for their visual character, such as the Whakatāne Escarpment and the various natural sites within it.

3.3.2 Proposed land use

As identified in the Council's LTP 2021-31, as at September 2020, the Whakatāne District's population was 38,200. This already exceeds previous forecasts, which expected the population to reach its peak at 36,400 in 2028. There is good reason to expect this trend will continue over a longer time period. Over the next 30 years, growth forecasts signal that the Whakatāne district will need approximately 4,000 additional homes.

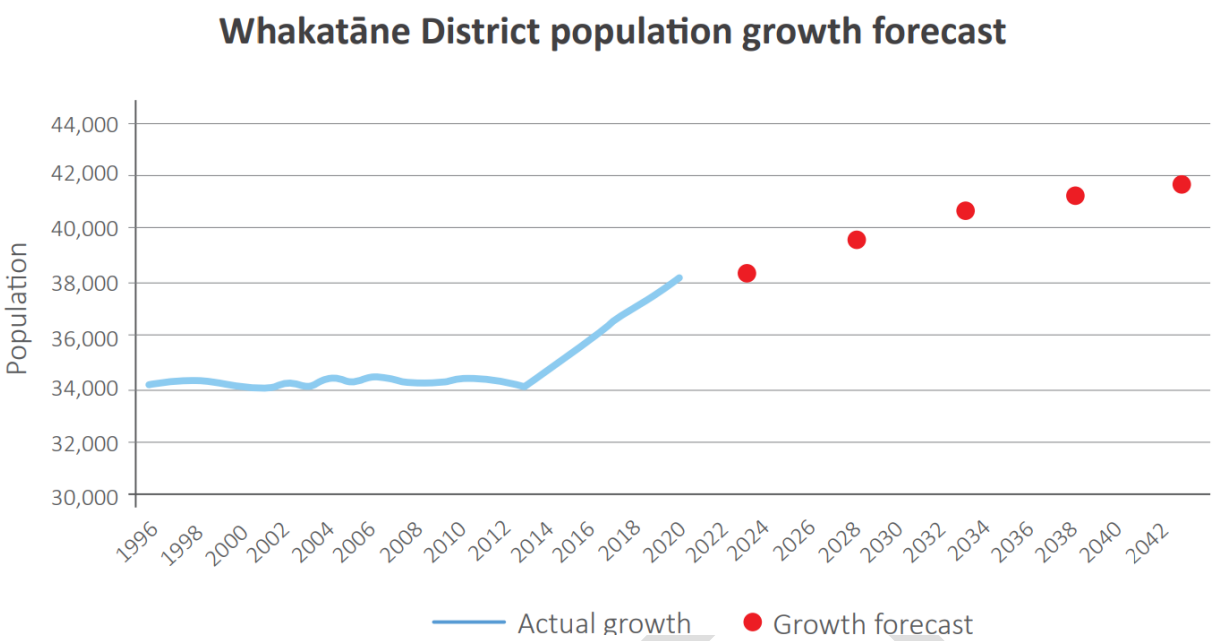

Figure 6: Whakatāne District population growth forecast from the Council's LTP 2021-31

3.3.3 Future growth areas

Apart from the Coastlands area, growth within the Whakatāne urban stormwater catchment area will be by way of infill and intensification of land use. This will incrementally increase the proportion of impermeable surface within the catchment, increasing the volume and intensity of runoff from rainfall. This trend has been recognised by the Council in revisions to the ECOP and District Plan, which requires detention of stormwater. An example of stormwater detention is the Te Whare Wānanga o Awanuiārangi, Whakatāne Campus on Domain Road/Francis Street, where the site development incorporated underground stormwater storage and rain gardens to contain and discharge stormwater to ground soakage.

The Whakatāne West SC includes land colloquially known as the Shaw Road residential subdivision (Kārearea Drive, Takahē Close, Tara Iti Way, Kōtare Drive, Korimako Place, and Kākāriki Drive). The stormwater assets and associated consents will be vested or transferred to the Council (from PAG Enterprises Limited) for management. Land immediately west from this area to Huna Road is zoned either Residential or Deferred Residential and set to rezone in future. This land will be subject to a comprehensive structure plan, as required by Rule 12.6 of the District Plan, and will require an assessment against Appendix L of the RPS.

There are greenfield areas that have been zoned for development, such as some of the Light Industrial zoned land at 23 Keepa Road, as well as land that has been signalled for development through Provincial Growth Fund funding, such as a potential marina on the eastern side of Keepa Road, near the intersection of Keepa Road and State Highway 30, which has stormwater assets on it.

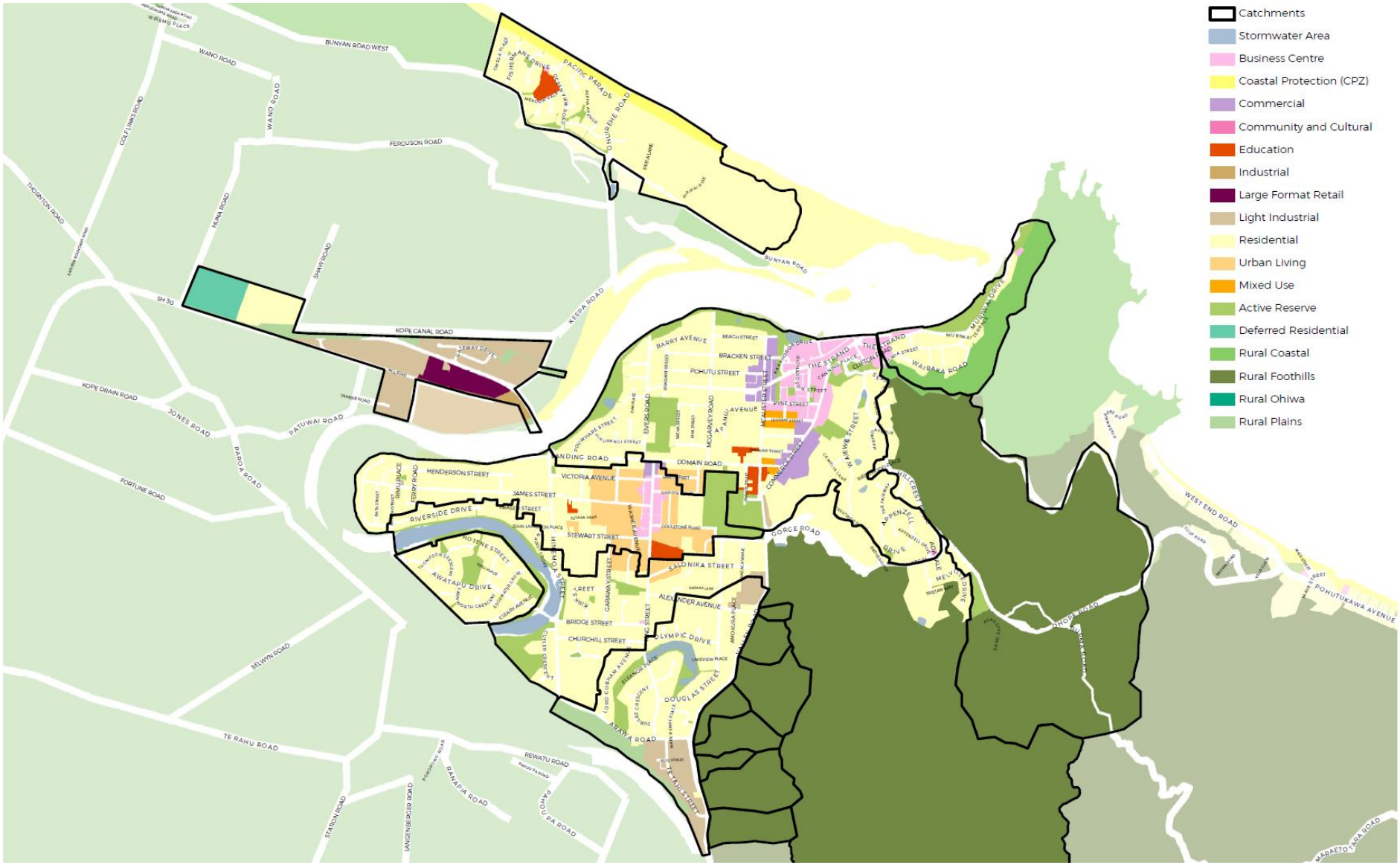

Figure 7: District Plan zoning for the Whakatāne urban area

3.4 Archaeological, cultural, and historical sites

Recorded archaeological sites, identified Ngāti Awa historical sites, and New Zealand Heritage List sites in the Whakatāne urban area are shown in Figure 8. The Whakatāne stormwater scheme boundary is shown in red.

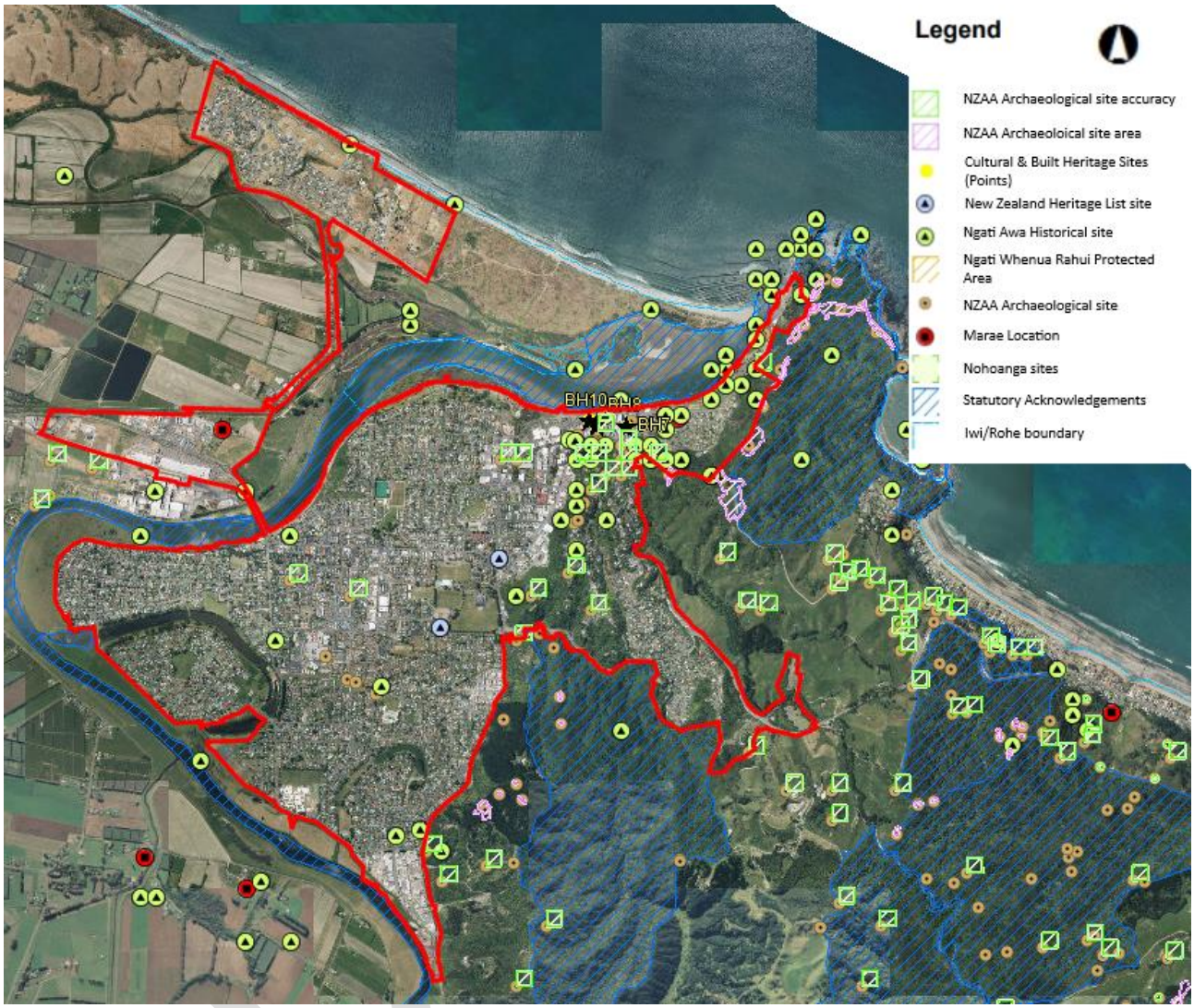

Figure 8: Archaeological sites in the Whakatāne urban area

3.5 Rainfall

For the purposes of design rainfall figures, the Council has adopted the use of a temporal rainfall distribution based on historical events by using (weighted) observed rainfall data from the largest six urban events that occurred in Whakatāne from 2008 to 2018. Rainfall depths for the design storms were based on High Intensity Rainfall Design System (HIRDS v4) values (NIWA, 2018) for the RCP6.0 climate change scenario as it is a mid-high range that the Council deems appropriate for assessing the existing system (note that the Council uses RCP8.5 for greenfield development). For the 12-hour design rainfall, the 10% AEP (10 min-duration) had a peak intensity of 128 mm/hr, increasing to 318 mm/hr for the 0.1% AEP (10 min-duration).

The ECOP specifies the rainfall intensities to be used to calculate stormwater runoff within the Whakatāne urban area as shown in Table 3 (refer Section 4.1.11.1 and Table 4.2 of the ECOP for original). However, these rainfall intensities are outdated and do not adequately consider climate change out to 2100. As the ECOP is a dated document, the Council refers to the latest available data when calculating stormwater runoff. This is further outlined in section 3.10.

Table 3: Projected design rainfall (mm) for 2055 based on predicted climate change (Table 4.2 from ECOP)

Return period (yrs)	Duration							
	10 min	**15 min**	**30 min**	**1 hr**	**2 hr**	**6 hr**	**12 hr**	**24 hr**
2.33	11	14	21	31	41	69	88	109
5	12	19	27	38	50	84	107	147
10	16	23	32	45	58	95	122	177
20	18	26	37	51	64	108	137	206
50	20	30	44	59	73	123	156	244
100	23	32	47	63	81	134	170	272

3.6 Potential impact of climate change

The Whakatāne District has seen some localised intense rainfalls. A storm in June 2010 in Whakatāne town was very severe with in excess of 100 mm in one hour falling in the Wainui te Whara catchment, leading to a record flow in the river and overtopping of stopbanks. These events have necessitated a revision upwards of the design rainfall figures. Following severe rainfall events in 2004 and 2005 (Matatā event), the Council commissioned a review of the design rainfall figures to predict the design rainfall for the year 2055 by assessing the effects of climate change, as recommended by the Ministry for the Environment ("**MfE**"). The output was a revision of the design rainfall estimates based on the 2055 projected design rainfall. There were also significant high rainfall events in 2013 and 2014.

HIRDS v4 was developed by NIWA (National Institute of Water and Atmospheric Research) and NIWA's Māori Environmental Research team, Te Kūwaha o Taihoro Nukurangi, as well as planners and engineers across New Zealand to offer more certainty about the frequency of high-intensity rainfall evens, enabling better design of stormwater drainage, flood defence systems, and vital infrastructure. It has been used for stormwater design within the Whakatāne District. Short duration events are the primary determinant of reticulation capacity. Long duration events are more significant in terms of detention storage and pump capacity. Climate change is expected to increase the design rainfall in long duration events meaning that that increased pumping capacity will be required over time. This can be catered for by ensuring upgrades to pump stations provide space to allow for increasing pump capacity over time.

The impact of sea level rise on the Whakatāne Township depends significantly on the level of protection offered by the Whakatāne River stopbanks, which are managed by BOPRC.

3.7 Stormwater infrastructure

The Whakatāne urban stormwater catchment incorporates all the residential and commercial land in Whakatāne that drains indirectly or directly to the Whakatāne River. Within this catchment, the Council's stormwater infrastructure includes:

- 18 stormwater pump stations
- 1,101 manholes
- 85 km of pipe reticulation
- 11.5 km of open drains
- Four retention dams in the Waiewe Valley
- Culverted sections of the Waiewe Stream
- Stormwater detention ponds
- Stormwater discharge by ground soakage (predominantly in the Coastlands area)
- Stormwater discharges and associated discharge structures to streams, Whakatāne River and the CMA, as follows:

    - Whakatāne River (CMA) – 11 floodgates from the Apanui SC and eight from the Wairaka SC.
    - Whakatāne River (upstream of Landing Road bridge) – 18 floodgates from the Hinemoa SC, four from the Whakatāne South SC, and one from the Awatapu SC.
    - Wainui te Whara Stream – seven directly from the Hinemoa SC and four from the Whakatāne South SC.
    - Awatapu Lagoon – 12 directly from the Hinemoa SC, six from the Whakatāne South SC, and one from the Awatapu SC.
    - Wairere Stream – two from the Apanui SC.
    - Kōpeōpeō Canal – one from the Whakatāne West SC and one from Shaw Road subdivision stormwater retention ponds.

3.8 Other infrastructure

The Council owns and operates water, wastewater, and transport infrastructure in the Whakatāne urban area. Levels of service for these activities are set in respective AMPs, which are available on the Council's website. The Council provides an online mapping service via its website, enabling anyone to view the public water supply, stormwater, and wastewater networks in the Whakatāne District.

3.9 Water quality and ecology issues

3.9.1 Potential sources of contaminants in urban stormwater

Stormwater runoff from urban areas contains a range of contaminants derived from activities in the catchment, including litter, pollutants from roads and carparks, paints, oils, grease, coolants, unwanted chemicals, domestic car wash runoff, and runoff from house and roof washing.

Untreated stormwater can potentially reduce water quality by carrying with it sediment, nutrients, pathogens, heavy metals, and petroleum products. Nutrients can stimulate prolific phytoplankton and periphyton growth, which can cause large fluctuations in dissolved oxygen and pH as a result of

photosynthetic activity. The microbiological quality of runoff is often poor with high bacteria levels sourced from animal excrement and (potentially) sewage overflows (in heavy rain events). The source of contaminants from the Whakatāne urban area is summarised in Table 4.

Table 4: Contaminant sources from the Whakatāne urban area

Category	Constituents	Possible sources	Reason for concern
Microbiological	▪ As indicated by indicator organisms *E. coli (Escherichia coli)*, *Enterococci*, faecal coliform bacteria	▪ Animal excrement (dogs) on roadsides, birds ▪ Overflows or leaks from sewerage reticulation	▪ Health effects for people contacting the water
Sediment	▪ Soil and grit particles	▪ Unsealed yards and roads ▪ Earthworks sites ▪ Dust from pavements	▪ Smothers stream beds and kills invertebrate life ▪ Reduces water clarity ▪ Can contain heavy metals
Litter	▪ Plastics, bottles and rubbish	▪ Street litter, illegal dumping in drains and streams	▪ Unsightly ▪ Leaching of constituent chemicals ▪ Pipe and culvert blockages
Nutrients	▪ Ammoniacal nitrogen, nitrate/nitrite nitrogen, phosphorus	▪ Animal excrement (dogs) on roadsides ▪ Overflows or leaks from sewerage reticulation ▪ Runoff from parks and gardens with fertiliser ▪ Leaf litter especially during autumn – breakdown products including nutrients and tannins ▪ Contaminants including detergents from car/boat washing (phosphorus) ▪ Contaminants from roof and exterior cleaning – chemicals used and pollutants washed off	▪ Promotes algae and weed growth ▪ Lowers dissolved oxygen levels ▪ Toxicity effects from ammoniacal nitrogen or nitrate
Heavy metals	▪ Commonly zinc, copper, lead, nickel	▪ Corrosion of roofing (zinc) ▪ Vehicles/tyres (zinc, copper) ▪ Past use of lead-based paints and lead in petrol	▪ Toxic effects on stream life and shellfish
Petroleum hydrocarbons	▪ Oil and diesel residues ▪ Vehicle emissions ▪ paint thinners	▪ Leakage from vehicles ▪ Improper disposal of used oil ▪ Domestic vehicle washing and cleaning ▪ Improper disposal of domestic paint residues	▪ Unsightly surface films ▪ Toxicity, restricts oxygen transfer

The amount of contamination present in stormwater at any particular time will vary widely depending upon factors such as:

- Rainfall

    - The “first flush” of rain after a dry spell will contain much higher contaminant loads as accumulated material is washed away off roads and yards.
    - Conversely in wet weather stormwater will be lower in some contaminants such as metals and oils, but may be higher in suspended solids if erosion is taking place due to high flows.

- Construction activity in the catchment – a developing area will yield much higher levels of sediment than an established area.
- Incidence of one-off spills (such as from vehicle tanks involved in collisions) or improper disposals.

This variability makes monitoring and quantifying contaminant loads from urban stormwater difficult, as samples taken from the same location can give measurably different results depending on the conditions at the time of sampling.

3.9.2 Wastewater overflows

There are no designed overflow points for wastewater into the stormwater system. The stormwater system has been designed to “stand alone” from the wastewater system. Any leakage of wastewater to the stormwater system would be from damaged pipes or manholes. Any such leaks are repaired when found. There are known areas where the wastewater system suffers from excessive infiltration and inflow during wet weather. There is a programme in place to rectify these sewers. The wastewater and stormwater connections for all buildings are checked as part of the building consent process. If illegal connections were discovered, the contractor would be required to rectify the problem and achieve compliance with the NZ Building Code.

The Council has contributed to a Bay of Plenty regionwide working group to agree a standardised way of managing, responding to, and reporting sewer overflows for wastewater network utility operators. In November 2019, the ‘Regional best practice guide for the management of wastewater overflows’ was agreed to for the purposes of responding to wet and dry weather overflows to land and water. The Council uses this guide to manage overflows, including reducing actual and potential risk of wastewater to enter the stormwater network.

3.9.3 Effects of stormwater discharge on receiving waters

The development of the Whakatāne township has had an impact on water bodies within the catchment and their ecological values. The town’s development required the creation of new channels/drains and the modification of existing watercourses. Watercourses serve facilitate the passage of stormwater through the catchment with minimal impact on land or property. Watercourses also commonly have numerous structures in them, such as culverts and erosion protection structures, and generally have flap gates at their exit through the stopbanks.

The ecological health of the water bodies that receive stormwater is discussed in a report from WSP titled Whakatāne Urban Area Stormwater Catchment Description (“**WSP Report**”) in Appendix B and the Hamill Report. The Hamill report included an assessment of the ecological values of the various water bodies, summarised in Table 5.

Table 5: Ecological values for waterways receiving stormwater from the Whakatāne township (Table 3.8 in Hamill Report)

Waterway	Ecological value	Reason for ecological value
Whakatāne River	High	Important habitat for At-risk fish species (inanga), shellfish gathering, recreation and swimming. Wetland fragments near Awatapu Lagoon and salt marsh wetland near McAlister Street.
Wairere Stream	High	High quality habitat, macroinvertebrate community likely 'good', longfin eel upstream of waterfall.
Waiewe Stream	Moderate-Low	Moderate quality habitat, highly modified, largely urban catchment, waterfall and culverts a substantial fish barrier. A constructed wetland in the Waiewe Street reserve and Puru wetland near the McAlister Street.
Apanui Canal	Low	Poor habitat, low MCI, poor WQ, no At-Risk fish
Hinemoa Stream	Low	Poor habitat, low MCI, poor WQ, no At-Risk fish. Good riparian shade at d/s section.
Amber Grove drains	Negligible	Poor habitat, poor WQ, no fish passage. Not a natural waterway but has restoration potential.
Wainui Te Whara Stream u/s Valley Road	High	Highly modified lower catchment but good macroinvertebrate community and At-risk fish species common.
Wainui Te Whara Stream d/s Valley Road	Moderate	Poor quality riparian zone, "fair" quality macroinvertebrate community, At-risk fish species present but limited habitat. Passage to high quality habitat u/s. Deteriorating trend in MCI values.
Awatapu Lagoon	Moderate	Poor WQ, limited riparian habitat, migration route for At-Risk fish. NZ dabchick breeding on the lagoon.
Sullivan Lake	Low*	Poor WQ, poor aquatic habitat, urbanised margins. Shortfin eel present but no At-Risk fish. Poor fish passage to the Whakatāne River.
Orini Canal	Moderate	Past contamination, poor WQ, poor riparian and instream habitat. Shortfin eel present, likely has smilar fish as the lower Whakatāne River. High quality salt marsh habitat in the lower sections.
Kopeopeo Canal	Low	Past contamination, poor WQ, poor riparian and instream habitat. Shortfin eel present. Salt marsh adjacent to lower section of canal.

The Hamill Report summarises results from historic stormwater monitoring and uses these to determine the likely effects of the Whakatāne Township's stormwater on the water quality in receiving waters, which are summarised in Table 6. The Hamill report concludes:

"The analysis found that most of the stormwater discharges currently have "Low" or "Very Low" overall effects because of either the small amount of stormwater input to the waterway, or the currently poor ecological values of the waterway, or both. The lower Wainui Te Whara Stream and Awatapu Lagoon had overall "moderate" ecological effects, but there is considerable potential to mitigate these effects and possibly achieve net benefits.

The assessment considers the current effects of stormwater discharges and does not account for mitigations that may occur as part of the proposed Catchment Management Plan. There are many mitigation actions that can be undertaken to reduce the effects of the stormwater network on waterways, in addition to addressing other, non-stormwater related pressures. Some of these could change the effects of the stormwater network management from a negative to a positive. A fundamental method to ensure

improved water quality and ecological outcomes are achieved is to include 'the enhancement of ecological values' as a high-level objective of the stormwater network alongside conveyance of water."

Table 6: Likely magnitude of effects of the Whakatāne township stormwater on the water quality of receiving water bodies (Table 4.7 in Hamill Report)

Waterway	Water Quality	Reason
Whakatāne River	Low	SW a very small fraction of catchment (<1%). Metals in fine sediment within DGVs and similar u/s and d/s of town. Possible small scale localised effects at outlets.
Wairere Stream	Negligible	SW a very small fraction of catchment. Metals in sediment low and within DGVs.
Waiewe Stream	Low	Zn slightly elevated in sediment but still within DGVs. SW a small fraction of overall catchment.
Apanui Canal	High	Urban catchment. Sediments have elevated Cu, Zn and Pb above DGVs. Metals and *E.coli* in water elevated during rain events. Low DO. Oily film can be present on water after rain. Litter.
Hinemoa Stream	Moderate - High	Urban catchment. Indication of elevated Zn and *E.coli* in water at baseflow. Uncertainty with no sediment sampling or rain-event sampling. High nitrate.
Amber Grove drains	High	Urban catchment. Sediments have elevated Zn above DGV. Zn and *E.coli* in water elevated during rain events (likely from animals)
Wainui Te Whara Stream u/s Valley Road	Low	Macroinvertebrate scores are generally good. Dissolved Cu and Zn increase down Gorge Road but still low. TN and TP above DGVs but TP likely naturally elevated.
Wainui Te Whara Stream d/s Valley Road	Moderate	Macroinvertebrate scores decline to poor downstream. Zn and Cu elevated d/s but within DGV. DGT sampling found dissolved Zn elevated above DGVs at King Street.
Awatapu Lagoon	Moderate	Very high nutrient status. Low metal concentration in outlet water. Concentration of TN similar to WTW inflow but TP is higher, suggesting internal load or a SW source. Historical sewage leaks. N & P may be elevated in inflows (based on URQIS) but not confirmed. Litter in lagoon.
Sullivan Lake	Moderate	Very high nutrient status. Elevated Zn in sediment and inflows. Inflows also elevated in *E.coli*. Historical sewage leaks. N & P may be elevated in inflows (based on URQIS) but not confirmed. Fine sediment observed in inflows.
Orini Canal	Negligible - Low	Urban SW a small fraction of catchment. Low concentration of Zn, Cu, Pb and dioxins in SW. Very low nitrogen in SW.
Kopeopeo Canal	Low	Urban SW a small fraction of catchment. Indication of elevated Zn in stormwater from Gateway Drive.

The Hamill Report identifies a number of potential mitigations to reduce the ecological effects of stormwater on waterways, outlined in Table 7 (Table 4.9 in Hamill Report).

Table 7: Ecological effects of stormwater on waterways and potential mitigation actions

Waterway	Ecological value	Magnitude of effect	Overall effect	Potential mitigation
Whakatāne River	High	Low	Low	
Wairere Stream	High	Moderate	Low	

Waterway	Ecological value	Magnitude of effect	Overall effect	Potential mitigation
Waiewe Stream	Moderate-Low	Moderate	Low	
Apanui Canal	Low	High	Low	Riparian restoration for shading and habitat. Fish friendly gate was installed in 2017.
Hinemoa Stream	Low	High	Low	Install a fish friendly gate. Riparian /wetland planting between James St and Hinemoa St.
Amber Grove drains	Negligible	High	Very low	Riparian wetland planting on one side of drains for shade and habitat. Fence stock away from drains.
Wainui te Whara Stream u/s Valley Road	High	Low	Low	Sediment detention bunds in upper catchment.
Wainui te Whara Stream d/s Valley Road	Moderate	Moderate	Moderate	Riparian and instream restoration d/s King Street. Allow plants in the stream. Change management to avoid spray near stream edge.
Awatapu Lagoon	Moderate	Moderate	Moderate	Create wetlands for water quality treatment and wildlife. Regular weed harvesting of south and central lagoon to improve habitat, oxygen conditions and remove nutrients. Azolla harvesting to remove nutrients. Improve litter management e.g. litter traps.
Sullivan Lake	Low	Moderate	Low	Create banded wetlands for treatment near southern end of lake. Ensure sections of lake retain aquatic plants. Focus SW management on Te Tahi Steet industrial area. Investigate sediment inputs. Encourage low fertiliser use in catchment. Improve fish passage at outlet weir and install a fish friendly gate at Whakatāne River outlet.
Orini Canal	Moderate	Low	Low	
Kopeopeo Canal	Low	Low	Very low	Potential for riparian restoration

Of these proposed mitigations the Council has adopted the following within the CMP:

[Actions/mitigations to be adopted will be confirmed when the CMP is submitted to BOPRC for approval within 12 months of the consent being granted].

3.10 Quantity

3.10.1 Flood hazard and modelling

The Council commissioned WSP to finalise the stormwater model created for the Whakatāne urban area. This included the best information available to date and almost all the piped assets in the Whakatāne urban area, pump stations, and the detention dams on the Waiewe Stream. An assumption of 100% runoff from rainfall was used (i.e. assuming that there is no ground soakage in the catchment as though the entire catchment was impervious). The Whakatāne Urban Stormwater Modelling: Model Build and System Performance Report is attached as Appendix D. The Whakatāne urban area has been affected by floods in

recent years, including in June 2010 and April 2017. Both events were used to validate the stormwater model as they had reliable flood observation records.

Rainfall depths for the design stormwater were based on HIRDS v4 values for the RCP6.0 climate change scenario for 2081-2100 as this is deemed appropriate for assessing the existing system. Note that for greenfield development, the Council requires RCP8.5 be used to assess stormwater effects and solutions. As shown by Figure 9, the 12 hour design rainfall provides a 10 minute peak intensity ranging from 128 mm/hr (10% AEP) to 318 mm/hr (0.2% AEP). The 12 hour design rainfall covers the full tidal range, which is considered pertinent due to the proximity and effect of the CMA on the Whakatāne River and urban area.

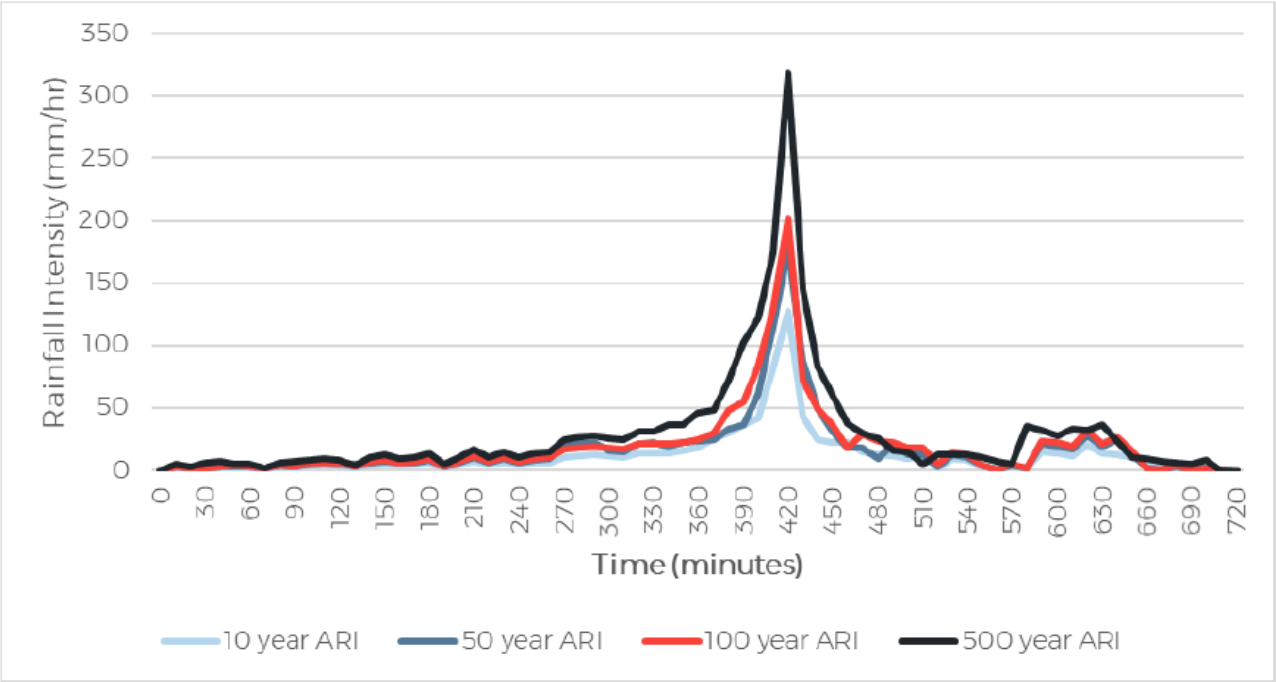

Figure 9: Design rainfall profiles for the Whakatāne urban area

3.10.2 Overland flow paths

To assist in mitigating surface flooding, some main flow paths are mapped and protected through planning rules in the District Plan. There are plans to map further flow paths and these are being defined as part of the Whakatāne urban modelling workstream. The purpose of this is to protect existing flow paths and recognise them as an integral part of the stormwater system. This information is to be used as part of the stormwater assessment when considering land use and building consent applications.

3.10.3 Determination of 1% AEP flood levels

The Whakatāne stormwater model by WSP modelled six scenarios for the 10%, 5%, 1%, and 0.2% AEP events as specified in Table 8, whereby:

- Spring = spring tidal cycle
- Q20L2 = 20% AEP flow in the Whakatāne River with the 50% AEP sea level.

For a full description of the scenario boundary conditions, refer to Appendix D. A selection of these modelled mapping outputs is reproduced from Appendix D in Figure 10 to Figure 15. A 1% AEP flood hazard map was produced as a substitute for overland flow mapping to provide an indication of the severity of flooding.

Table 8: Modelled scenarios from the WSP Whakatāne urban area

Scenario	Description	Whakatāne River Boundary Condition	Wainui te Whara Flow	Rainfall (over Whakatāne urban area)
C1	Primary system assessment during normal conditions	Spring	010yrR	010yrS
C2	Primary system assessment during a 20-year ARI flood in the Whakatāne River	$Q_{20}L_2$	010yrR	010yrS
C3	Flood assessment for the Building Act return period rainfall during a 20-year ARI flood in the Whakatāne River	$Q_{20}L_2$	050yrR	050yrS
C4	Flood assessment during normal conditions	Spring	100yrR	100yrS
C5	Flood assessment during a 20-year ARI flood in the Whakatāne River	$Q_{20}L_2$	100yrR	100yrS
C6	Secondary assessment required for Regional Policy Statement (RPS) assessment	$Q_{20}L_2$	500yrR	500yrS

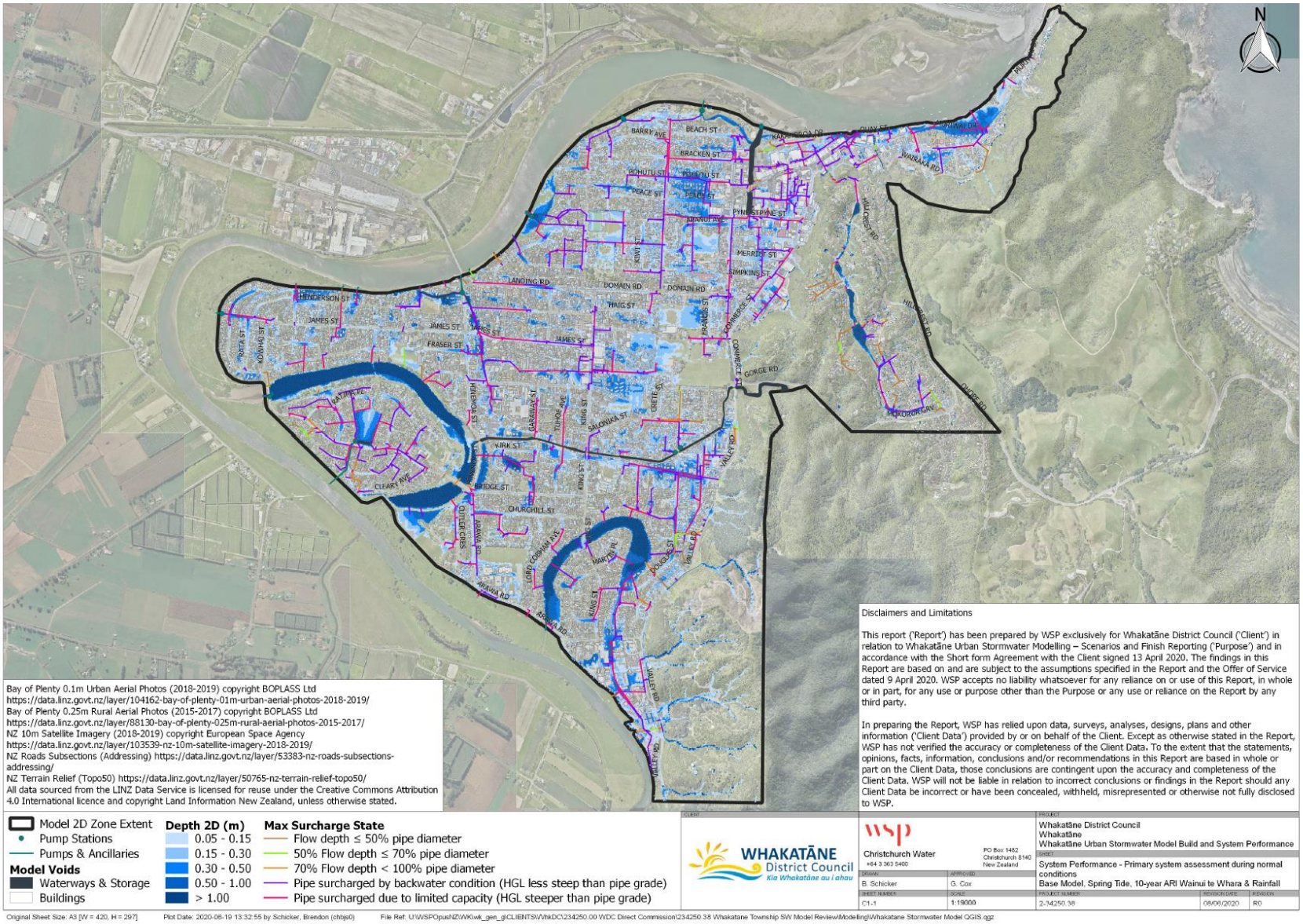

Figure 10: Scenario C1: 10% AEP under normal Spring conditions

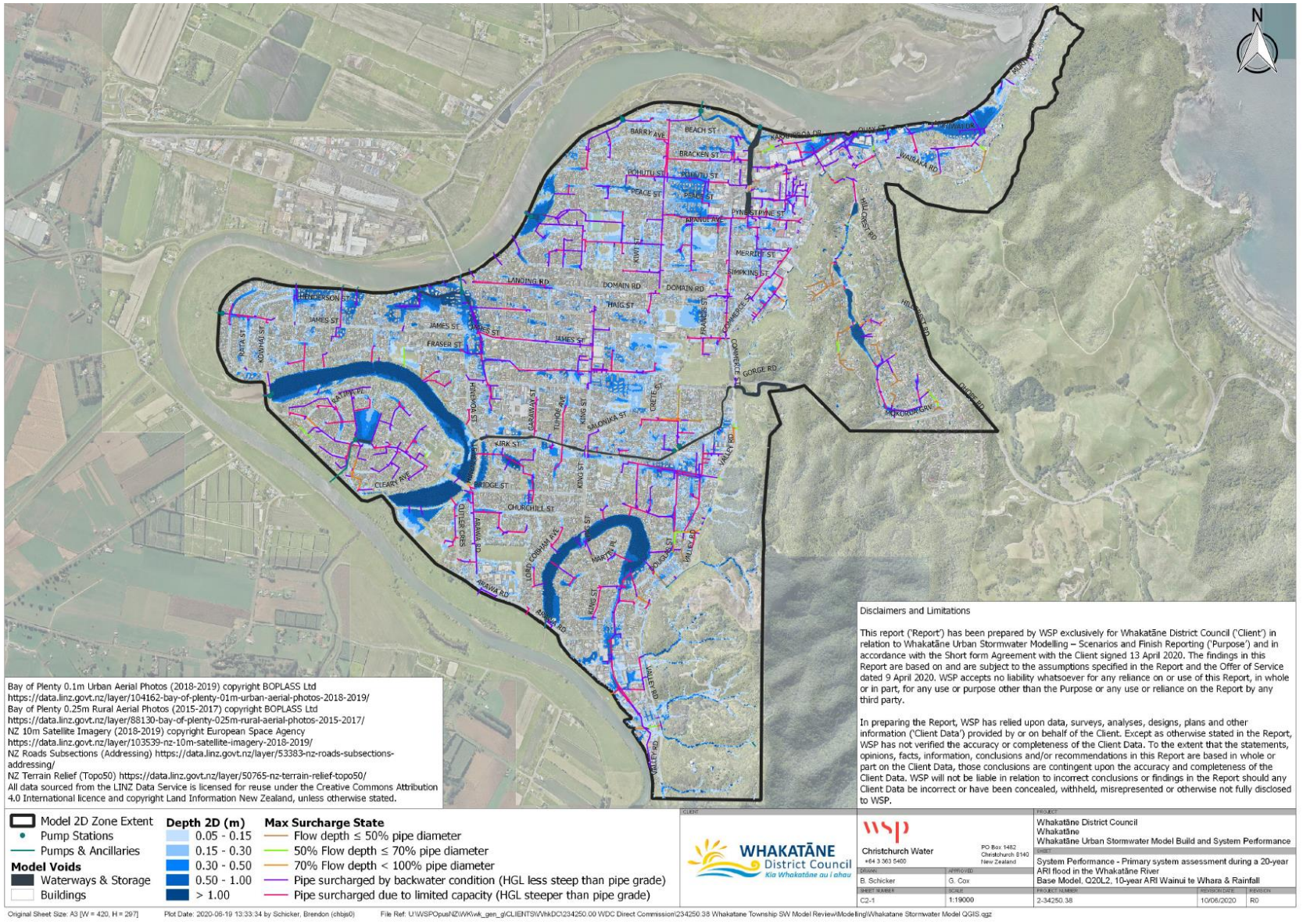

Figure 11: Scenario C2 – 5% AEP flood in the Whakatāne River

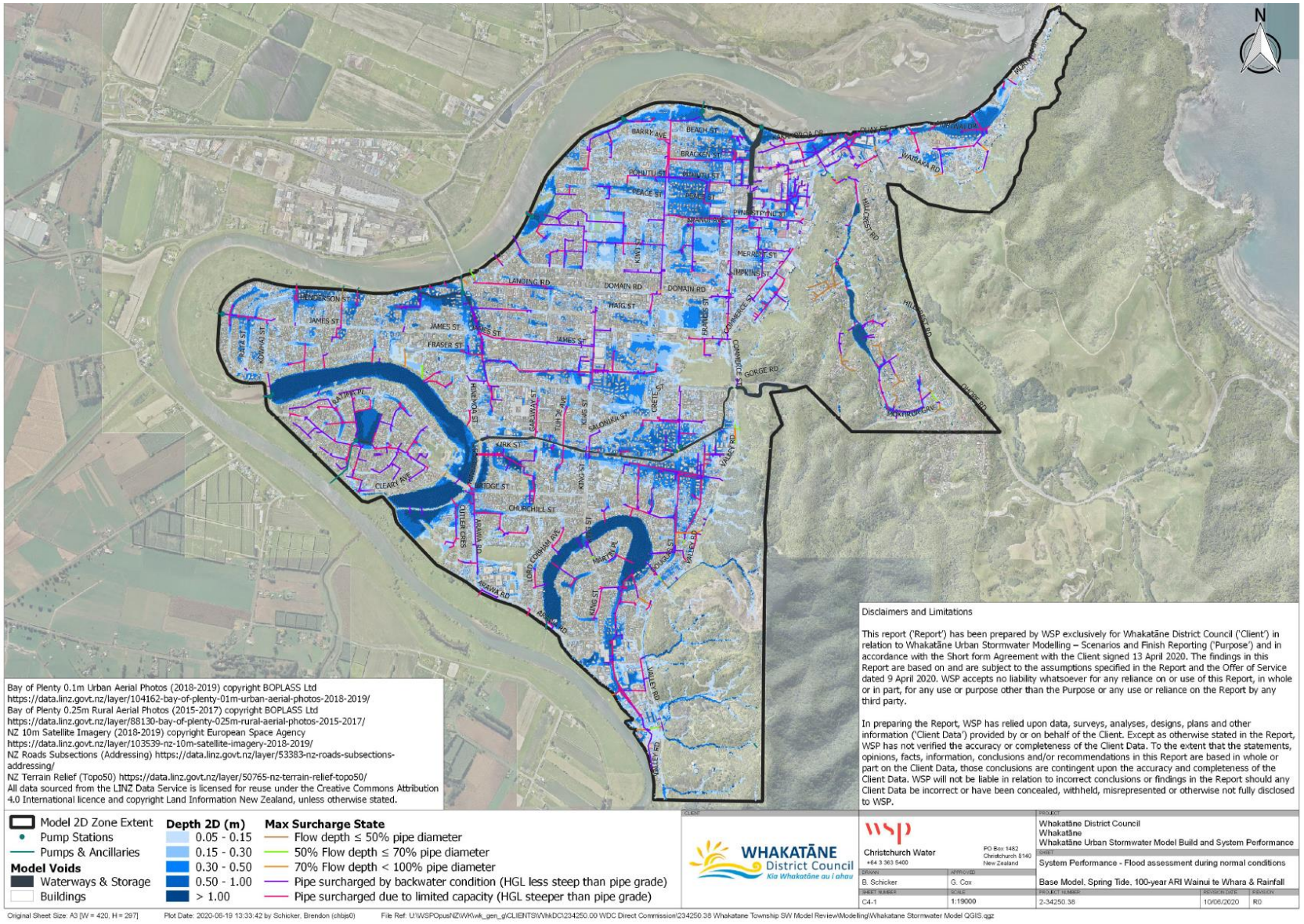

Figure 12: Scenario C4 – Flood assessment during normal Spring conditions for a 1% AEP

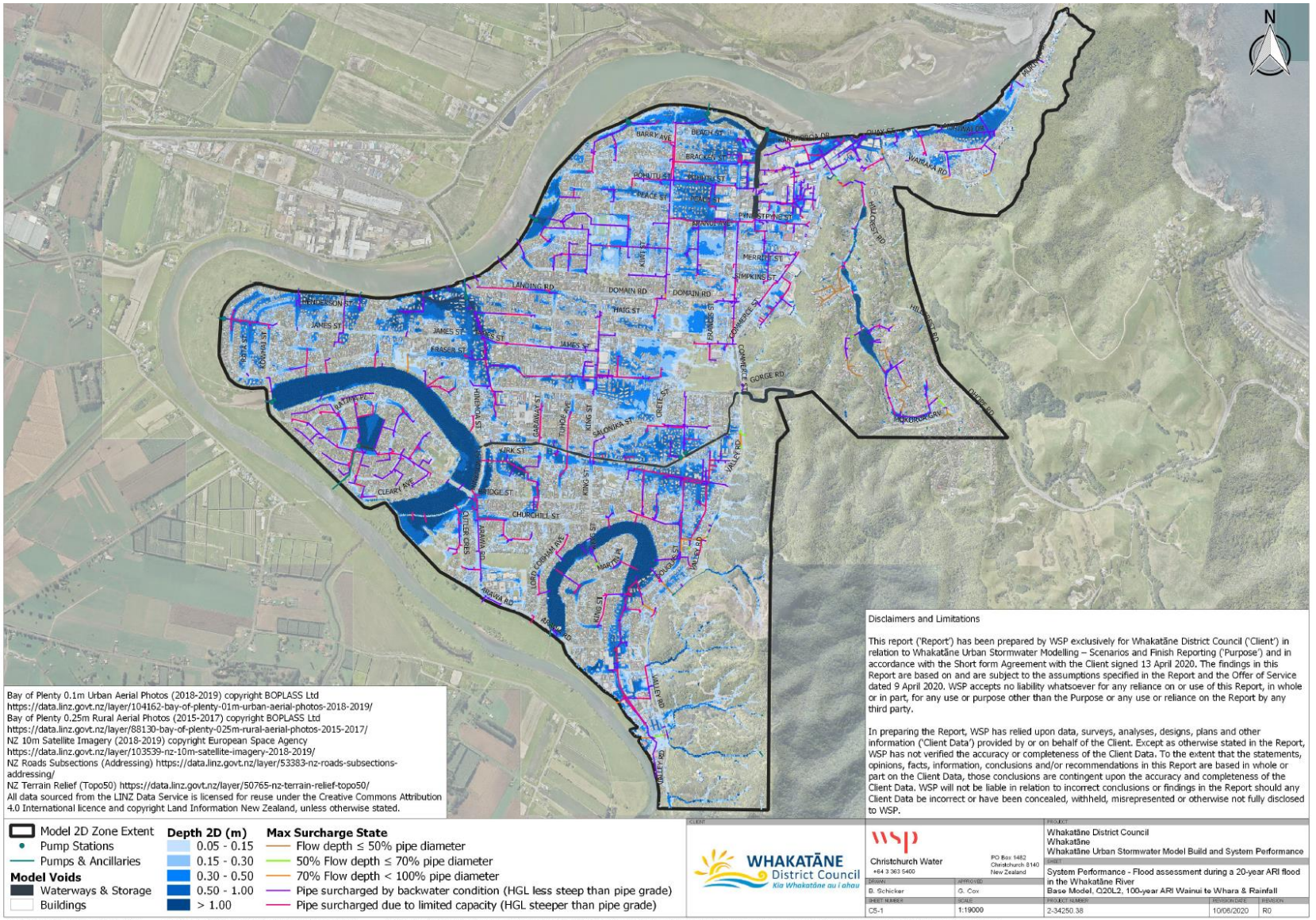

Figure 13: Scenario C5 – Flood assessment for 1%AEP when the Whakatāne River is in a 5% AEP flood condition

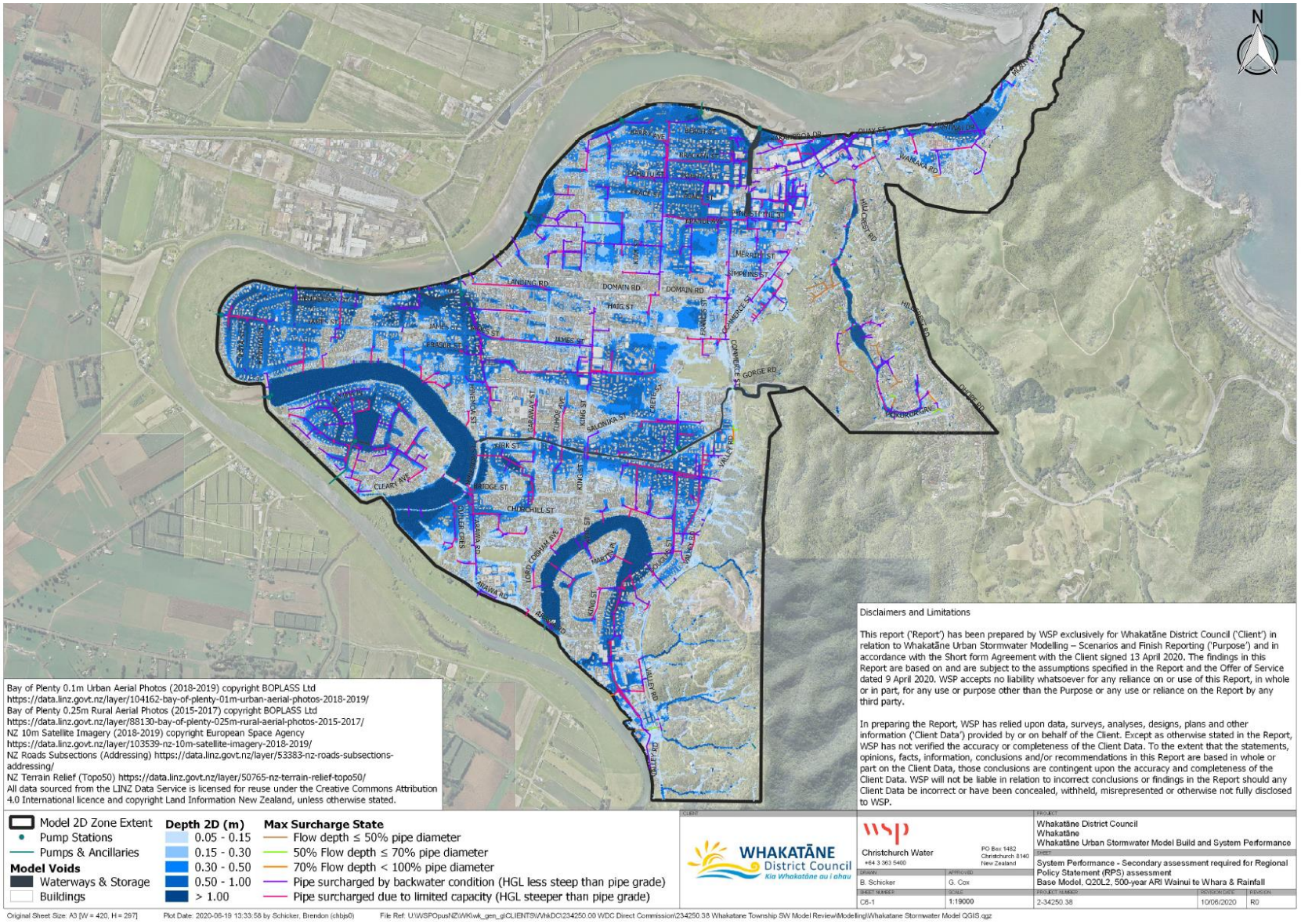

Figure 14: Scenario C6 – Flood assessment for 0.2% AEP

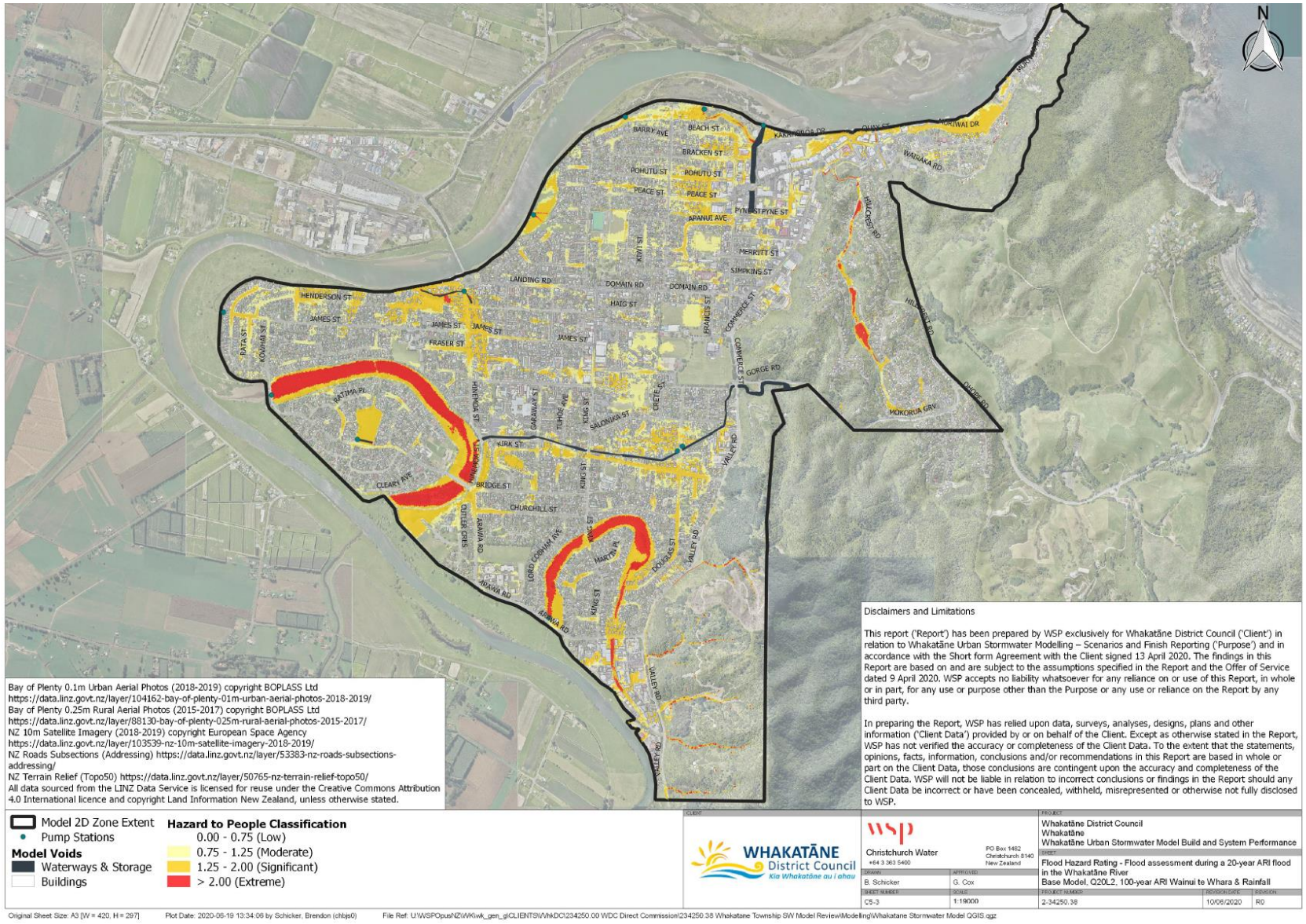

Figure 15: Flood hazard rating - Flood assessment during a 5% AEP flood in the Whakatāne River

4 Catchment constraints

Constraints that may influence or limit stormwater management options in the Whakatāne urban area include:

- Most of Whakatāne township is built on floodplain next to the Whakatāne River with groundwater in close proximity to the surface.
- Flat topography across most of the town results in very slight available grades and head for driving stormwater flows.
- The Whakatāne River stopbanks prevent natural discharge of stormwater via overland flow, particularly at times of elevated tides and/or river flow when the tidal gates through which stormwater discharges are closed.
- The stormwater pump stations are unable to keep up with peak flows during significant rainfall events.

5 Whakatāne urban stormwater sub-catchments

The Whakatāne urban area has been split into nine SC:

1. Apanui
2. Hinemoa
3. Whakatāne South
4. Wainui te Whara
5. Awatapu
6. Wairaka
7. Wairere
8. Coastlands Ōpihi
9. Whakatāne West.

The following descriptions (from the WSP Report) are a summary of the SC sizes, general layout, composition, land use activities, and existing stormwater infrastructure.

Any new greenfield developments to be incorporated into the CSC and CMP must follow the process set out in section 10.3. The Council will update this section to include any resulting amendments to existing SC or new SC.

5.1 Apanui

5.1.1 Sub-catchment description

This SC extends from Landing/Domain Road/Rex Morpeth Park north to the Whakatāne River, including the CBD and Commerce Street, and has an area of about 271ha (Figure 16). The SC has areas of particularly low lying land that are susceptible to surface water flooding. The lower parts were historically developed by infill of swampland. The SC also includes: an area of steep bush and scrub covered escarpment above and east of Commerce Street; the area of residential development above the escarpment near the eastern margin of Whakatāne township - namely the Waiewe Stream catchment – including Waiewe Street and the intervening land almost to Hillcrest Road; and Appenzell Drive/The Fairway – Mokorua north of Gorge Road.

The Waiewe Stream flood risk is mitigated by a series of four retention dams in the Waiewe Valley to reduce the peak flow reaching the McAlister Street pump station. The Waiewe Stream in its lower reaches is piped under the Strand towards the ponding area near the McAlister Street pump station.

During spring high tides the Whakatāne River reaches levels similar to the lowest ground levels in the Apanui catchment, which are around 1.5m above mean sea level. This prevents gravity drainage of the area during spring high tides. Flap gates on stormwater flood gates remain closed leaving the catchment entirely dependent on a combination of storage and pumping to prevent flooding of the lower lying urban areas.

The main stormwater discharge from the CBD, the inner suburb residential area and the piped lower Waiewe Stream is to the Apanui canal and then via McAlister Street pump station and flood gate to the Whakatāne River. This pump station (three pumps) has a maximum capacity of 5.6 cumecs. There are also pump stations at the Rose Garden, Barry Ave and Amber Grove which each have capacity to discharge between 0.5 to 0.6 cumecs.

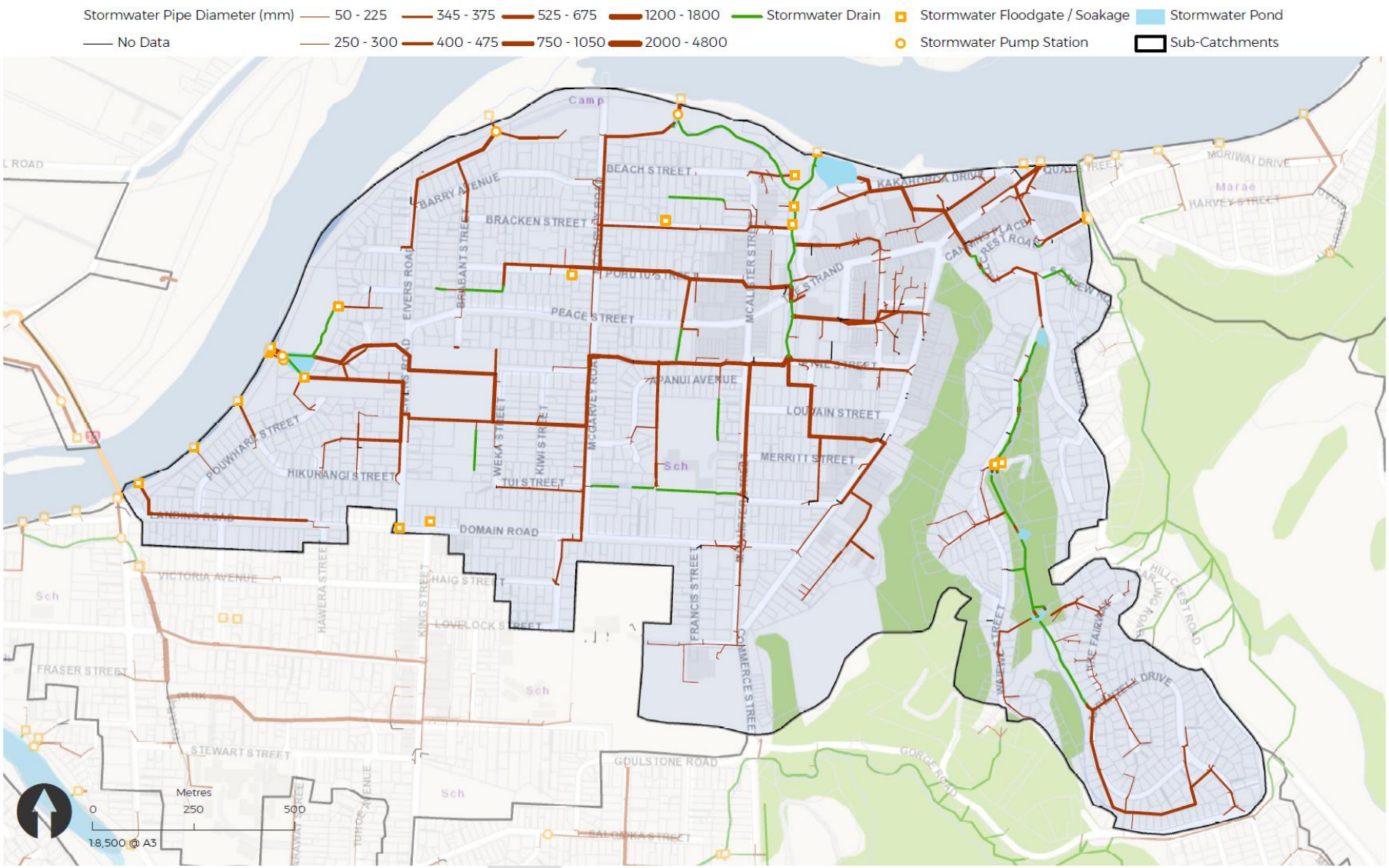

Figure 16: Apanui SC extent

5.1.2 Sub-catchment risks, issues, and actions

Table 9: Apanui SC risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i. During spring high tides, the Whakatāne River reaches levels similar to the lowest ground levels in the Apanui catchment, which are around 1.5 m above mean sea level. This limits the effectiveness of gravity drainage. As a result, flood gates on stormwater outlets close leaving the catchment entirely dependent on a combination of storage and pumping to prevent flooding of the lower lying urban areas.	Review pump station operational modes to optimise and accommodate spring high tides.
	ii. Pōhutu and Peace Street and surrounding areas - due to the location and relative levels of these low-lying areas, compared to tidal levels, nuisance water occurs on roads and in private properties during extreme weather events. This nuisance water is becoming a more frequent event.	The Council is investigating daylighting the stormwater pipe along the reserve between Pōhutu Street and Peace Street to create more stormwater storage (low lying, flood prone area – Apanui Linear Park). This will mitigate nuisance water during certain events. Council is establishing a ground water monitoring programme to obtain data so that long term solutions can be developed or ultimately look at planned/managed retreat options for this area.
	iii. Low lying, hard to drain – fox valves George Street (commercial/industrial and low lying)	Investigate and develop standards that can be used to assist commercial properties in low-lying areas address onsite stormwater issues.
Ecological values	i. Poor ecology in channels upstream of flood gates.	The Council installed a fish friendly flood gate at McAlister pump station site and developed operational modes for pump station. Council to look at extending the riparian margin along open channels. Ecological enhancement in the Paru wetland and ponding area, sections of Apanui channel, and open channels in the botanical gardens.
Water quality	Overall water quality in the Apanui Canal is poor. Stormwater is likely to have a high effect on water quality in the canal.	Stormwater storage and quality improvement in the Apanui channel through construction of Apanui Linear Park. Improvements to wetland along part of the drain between Kakahōroa foot bridge and Rose Garden pump station.

5.2 Hinemoa

5.2.1 Sub-catchment description

This SC has an area of about 139 ha and drains the central Whakatāne suburbs and the commercial area of Kopeopeo (Figure 17). Properties south of James Street and Stewart Street, alongside Goulstone Road, form the southern boundary with the Whakatāne River, Landing Road and Rex Morpeth Park being the general alignment of the northern boundary. Rex Morpeth Park also forms the eastern fringe. The Hinemoa SC drains into the Awatapu Lagoon or the Whakatāne River (principally via the Hinemoa drain which collects from the central and eastern areas of the stormwater catchment). The Hinemoa drain is a highly modified original stream channel. The western end of the SC is low lying and can be subject to local flooding. The area to the east is higher but parts are vulnerable to flooding from the Wainui te Whara Stream should the stopbanks overtop.

The Hinemoa SC is generally reliant on gravity drainage in localised storm events. However large more widespread storms which also raise the Whakatāne River can restrict the gravity drainage and the low parts of the catchment adjacent Hinemoa Street then rely upon pumped stormwater discharge.

In addition to the flap gated outlets which gravity discharge to either the Whakatāne River, the Wainui te Whara Stream, or the Awatapu Lagoon, there are pump stations located at:

- Hinemoa Street – a gravity outlet and pump station (capacity 0.37 cumecs) discharges the Hinemoa drain to the Whakatāne River in the north at the cul-de-sac head of Landing Road.
- Riverside Drive - at the west of the SC there is a gravity and pumped outlet to the Whakatāne River (capacity 0.36 and 0.43 cumecs).

There is also a small pump station adjacent to James Street which pumps water from a low point into the gravity reticulation system and the river north of Henderson Street.

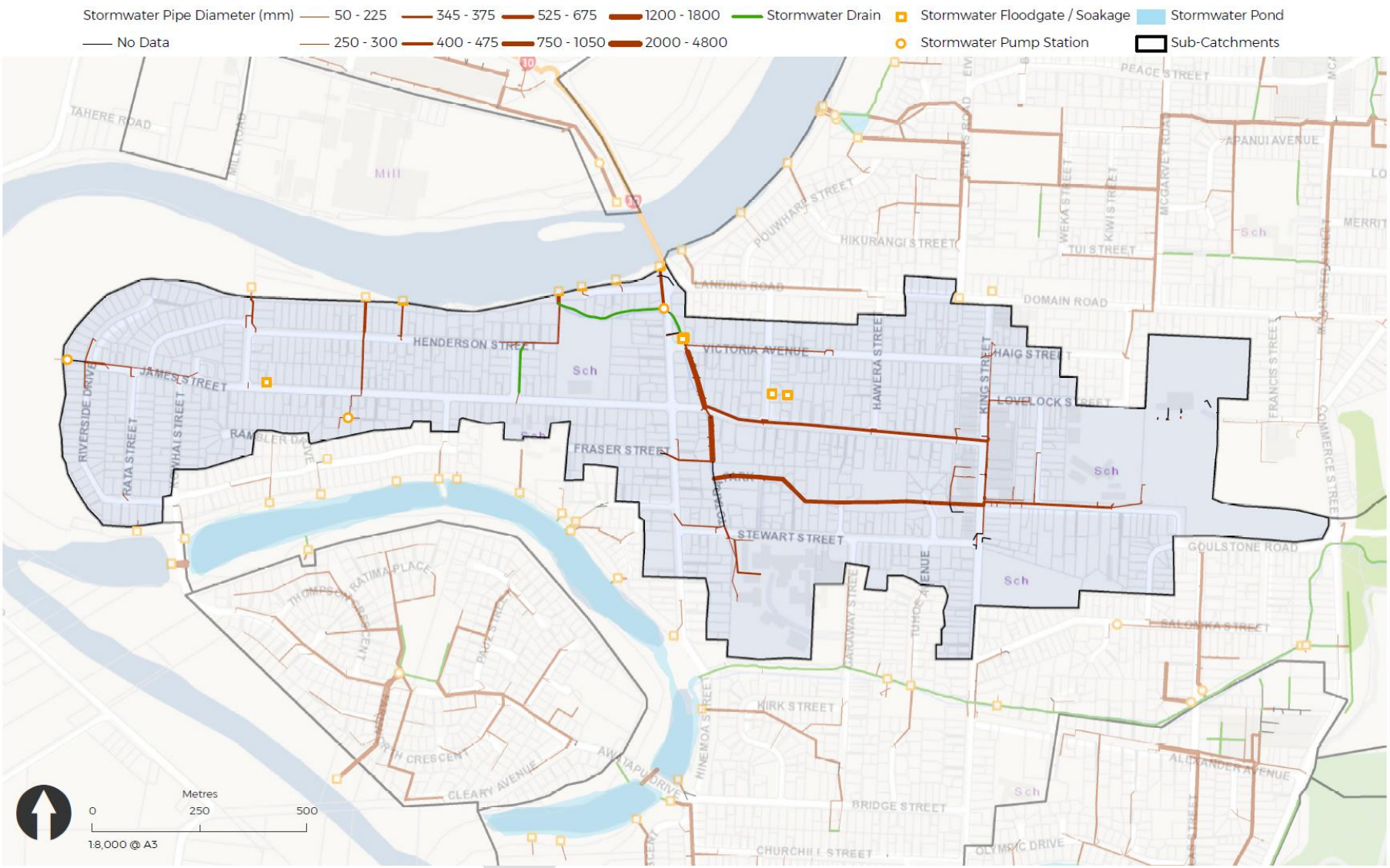

Figure 17: Hinemoa SC extent

5.2.2 Sub-catchment risks, issues, and actions

Table 10: Hinemoa SC risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i. Wainui te Whara stream capacity in channel.	In 2016, the Council undertook significant works to increase the stream capacity from 18 m^3/s (1 in 20 year) to 32 m^3/s (1 in 100 year). The Council will revisit these outcomes with the addition of climate change scenarios, following completion of the hydraulic modelling of Whakatāne urban area project.
	ii. Hinemoa Street pump station has insufficient capacity, results in excessively high ponding levels in the Hinemoa drain upstream and restricted outflow from the piped reticulation.	Pump station renewal planned for 2023.
	iii. Existing network system inadequacies including Henderson and James Street area, several isolated houses with low floor levels due to ECOP not being met, resulting in a risk of flooding in moderate rainfall events.	Capital works improvements will be scoped and programmed following completion of the hydraulic modelling of Whakatāne urban area project.
Ecological values	i. The ecological values of Hinemoa drain are poor.	
Water quality	i. Overall water quality in the Hinemoa drain is poor. Stormwater is likely to have a moderate to high impact on water quality in the drain.	

5.3 Whakatāne South

5.3.1 Sub-catchment description

This SC has an area of about 203 ha and is situated to the south of the Wainui te Whara stream; with Lord Cobham Ave joining into Arawa Road forming the western boundary; the Whakatāne River the southern boundary and Valley Road the urban margin in the east (Figure 18). The majority of the catchment is urban but includes the industrial land around Te Tahi Street and Alexander Avenue and 91 ha of steep undeveloped hill land above Valley Road at the eastern margin of the catchment.

The urban sector of the catchment has ground levels between 3 and 6 m above sea level. The catchment is mainly gravity drained even in large storm events. The main discharge from this catchment is to the Whakatāne River in the south via Sullivan Lake. The SC's largest discharge is via a 900 mm gravity pipeline from Sullivan Lake with a flap gate outlet at St Joseph's pump station to the Whakatāne River (two pumps discharging 0.16 and 0.42 cumecs respectively when gravity conveyance is lost). Sullivan Lake provides necessary storage to the system, attenuating peak rainfalls.

At the eastern margin of the Whakatāne South SC is a rural area of mainly steep forest and scrub covered hill escarpment. Seven short steep ephemeral watercourses discharge westwards from this area down to Valley Road. These watercourses respond quickly to rain and can create significant problems in even relatively minor storms by blocking inlet structures to stormwater culverts under Valley Road at the foot of the escarpment. They often discharge large volumes of sediment and erosion debris. There is little room to control this stormwater and catchment debris. The result is disruption to the arterial road and private property and associated costly incident response. These stormwater volumes also contribute to the overall loading of the Whakatāne South stormwater infrastructure.

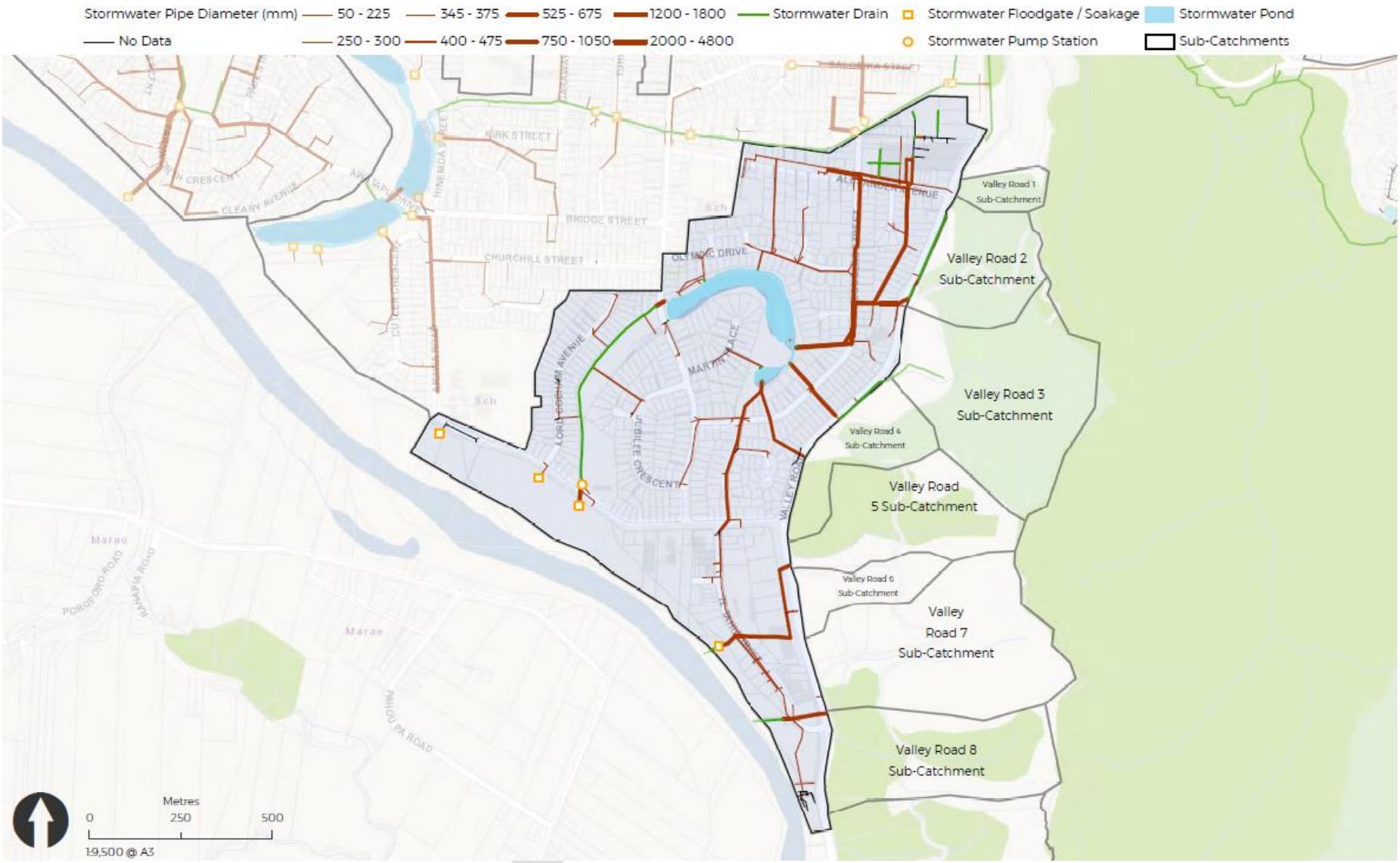

Figure 18: Whakatāne South SC extent

5.3.2 Sub-catchment risks, issues, and actions

Table 11: Whakatāne South SC risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i. Existing network system inadequacies, including St Joseph's pump station has insufficient capacity, the consequence being ponding in upstream reserve area.	Capital works improvements will be scoped and programmed following completion of the hydraulic modelling of Whakatāne urban area project.
Ecological values	i. Sullivan Lake has low ecological value.	
Water quality	i. Sullivan Lake has poor water quality. Stormwater is likely to have a moderate effect on water quality in the lake.	

5.4 Wainui te Whara

5.4.1 Sub-catchment description

This SC encompasses an area (721 ha), including a hill suburb south of Gorge Road and the Waiewe Stream boundary that drains to the Wainui te Whara Stream, which then leads into the Awatapu Lagoon with Salonika Street forming the northern boundary of the catchment. The large majority of this catchment lies outside of the Whakatāne stormwater scheme boundary. The SC area also encompasses part of the township surrounding the lagoon, with Arawa Road forming the southern boundary. The urban subdivisions of Whitehorse Drive and Melville Drive drain to the stream as do a handful of residential properties above Gorge Road – namely Waiewe Street extension, Sel Cave and Bridger Glade. The stormwater infrastructure in the hill area is simple pipe and drainage reticulation to a stormwater pond adjacent to the stream at the end of Whitehorse Drive. At the time of subdivision of White Horse Drive all properties were provided with a stormwater connection to this system. The terrain is steep and gradients in the reticulation are good. The stormwater infrastructure then follows the Wainui Te Whara Stream into Awatapu Lagoon. A large pipe along Arawa Road has the highest discharge from the southern point of the township end of the catchment. The Wainui te Whara Stream has had its capacity and conveyance of the downstream urban channel increased so that it can pass the design flood without risk of overtopping or stopbank failures.

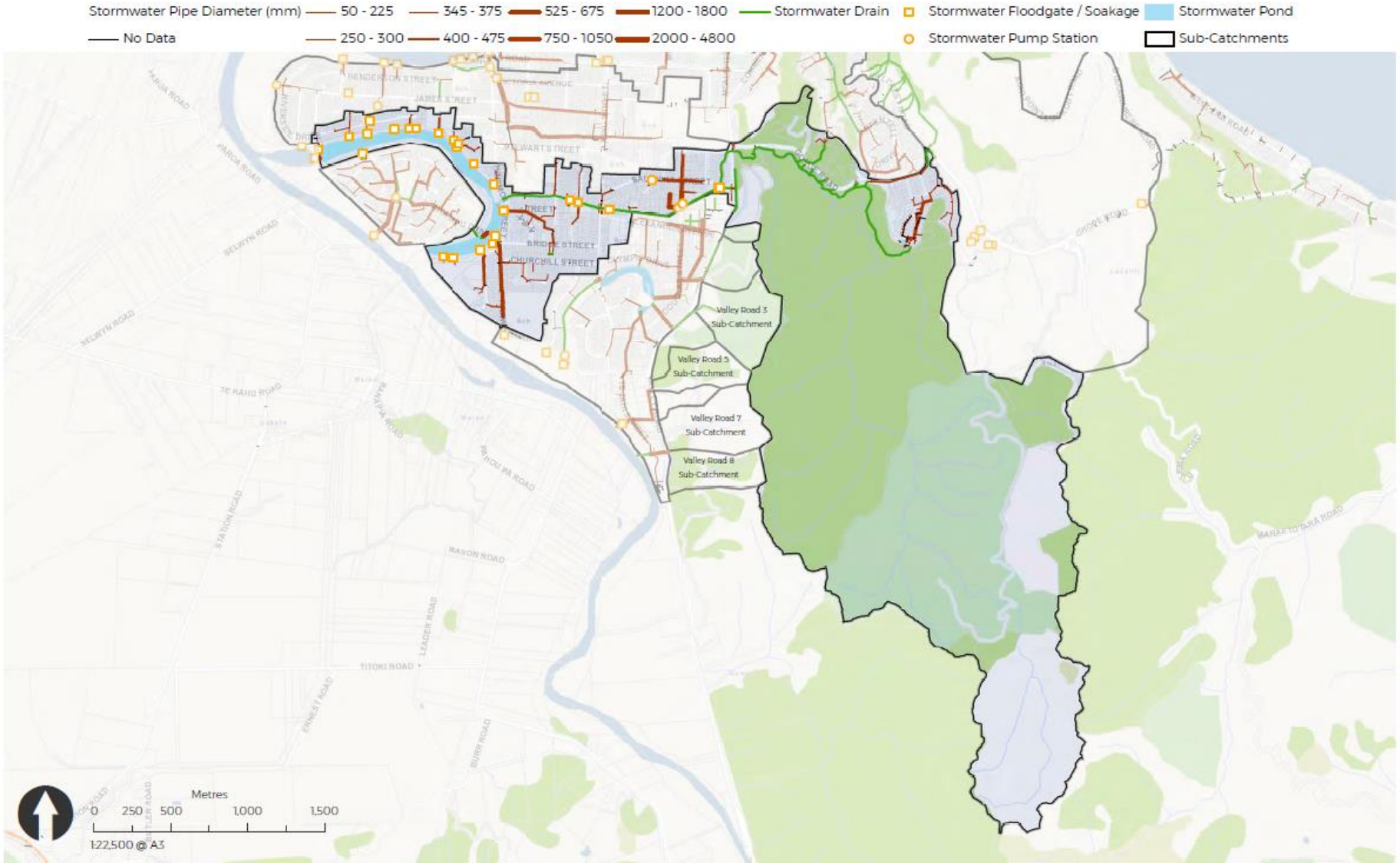

Figure 19: Wainui te Whara SC extent

5.4.2 Sub-catchment risks, issues, and actions

Table 12: Wainui te Whara risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i. Wainui te Whara stream capacity in channel.	In 2016 Council undertook significant works to increase the stream capacity from 18 m^3/s (1 in 20 year) to 32 m^3/s (1 in 100 year). The Council to revisit these outcomes with the addition of climate change scenarios, based on the outcomes of the hydraulic modelling of Whakatāne urban area project.
	ii. Existing network system inadequacies	Capital works improvements will be scoped and programmed following completion of the hydraulic modelling of Whakatāne urban area project.
Ecological values	i. The lower reaches of Wainui te Whara Stream are highly modified with limited habitat.	
Water quality	i. Water quality in Awatapu Lagoon is poor.	

5.5 Awatapu

5.5.1 Sub-catchment description

This SC is the residential area of 45 ha contained between the Whakatāne River cut and the old river course now forming the Awatapu lagoon (Figure 20). The Awatapu Lagoon is not part of the urban Awatapu SC. Rather it forms the boundary. The lagoon was formed when the loop in the Whakatāne River was cut to provide flood protection to the town in the 1970s. This brought an area of previously rural land into the town boundary which was developed by Housing Corporation into the residential area of Awatapu.

The urban Awatapu SC is bounded by the Whakatāne River to the southwest and the Awatapu Lagoon to the north and east. The stormwater from this urban area drains to the Awatapu pump station in the middle of the urban catchment and is then pumped into the Whakatāne River. The two pumps at this pump station have a maximum capacity of 1.35 cumecs and 0.8 cumecs and were refurbished in 2006.

The Awatapu Lagoon receives catchment in-flows from the Wainui te Whara Stream and some stormwater discharges from the south western margins of the Hinemoa SC and the western margins of the Whakatāne South SC. Until 2007 the Awatapu Lagoon only had a gravity discharge to the Whakatāne River. In 2007 a new pump station was constructed at the Awatapu Lagoon to mitigate flooding of the suburb of Awatapu (from lagoon overtopping). This was in response to the Whakatāne River and lagoon flooding that occurred during the 2004 storm event and the inundation of 200 homes in Awatapu and houses to the east of the lagoon. The new pump station was designed for the 1% AEP design storm, and has a capacity of 4.8 m^3/s. Additional pumping capacity has also been incorporated by holding two mobile “Doda” pumps on standby to accommodate the potential impact of climate change, cater for the 0.3% AEP storm event and provide back-up in case of power failure.

Figure 20: Awatapu SC extent

5.5.2 Sub-catchment risks, issues, and actions

Table 13: Awatapu risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i.	
Ecological values	i.	
Water quality	i.	

5.6 Wairaka

5.6.1 Sub-catchment description

This SC is a small urban area of 58 ha to the east of the Apanui SC and east of the lower Wairere Stream channel towards the Whakatāne Heads and lies below the steep bush, privet and scrub covered escarpment (Figure 21). The escarpment is prone to serious landslides as witnessed in recent years above Mātaatua Drive. The urban area is served by soakage in some parts and where this is not feasible, by a simple pipe reticulation that discharges though eight floodgates directly into the Whakatāne River.

Low lying parts of this urban area were badly flooded during the 2004 record flood in the Whakatāne River when Whakatāne Harbour waters flowed back down Muriwai Drive. Flood walls were under construction at the time and were completed shortly thereafter and now provide 1% AEP protection from the Whakatāne River floods to platform height (500 mm Residential and 300 mm Commercial) as per NZS 4404.

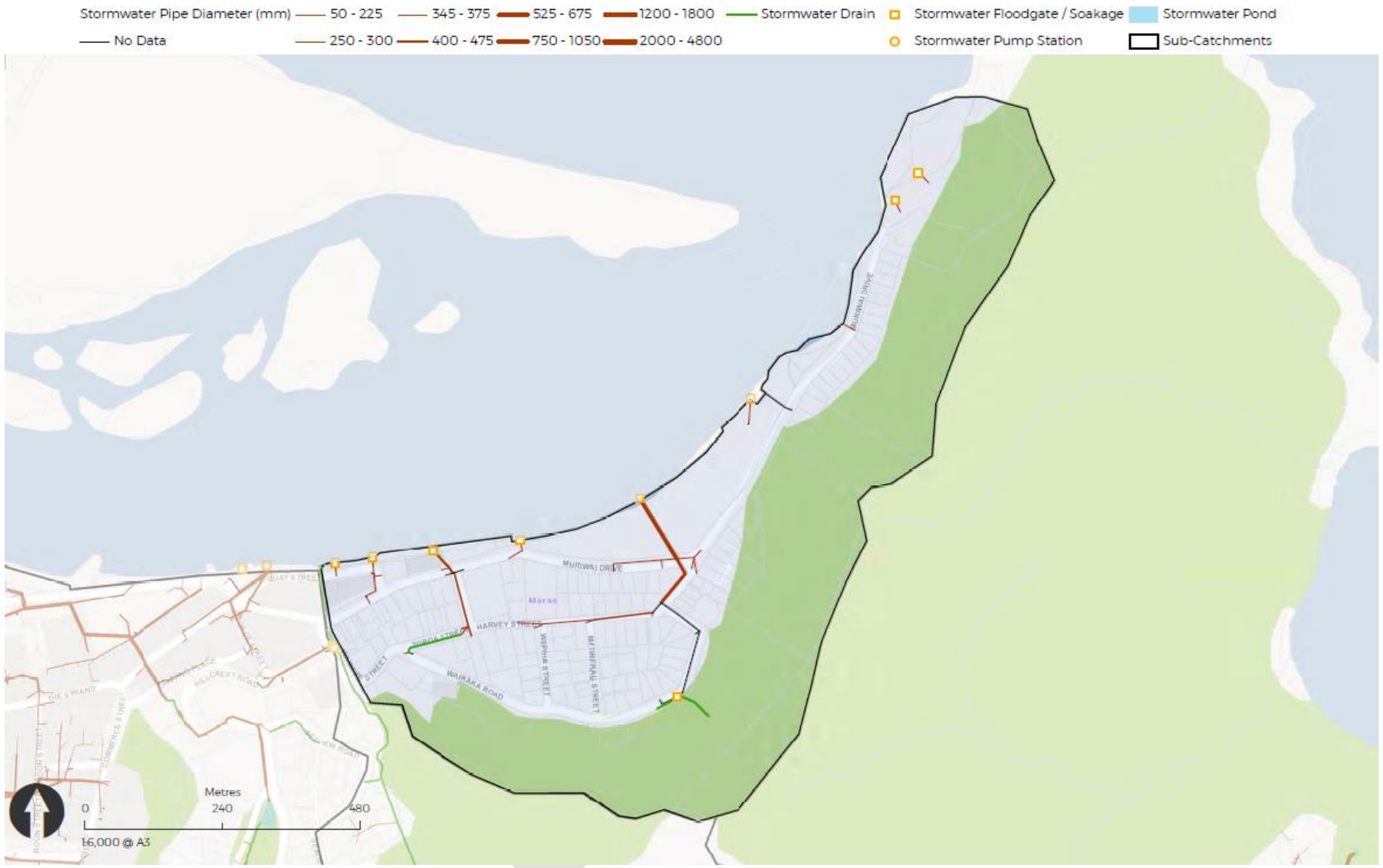

Figure 21: Wairaka SC extent

5.6.2 Sub-catchment risks, issues, and actions

Table 14: Wairaka risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i. Existing network system inadequacies.	Capital works improvements will be scoped and programmed following completion of the hydraulic modelling of Whakatāne urban area project.
	ii. Low lying areas, rely on gravity to discharge to Whakatāne River creating localised flooding during spring high tides.	
Ecological values	i.	
Water quality	i.	

5.7 Wairere

5.7.1 Stormwater zone

This SC drains an area of 302 ha of rural hill country, primarily Ngāti Awa Group Holdings Ltd farmland east of Hillcrest and Ōhope Roads and has its headwaters near the now disestablished Burma Road landfill. A narrow strip of Hillcrest residential land (lying east of the Apanui SC boundary) discharges stormwater to drainage channels and small ephemeral tributaries of the entrenched Wairere Stream. This small SC includes much of Seaview Road, Hillcrest Road above (south) of Seaview Road and Carling Road to the Ōhope Road intersection. The stormwater infrastructure is simple pipe and drainage reticulation with steep gradients to the Wairere Stream.

Where the Wairere Stream passes through town in the vicinity of Clifton Terrace and beneath The Strand East and Quay Street to the Whakatāne River, flood walls provide 1% AEP protection. There have been no reports of flooding from the stream even in the June 2010 storm.

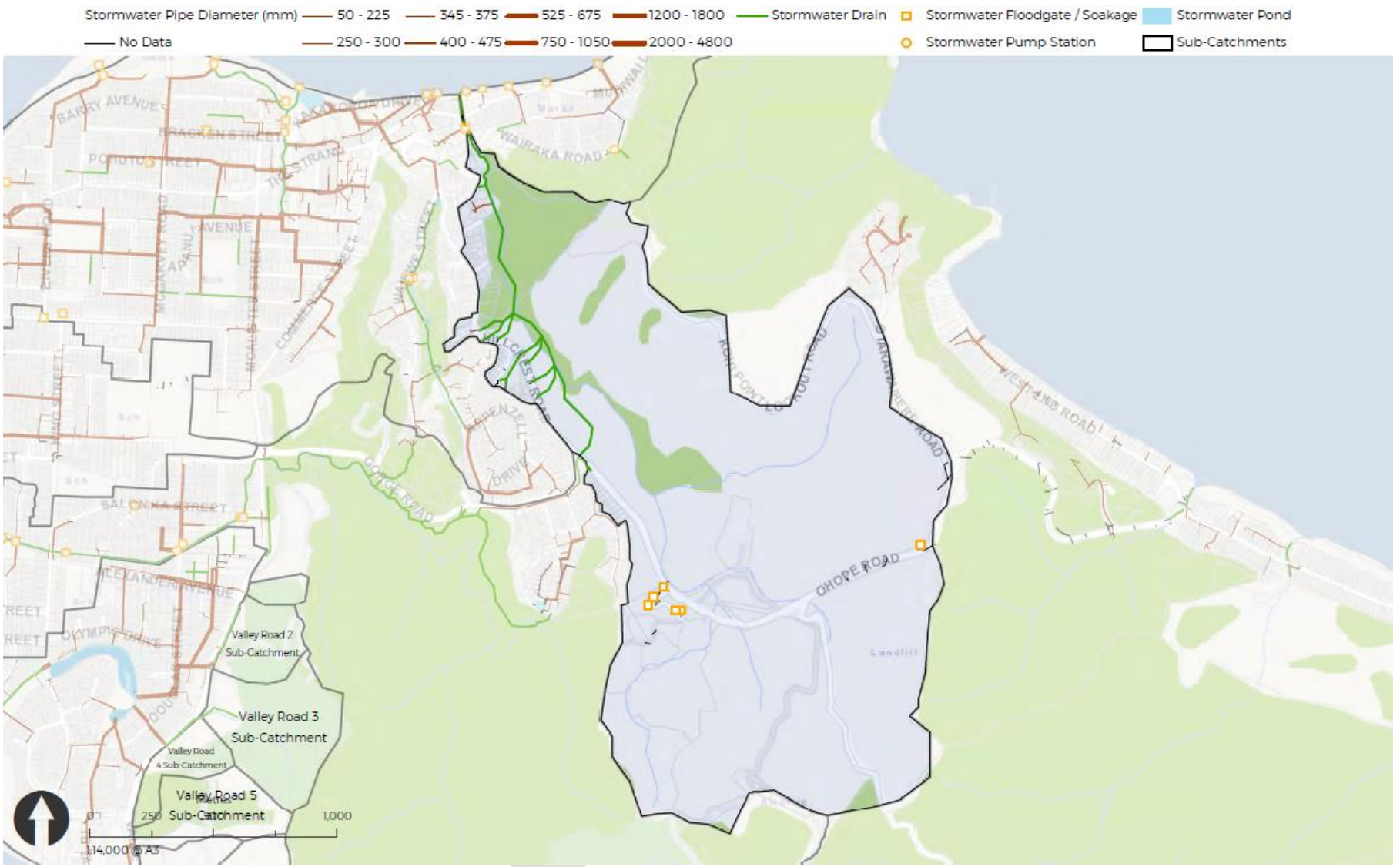

Figure 22: Wairere SC extent

5.7.2 Sub-catchment risks, issues, and actions

Table 15: Wairere SC risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i.	
Ecological values	i.	
Water quality	i.	

5.8 Coastlands Ōpihi

5.8.1 Stormwater

This SC (Figure 23) comprises 127 ha of residential properties and is largely served by ground soakage of stormwater to sandy dune soils. Road runoff cess pits are connected to banks of soak holes located in the road reserve. Overflow from these soak holes is into one of three open space soakage reserves. However, runoff from road and driveway surfaces in the southern part of the Coastlands residential area is piped to a stormwater pond where the water is treated by detention and settling to remove suspended solids before being discharged into the Orini Canal at the Keepa Road Bridge. The Orini Canal thereafter discharges to the Whakatāne River. There are proposals to develop a large area of land to the east of Coastlands, at Piripai. This will be to soakage with a possible need for discharge into the Orini Canal. The large pump station conveying flood and runoff water from the Orini Canal into the Whakatāne River (BOPRC Rivers and Drainage scheme asset) is the responsibility of BOPRC. The Orini canal serves a large rural catchment of low lying land.

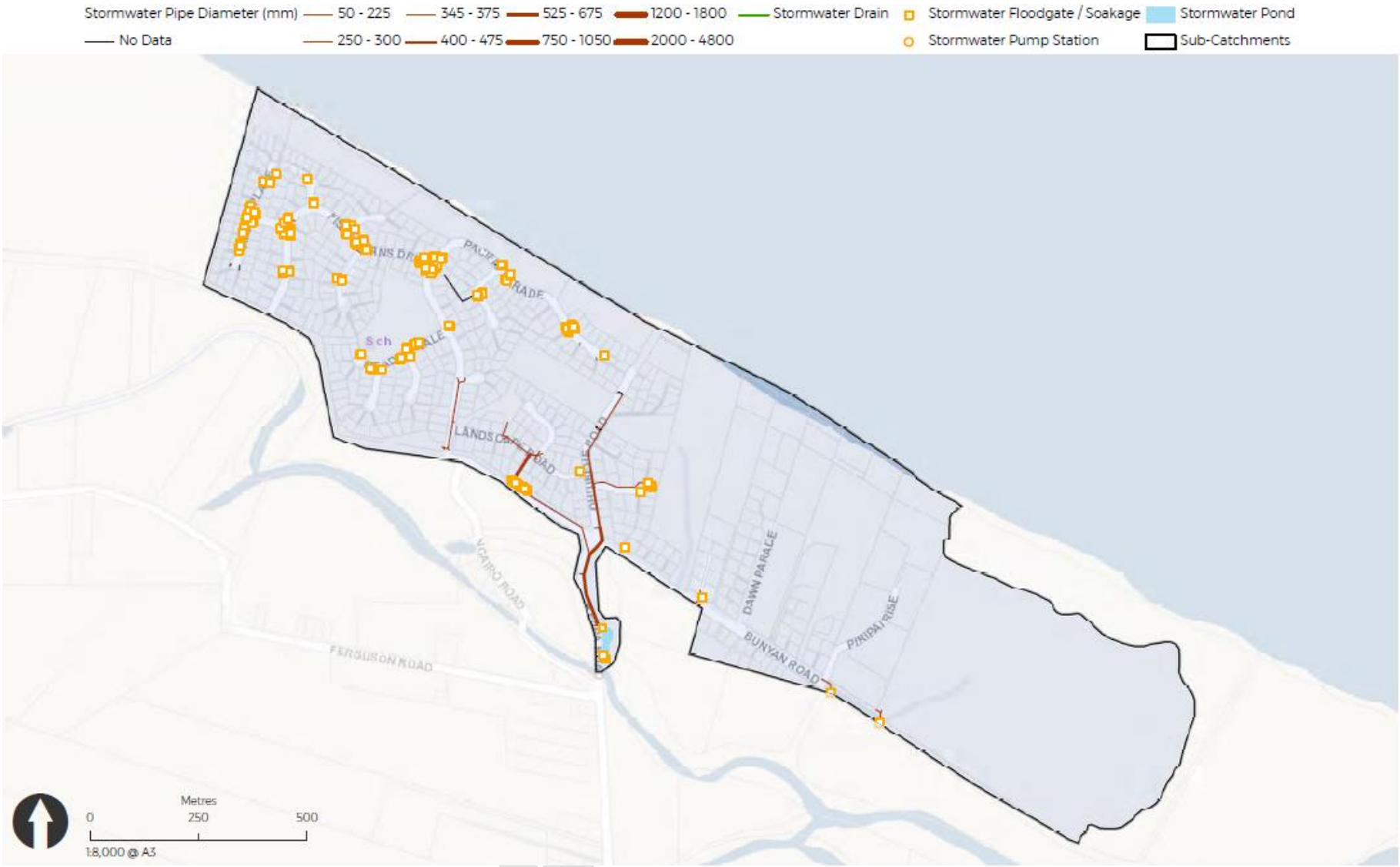

Figure 23: Coastlands Ōpihi SC extent

5.8.2 Sub-catchment risks, issues, and actions

Table 16: Coastlands Ōpihi risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i.	
Ecological values	i.	
Water quality	i.	

5.9 Whakatāne West

5.9.1 Stormwater

The Gateway Drive industrial subdivision of 85 ha north of State Highway 30 has a small gravity reticulation system that discharges via a 900 mm diameter floodgate and pump station (when gravity discharge is not possible) into the Kopeopeo Canal. This in turn discharges into the Orini Canal and then into the Whakatāne River (Figure 24).

The Hub and commercial/industrial areas to the south of the highway have two different discharges. The area east of Phoenix Drive discharges into the Whakatāne River via gravity flow and when necessary a pump station immediately upstream of Landing Road bridge.

The stormwater generated from the Hub west of Phoenix Drive is discharged via gravity flow to the Kopeopeo Canal to the north of State Highway 30 through a 550 mm diameter pipe. On the south of State Highway 30 a stormwater detention pond/basin and pump station has been constructed. In the event that water levels in the Kopeopeo Canal are too high to allow gravity discharge, the pump station discharges to this detention basin. This is necessary as when the level in the Kopeopeo Canal is high the capacity of the discharge pipe under State Highway 30 is insufficient. In longer duration storm events, stormwater ponds temporarily on low areas of the industrial land. A consent for discharge to the Kopeopeo Canal is held for 4.45 m^3/s with the exception of storm events exceeding 1 in 50 years. The Kopeopeo Canal is managed by BOPRC and has a limited capacity for receiving additional flows. Flow is pumped to the Whakatāne River at high river levels.

The Council monitors and maintains publicly owned stormwater assets at the Hub. Monitoring and maintenance of stormwater assets on private property is the responsibility of the property owner.

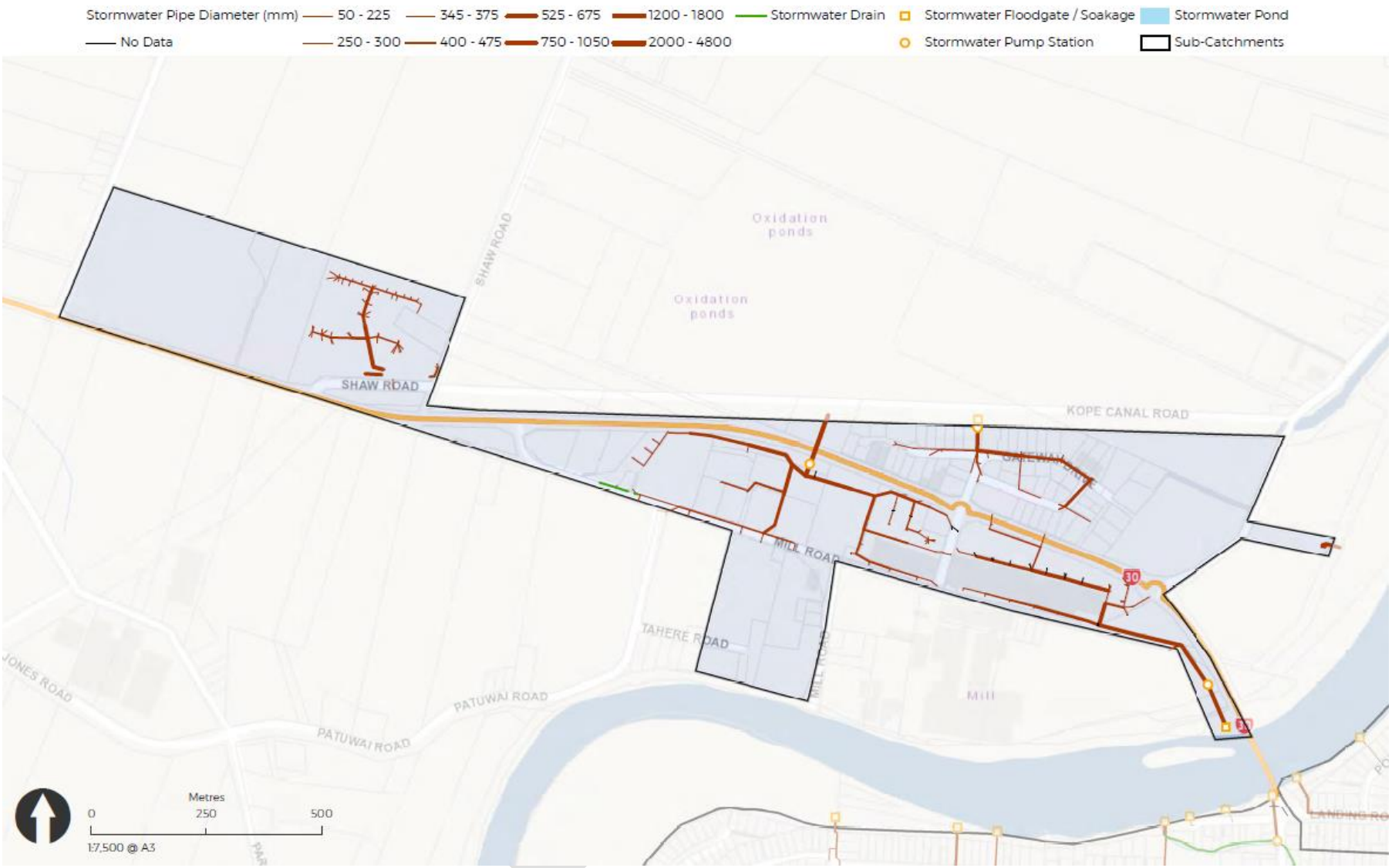

Figure 24: Whakatāne West SC extent

5.9.2 Sub-catchment risks, issues, and actions

Table 17: Whakatāne West risks, issues, and actions

Risk	Issue	Committed action/s
Flooding	i. Proposed boat harbour / marina will directly impact stormwater capacity for industrial area east of Gateway Drive and west of Keepa Road.	Liaise with developer on options / solutions to address the issue
Ecological values	i.	
Water quality	i. Stormwater infrastructure within Mill Road industrial area which has contaminated soils.	None undertaken as private land matters.

6 Stormwater monitoring

To support the CSC application, a draft stormwater monitoring plan ("**SMP**") for the Whakatāne urban area was developed. The SMP identifies sampling locations and includes a comprehensive methodology for collecting stormwater samples, sediment samples, and passive diffusive gradient in thin film ("**DGT**") of dissolved metals.

The purpose of the sampling is to compare results to accepted guideline trigger values to determine whether management or intervention is required to improve the quality of stormwater from the Whakatāne urban area. Results will be reported to BOPRC annually through the CSC.

7 Cultural monitoring and indicators

7.1 Cultural monitoring

The Council will consult with Te Rūnanga o Ngāti Awa ("**TRONA**") to establish effective mechanisms for engaging iwi and hapū in ongoing implementation of the CSC. This will include seeking direction and agreement from TRONA on appropriate cultural monitoring and indicators for inclusion in the SMP. The six yearly review of the SMP will include opportunity to revise the cultural monitoring and indicators in consultation with TRONA.

The Council seeks to develop a Ngāti Awa iwi hapū Engagement Strategy, which will articulate the ways in which TRONA and hapū are involved in the ongoing implementation of the CSC, with particular regard to the SMP.

7.2 Cultural indicators

Various cultural indicators have been identified from review of the NAEP as being relevant to this CMP. Broadly, these are separated into:

- Natural resources
    - Freshwater
    - Land
    - Coastal and marine
- Environmental quality and ecosystems
    - Natural hazards and climate change
    - Biodiversity and ecosystems
- Cultural Heritage, Practices and Identity
    - Waahi Tapu
    - Waahi taonga
    - Cultural practices and identity

- Leadership and unity
    - Technical and cultural capability
    - Working in partnership.

8 Stormwater mitigation measures and management

This section outlines the mitigation and management measures that the Council will undertake to achieve the six yearly targets (section 9.2 of this report) in accordance with the requirements of the CSC for the Whakatāne urban area.

8.1 Stormwater quality

A range of approaches will be used by the Council to minimise contaminant loads in stormwater and corresponding potential for adverse effects in receiving waters. These include infrastructure maintenance and upgrades, operational procedures and revisions, pollution prevention plans, and educational/community engagement approaches. The cumulative effect of the measures described in this section will be to reduce the level of contaminants discharged with stormwater, specifically:

- Reduced bacteria levels through eliminating sewer overflows.
- Reduced incidence of spills to the stormwater system.
- Reduced levels of heavy metals and oils discharged, particularly from commercial/industrial properties.

The effect on stormwater quality will be monitored as proposed in the SMP.

8.1.1 Infrastructure

- Vegetated swales and regular swale cleaning
- Rain-gardens (for new intensive urban developments)
- On site soakage
- Ponding and retention area
- Low Impact Design ("**LID**") principles incorporated into all new stormwater infrastructure and consideration of LID for all retrofitting/upgrades to existing stormwater infrastructure within the Whakatāne urban area (publicly owned)
- Stormwater treatment devices such as sump baskets, gross pollutant (litter) traps, oil interceptors and sand filters.

8.1.2 Operational management

- Street cleaning programmes
- Sump and cess pit cleaning
- De-silting lakes and silt catching structures
- Litter pick-up and screening
- Vegetation control (macrophytes in waterways and bankside)

- Provide clean water flushing flows to lakes/ponds in dry weather
- Procedures for spill response and clean-up.

8.1.3 Pollution Prevention Plans

- Combined Waters Bylaw 2017 to control potential contaminants at source
- Pollution prevention plans as per the Management of Contaminants Procedure to govern process for implementation.

8.1.4 Community awareness

- Community awareness education programmes on preventing contamination of stormwater. Education of the public to not wash contaminants directly into the stormwater system (e.g. wash cars on grass) can also play an important role. As an example, during the fish netting of Waiewe Stream a discharge from a stormwater pipe was observed turning the whole stream a turbid grey and traced back to a person hosing the surface of a newly laid concrete driveway onto the street.
- The Council will work with BOPRC to develop key messaging where territorial and regional authority responsibilities overlap (i.e. catchment water quality) and maintain an open communicative relationship to advance best practice stormwater solutions within the Whakatāne urban area.
- Use of the Council website, social media channels, and individual stormwater related projects/upgrades to communicate public messages for improving stormwater quality.
- Supporting community groups with environmental messaging.
- Targeted messaging for stormwater quality education as a result of specific events (e.g. low quality stormwater monitoring results in a particular location that can be linked to an activity such as car washing or gross pollutant dumping).

The use of treatment devices (i.e. gross pollutant traps, sand filters, swales) to remove contaminants from stormwater is one aspect not covered by the current ECOP, although new and replaced catchpits are fitted with gross pollutant traps in locations where it may be beneficial. The Council intends to update the ECOP to require LID and green infrastructure be considered for all development occurring within the Whakatāne urban area.

The Council can use the Management of Contaminants Procedure to inform the selection of locations where new, replacement, or retrospective fitting of treatment devices through the Combined Waters Bylaw 2017 is to occur. Monitoring in accordance with the SMP will help identify issues and guide an appropriate approach to water quality improvement.

8.1.5 Pollution Prevention Plans and the Combined Waters Bylaw 2017

The Council will put a greater emphasis on control at source to address water quality. The Combined Waters Bylaw 2017 enables the Council to require high risk sites (as defined in Schedule 4 of the RNRP) to prepare pollution prevention plans ("**PPP**"). The PPP must include methods and timeframes proposed to control and minimise contamination of the public stormwater network. The Council's Fees and Charges 2021-24 schedule includes cost recovery for reviewing and monitoring PPP.

The PPP will be important as the CSC will make the Council responsible for all discharges within the stormwater network, and that these plans will be a mechanism for doing so. Responses to pollution incidents within the stormwater network will continue to be managed in conjunction with the pollution response function of BOPRC.

8.1.6 Wastewater overflows

Wastewater overflows will continue to be managed through implementation of the *Regional best practice guide for the management of wastewater overflows.*

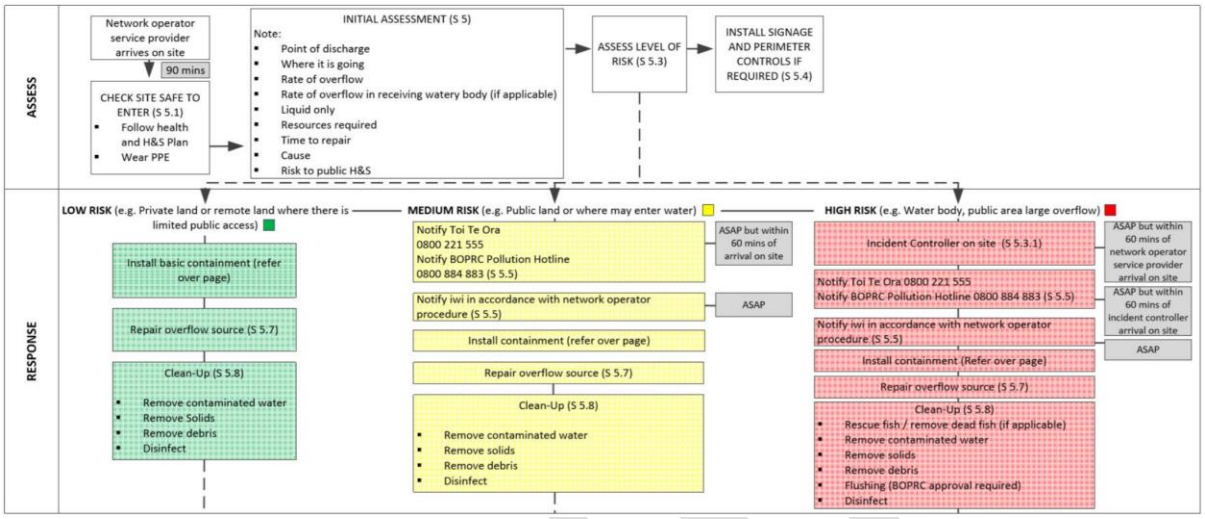

Figure 25: Overview of the assessment and response steps from the Regional best practice guide for the management of wastewater overflows

8.1.7 Contaminated land (HAIL) disturbance

Numerous pieces of contaminated land or HAIL sites exist within the catchment area. In addition to this, there are various pieces of stormwater infrastructure that has been constructed on HAIL sites, as is evident from the Figure 26.

Should maintenance or upgrades be proposed on a HAIL site, the following procedure will be followed:

1. Where maintenance is required on a known or suspected HAIL site a, Preliminary Site Investigation (PSI)[5] (or Detailed Site Investigation (DSI)[6] where needed) be undertaken.

[5] The NES-CS defines **preliminary site investigation** (PSI) to mean an investigation that—
- (a) is done by a suitably qualified and experienced practitioner; and
- (b) is reported on in accordance with the current edition of *Contaminated Land Management Guidelines No. 1–Reporting on Contaminated Sites in New Zealand*, Wellington, Ministry for the Environment; and
- (c) results in a report that is certified by the practitioner.

[6] The NES-CS defines a **detailed site investigation** to mean an investigation that—
- (a) is done by a suitably qualified and experienced practitioner; and
- (b) is done in accordance with the current edition of *Contaminated Land Management Guidelines No. 5–Site Investigation and Analysis of Soils*, Wellington, Ministry for the Environment; and

2. The Council provides BOPRC with the PSI (or DSI, if applicable), disturbance methodology and Erosion and Sediment Control Plan (ESCP) for certification.
3. Where the PSI (or DSI) indicates that the chance of contamination is low and BOPRC accepts the PSI (or DSI), then works proceed in accordance with the earthworks guidelines or any other specific maintenance conditions.

OR

Where resource consent is required under the NES-CS, the consent holder shall seek the relevant consent from the applicable consent authority.

4. All contaminated soils either remain in situ or are disposed of at an appropriately authorised facility.
5. Where soils are removed and remediation occurs, a site validation report is supplied to BOPRC, and to the consenting authority if resource consent is required under the NES-CS.

Scheduled maintenance can be handled as a project annually and all the PSI/DSIs and certification for the entire year can be submitted for pre-approval.

- (c) is reported on in accordance with the current edition of *Contaminated Land Management Guidelines No. 1– Reporting on Contaminated Sites in New Zealand*, Wellington, Ministry for the Environment; and
- (d) results in a report that is certified by the practitioner

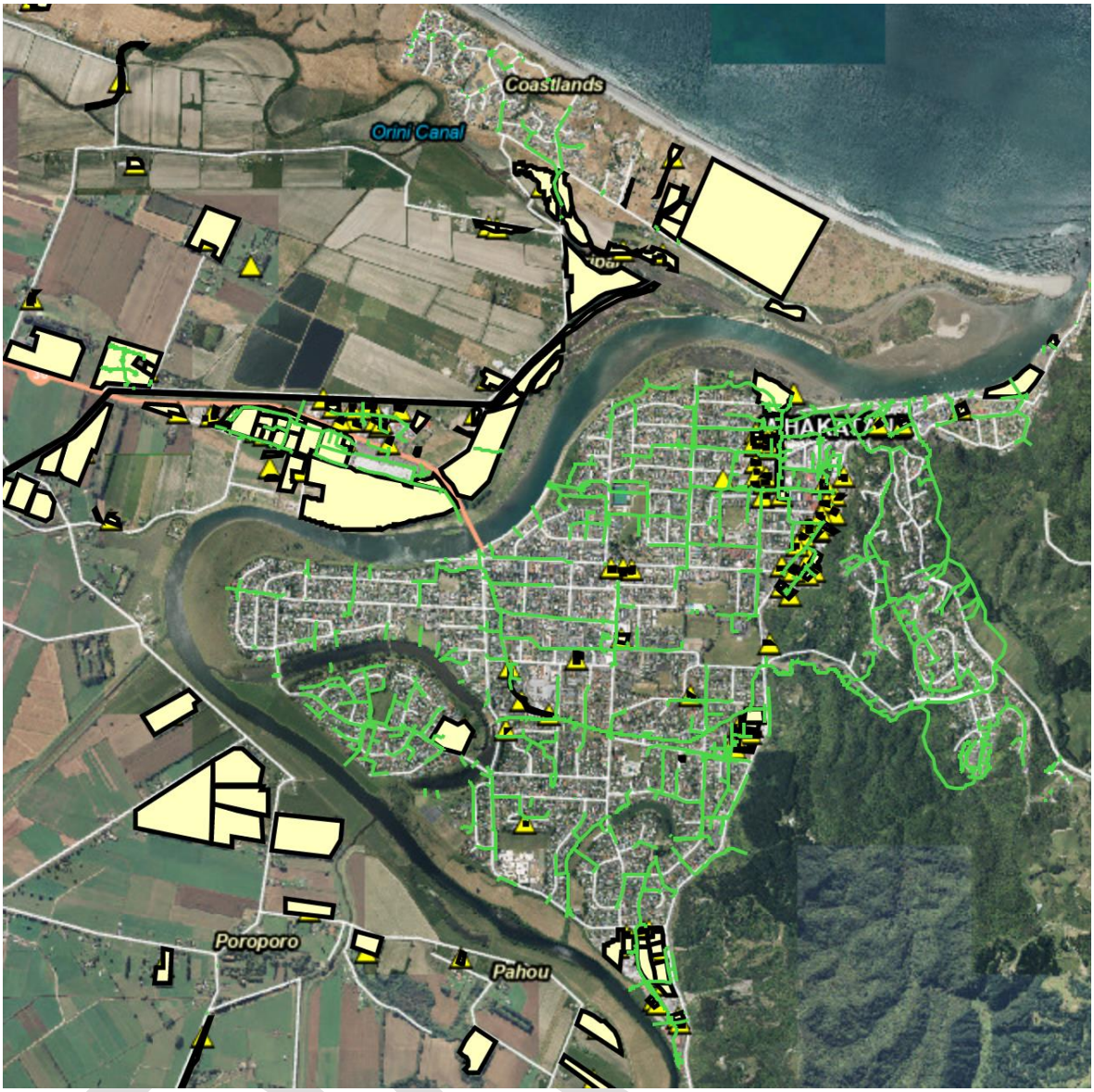

Figure 26: HAIL sites (yellow polygons or triangles) and stormwater assets (green lines) in the Whakatāne Township

8.2 Stormwater quantity

Stormwater quantity issues broadly incorporate conveyance issues from within the Whakatāne urban area to the Whakatāne River. This includes insufficient secondary flow paths and a primary piped reticulation system that does not meet the current 10-year ECOP level of service. Upgrades to help address these issues are identified in the issues and actions tables for each SC.

8.2.1 Mitigating for loss of storage

Land use intensification incrementally increases the intensity and volume of stormwater runoff. While the stormwater flood modelling undertaken for the Whakatāne urban area has an inbuilt assumption of 100% impervious area within the catchment (and therefore 100% runoff), consideration of on-site storage is still required to assist with flattening the peak of the stormwater runoff during rainfall events.

The ECOP requires all subdivision and development to provide onsite storage management for the 10% AEP event as well as being able to convey surface water from a 1% AEP in such a way that it will not enter buildings. Larger developments, such as greenfield developments, are required to submit at the time of subdivision or land use consent application a stormwater solution that results in a hydraulically neutral outcome (i.e. that stormwater runoff from the whole site must be at or below pre-development levels) in order to be approved by the Council. Integrated solutions for greenfield developments are encouraged using on-site soakage to achieve hydraulic neutrality.

The District Plan also requires onsite stormwater management that is capable of disposing surface water from a 10% Annual Exceedance Probability ("**AEP**") event as well as being able to convey surface water from a 1% AEP event in such a way that it will not enter buildings. All activities must ensure that stormwater be detained to discharge at levels no greater than pre-development levels.

The District Plan encourages onsite soakage solutions in areas identified within the Whakatāne urban area that have good ground soakage, as shown in Figure 27. Under rule 13.2.28.4 of the District Plan, "stormwater from properties that are not located in the good ground soakage areas as indicated by the blue shaded areas on the Whakatāne Urban Area – Ground Soakage Plan. Appendix 13.7.4 [Figure 27] shall not be discharged into the Council storm water system unless approved by Council."

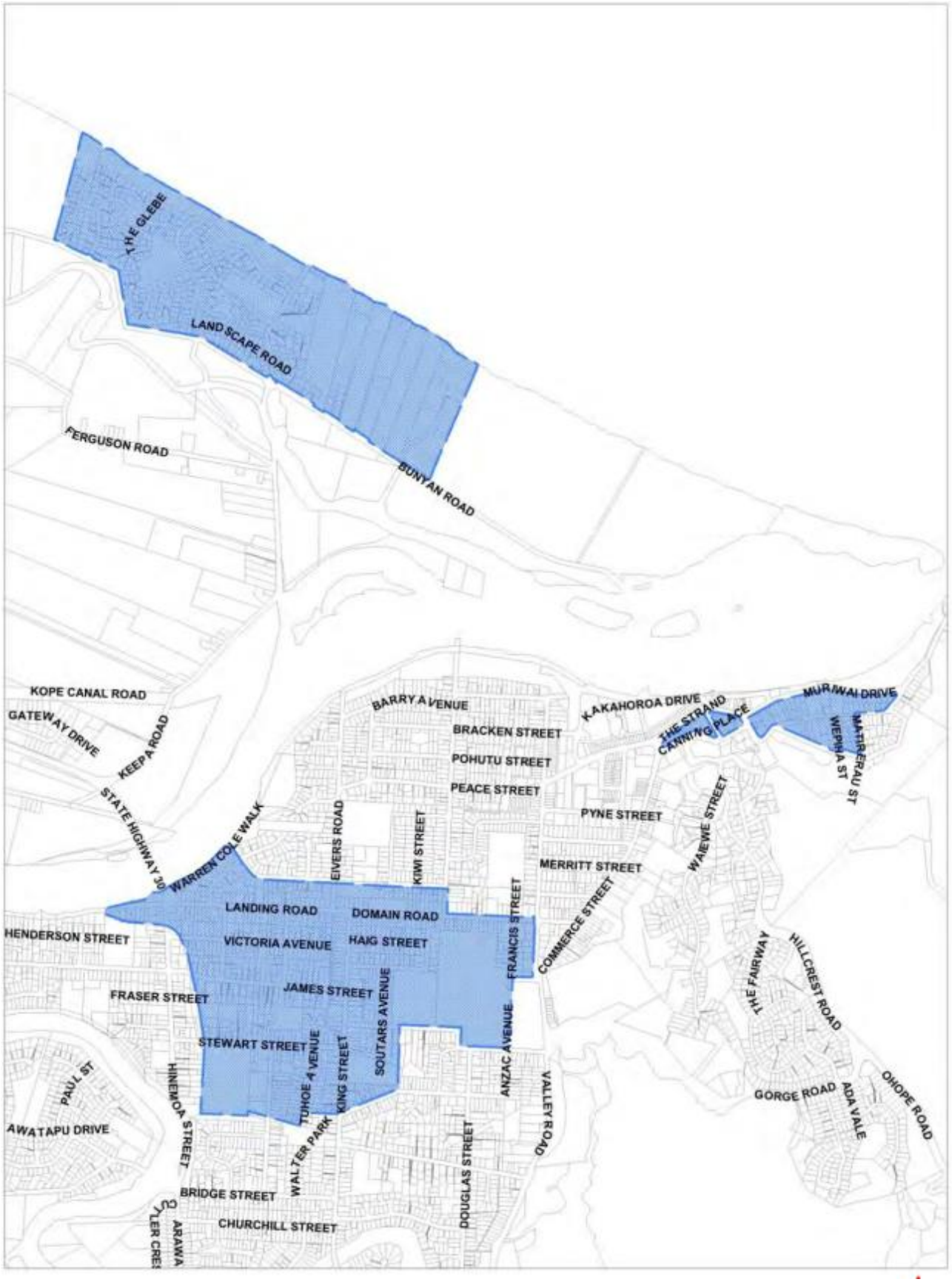

Figure 27: Whakatāne urban area ground soakage plan

8.2.2 Updating the Engineering Code of Practice

The ECOP for the Whakatāne District became operative in 2008 and is based on engineering principles from the preceding decades. As such, the engineering requirements regarding stormwater are considered outdated, not fit for purpose, and based on environmental quantifications (such as rainfall data) that are no longer relevant to the Whakatāne urban area. Previous approaches of conveying stormwater to outside the catchment above all other considerations, is not an appropriate contemporary response to stormwater issues.

The ECOP is to be updated to better reflect the principles and objectives, as outlined in this CMP and the Whakatāne urban area CSC. This will include a full review of current requirements for stormwater, a focus on LID and green infrastructure, and measures to reduce stormwater creation (e.g. on-site attenuation, allowance for on-site greywater reuse), integrated sub-catchment solutions). Additionally, climate change and updated rainfall data is required, along with the ability for the Council to require the latest available information be used (such as updated HIRDS from NIWA).

8.3 Key infrastructure upgrades and timing

This section of the CMP will be updated following each iteration of the Council's LTP process. The resultant LTP will set out any financial commitments for maintenance, repair, and upgrades to the stormwater network.

Key water quantity issues driving infrastructure upgrades are:

- Completion of the hydraulic modelling of Whakatāne urban area project. Once all reviews have been undertaken, the Council will scope and programme capital works.
- Known insufficient secondary flow paths through the Whakatāne urban area.
- Primary system pipes that do not meet the 10 year ECOP level of service. Consequences range from serious ponding threatening floor levels to nuisance ponding of streets in heavy rain.

Upgrades outlined in the LTP 2021-2024 are detailed in Table 18.

Table 18: LTP projects

LTP project	Actions	Planned completion date
Whakatāne Western Catchment upgrade	Primary project is Hinemoa pump station renewal, other infrastructure works based on hydraulic modelling assessment	2024
Whakatāne stormwater network upgrades	Infrastructure works based on hydraulic modelling assessment	2024
Awatapu wetland project	Improving water quality	2023 – 2024
Apanui Linear Park	Stormwater storage capacity and water quality improvements	2023 – 2024

9 Performance measures

Table 20 outlines six yearly targets for each of the strategic objectives that guide this CMP and the CSC for the Whakatāne urban area. As part of the six year review, the Council will assess and report on performance against the six yearly targets and identify any changes that may be required to reflect the desired outcomes for the following six years.

9.1 Reporting

Reporting is required as a way of evaluating past performance against pre-determined performance measures. **Table 19** indicates the performance measure and its reporting timeframe.

Table 19: CMP reporting requirements

Performance Measure	Reporting Occurrence	Due Date
SMP		
• Monitoring	Any exceedance of a trigger following required monitoring	24 hours of receiving results
• Reporting	Annual reporting	September
	Six year review	Within 6 years of commencement of this consent, and within 6 years of the prior review thereafter
Six Yearly Targets	Annual reporting	September
	Six year review	Within 6 years of commencement of this consent, and within 6 years of the prior review thereafter
Strategic Objectives	Annual reporting	September
	Six year review	Within 6 years of commencement of this consent, and within 6 years of the prior review thereafter
Levels of Service	Six year review	Within 6 years of commencement of this consent, and within 6 years of the prior review thereafter

9.2 Six yearly targets

Table 20: Six yearly targets guiding the CMP and CSC for the Whakatāne urban area

	Objective	Six yearly targets
1	Provide a safe, affordable and resilient stormwater system. Explanation Manage existing public stormwater assets and network upgrades to meet agreed levels of services within the budgets set through by the LTP.	▪ Update the ECOP to include specific reference to Best Practicable Option for stormwater reticulation and treatment (i.e. water sensitive design, green infrastructure, and Low Impact Design for various sub-catchments or specific land conditions). ▪ Engage with infrastructure providers, BOPRC, central government departments, iwi and hapū, and environmental community groups on collaborative opportunities for stormwater solutions within the Whakatāne urban area.
2	Reduce flooding and protect the community. Explanation Ensure that risk to people and property is managed to levels that have been established through peer-reviewed flood modelling, and agreed in consultation with the community, and (where practicable) reduce existing flood risk where it is above these levels.	▪ Council flood hazard GIS layer is maintained based on best available data; to be reviewed in line with hydraulic model updates taking into account new data or considerations as specified from central government (including updated climate change scenarios, significant rainfall changes). ▪ Built Floor Level Plan Change is completed. ▪ Complete flood risk and hazard consequence modelling to estimate stormwater flood hazard consequences including building exposure to inundation from stormwater as identified within the Whakatāne Urban Stormwater Modelling Report. ▪ Develop groundwater monitoring programme for establishing climate change water table rises.
3	Facilitate tangata whenua and community involvement in stormwater management, including encouragement to take actions to reduce pollution and to maintain and restore ecosystem health. Explanation Ensuring that there is a collective responsibility for those in the Whakatāne urban area for managing stormwater and associated issues including pollution and flooding.	▪ Mana Whenua Engagement Strategy to be developed which outlines responsibilities of the Council for engagement and expectations for collaboration / partnership on managing stormwater effects. ▪ Work with mana whenua and other parties to identify areas of safe consumption of kaimoana / mahinga kai within the Whakatāne River and other water bodies within the Whakatāne urban catchment. ▪ Engage with infrastructure providers, BOPRC, central government departments, iwi and hapū, and environmental community groups on collaborative opportunities for stormwater solutions within the Whakatāne urban area.
4	Recognise and respect mana motuhake - the whakapapa and relationship that mana whenua has with water ecosystems in their rohe. Explanation	▪ Mana Whenua Engagement Strategy to be developed and approved which outlines responsibilities of the Council for engagement and expectations for collaboration / partnership on managing stormwater effects. ▪ Develop and integrate, in partnership with mana whenua, best practice tools which can be used to effectively measure and assess cultural impacts of stormwater operations and programmes as part of the project scoping, prioritisation and cost-benefit analysis model developed and implemented for all significant projects.

	Objective	Six yearly targets
	Mana Whenua have a relationship with wai and whenua within their rohe; Council respects this innate relationship and the knowledge that mana whenua has with regard to the ecosystems in these areas.	▪ Outline strategy of how TRONA's future Wai workstream will incorporate any new cultural indicators that are outlined in their work: o Develop, in partnership with mana whenua, cultural indicators to be included within the SMP.
5	Protect and enhance ecosystem health of all receiving environments Explanation Stream, groundwater and coastal water values are maintained and enhanced and communities are connected with them. Water bodies in the Whakatāne urban area are integral natural components of the public stormwater system but this must be managed through consideration of reducing the adverse effects of stormwater runoff, implementing Te Mana o Te Wai and enhancing the community connection with waterways.	▪ Provide updated guidance on the criteria for assets to be vested to Council, in accordance with the Best Practicable Option (including consideration of the ECOP (or any subsequent revision or replacement), LID principles, and water sensitive design). ▪ Work with internal and external stakeholders to identify potential collaboration projects for the enhancement of water bodies within the Whakatāne urban area. ▪ Successful implementation of SMP, specifying results, arising issues, and mitigation strategies to reduce identified contaminant loading at any monitored site.
6	Co-design with nature an integrated and regenerative approach to stormwater management and urban design where possible. Explanation Water sensitive principles and Low Impact Design is enabled for new and redeveloped areas and supported by effective stormwater management and good quality infrastructure. Development is undertaken in a way that meets the needs of our communities and maintains and enhances natural water systems	▪ Provide updated guidance on the criteria for assets to be vested to Council, in accordance with the Most Appropriate Practice (including consideration of ECOP (or any subsequent revision or replacement), LID principles, and water sensitive design). ▪ Work with internal and external stakeholders to identify potential collaboration projects for the enhancement of water bodies within the Whakatāne urban area. ▪ Assist with creation of PPP for most appropriate stormwater practice for major infrastructure development i.e. industrial, or urban intensification, using the best available guidance through the ECOP, District Plan and CMP. Note that PPPs are less likely to be co-designed with nature and more likely to be in the form of at-source treatment devices etc., including strong advocacy for Best Practicable Option (i.e. water sensitive design and LID).
7	Address pressures on water bodies at or close to source; Explanation	▪ Identify (artificial) fish passage barriers within the Whakatāne urban area and develop a strategy to reduce fish passage barriers, where appropriate (with regard to ecological considerations) to zero. ▪ Implement PPP Procedure and have a PPP in place for all identified High Risk sites and identify all other sites that that pose a risk to

	Objective	Six yearly targets
	Pressures, being quantity and quality issues arising from the urban environment, if addressed close to the source reduced downstream effects, reduces the complexities of mitigation of multiple issues or sources, and enhances overall stream health.	stormwater management and should be subject to a PPP (ranked in order of risk): o Require a PPP from the top 50% highest risk sites within the Whakatāne urban area that are not within the High Risk Schedule of the RNRP. ▪ Encourage ground soakage in areas identified as Good Ground Soakage in District Plan. ▪ Implement an education programme targeting gross pollutants from public use (i.e. washing cars on driveway) if identified as an issue through the Monitoring Plan monitoring / testing and results. ▪ Identify all private stormwater discharge consents within the Whakatāne urban area and develop strategy for future incorporation of these discharges into the CSC upon their surrender or expiry.
8	Collect and share information to promote common understanding of urban water issues, solutions and values; Explanation Participation and buy-in from the public and community will rely on an understanding of issues in which they may be contributing to, or have the ability to help reduce. Council will benefit from being at the forefront of technology, research and local government best practice for creating urban stormwater solutions that have positive outcomes for the environment and community.	▪ Active participation the Council in formulation of National Objectives Framework values for any Freshwater Management Unit (FMU) that the Whakatāne River is included within through the NPS-FM. ▪ Engage with industry, BOPRC, and central government on initiatives to consider the feasibility of, and where possible, implement, source control of key stormwater contaminants.
9	Increase resilience to natural hazards and climate change.	▪ Encourage ground soakage in areas identified as Good Ground Soakage in District Plan, including guidance for soakage devices as required, treatment guidance, and level of soakage for pervious surfaces. ▪ Implement the Council's Climate Change Strategy 2020 as it relates to urban stormwater. ▪ Provide information on the Council's website with regard to minimising water use and encouraging the reuse of water.
10	Encourage water reuse.	▪ Review ECOP (or any subsequent revision or replacement), District Plan and building consent processes to encourage low flow fixtures in all new developments (including new dwellings) as well as modifications to existing buildings and activities, and enable the use of greywater for onsite use. ▪ Encourage onsite storage of stormwater detention or attenuation on private residential properties for reuse as a greywater system or slow release into the stormwater reticulation network. ▪ Provide information on the Council's website with regard to minimising water use and encouraging the reuse of water.

10 Review of the CMP

10.1 Review process

This CMP is designed to support and direct the Council in its management of the urban stormwater network. Through the CMP, the Council will use adaptive management[7] principles in its ongoing management and monitoring of the stormwater network. The use of adaptive management facilitates the management of risk whilst enabling development and/or use whilst ensuring the protection of identified environmental values. To achieve this, the CMP contains:

- Reliable baseline information on the receiving environment/s and the existing stormwater discharges (included in Appendix B)
- Limits as determined by consent conditions to require effective monitoring of the receiving environment using appropriate numeric indicators
- Predetermined monitoring of environmental indicators (as per the SMP in Appendix C)
- Limits/trigger levels to compare monitoring against to detect effects before they become damaging
- Remedial process to determine actions which can be taken to prevent any effects arising from becoming irreversible.

The CMP will be reviewed every six years. The purpose of the review process is to evaluate the success and/or failure of the planned management and mitigations undertaken, then through an evaluative process look into practicable solutions likely to better mitigate any adverse effects that monitoring has identified.

The process for utilising adaptive management within the lifecycle of the CMP is depicted in Figure 28.

Figure 28: Process adopted to facilitate the formation and review of CMP

[7] *Adaptive management is "a system for managing the effects of (generally) large projects where the nature and extent of those effects is uncertain and the outcome of methods to avoid, remedy or mitigate them is similarly uncertain. Adaptive management regimes are commonly established through conditions of consent incorporating management plans which seek to manage the effects of any given activity in a flexible and responsive manner*". Board of Inquiry – NZTA's Transmission Gully Project

10.2 Alignment to the LTP

This CMP will be reviewed every six years in alignment with every second LTP cycle. This timeframe is in order to ensure that any capital works and infrastructure requirements necessary to facilitate the next six years' management of the CSC and updates to the CMP are adequately incorporated into the LTP with appropriate funding.

The first such review of the CMP is expected to be provided to BOPRC within six months of the provision of the Six Yearly Stormwater Network Discharge Review, which is required as a condition of the CSC consent. All changes recommended to the CMP through the Six Yearly Stormwater Network Discharge Review must be clearly documented. If changes are recommended but not enacted, clear justification must accompany the CMP for review by BOPRC.

10.3 Changes to catchment physicality / land use / boundaries

This CMP relates to the Whakatāne urban area which is defined through the overall catchment map (Figure 1) and sub-catchment maps throughout this CMP and included in Appendix B. The requirements of this CMP do not apply outside of these defined areas but may be used as a guide for development in other areas of the Whakatāne District, particularly urban or greenfield developments.

Developers and landowners outside of the CMP's defined area can request the Council to incorporate additional areas into the CMP. Any land development contiguous to the Whakatāne urban area that proposes to connect to the municipal stormwater network will be required to be incorporated into the CMP and be subject to the requirements set out in this document. Any stormwater infrastructure proposed to be vested to the Council from land development adjacent to the Whakatāne urban area will be required to meet the standards and intent of this CMP and be incorporated into the Whakatāne urban area by way of reviewing the CMP.

It is anticipated that any resultant stormwater discharges from developments within the SC defined in this CMP are covered under the existing CSC, assuming land use consents have been obtained and the design of the stormwater infrastructure complies with the latest ECOP.

The Council can also initiate changes to the CMP outside of the six yearly review for any reason, including any relevant updates to legislation, the District Plan, regional plans, flood or hazard identification for the Whakatāne urban area, formal requests from TRONA for the incorporation of cultural values and indicators, changes to the ECOP, changes to stormwater related infrastructure or funding, events changing the nature or characteristics of the catchment, or any other matter considered to have a material effect on implementing this CMP.

Land identified through any the Council process as ideal for future development (residential, commercial, industrial, etc.) or proposed to be developed as above will result in a review of the CMP. This is to include all relevant changes to the catchment and SC maps, catchment descriptions, infrastructure provision for the SC, and values of the SC.

Any changes outside of the six yearly review described in section 9.2 will still require the CMP to be submitted to BOPRC for certification in accordance with the consent conditions of the CSC. The latest version of the CMP remains the official version until such time as the changes are approved by BOPRC.

Table 21: Process for incorporating greenfield developments into the CSC

Step	Action
1	Persons responsible for development/s are responsible for obtaining their own land use consent, discharge consent, and any other necessary consents associated with placement/use of structures in the river/stream.
2	When considering the resource consent application, BOPRC will consider the proposed designs and the appropriateness of the designs in respect any design specifications included in the Council's CSC consent conditions or the CMP.
3	BOPRC will seek the Council's approval as an affected person (under s95E of the RMA) as to the suitability of the proposed discharges and designs and the intent of the Council to inherit the completed network and infrastructure upon its completion.
4	Upon completion of construction, stabilisation and any rehabilitation required by consent conditions, the consent holder can apply to the Council to transfer the resource consents. If accepted by the Council, the Council will then become the asset owner and responsible for the discharges, use and maintenance of structures authorised.
5	The Council will amend the CMP to incorporate the developed area and its stormwater assets, then re-submit the CMP to BOPRC to certify.
6	The original BOPRC resource consent for the development's stormwater network will then be surrendered, with the developed area and its stormwater assets managed under the Council's CMP.

Appendix A. DRAFT Management of Contaminants Procedure

Management of Contaminants Procedure

DRAFT

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Table of contents

1 Introduction

Whakatāne District Council ("**the Council**") has a duty under the Resource Management Act 1991 (**"RMA**") to safeguard the life-supporting capacity of water and avoid, remedy, and mitigate any adverse effects of activities on the environment, while allowing the use of resources that provides for people and communities to achieve their social, economic, and cultural wellbeing and to protect their health and safety.

With regard to stormwater, this means that the Council must work toward maintaining or enhancing water quality in areas it has jurisdiction while not unduly restricting businesses, communities, industries, and persons from undertaking activities that enhance their wellbeing. The Council has elected to implement its obligations through the Combined Three Waters Bylaw 2017 ("**Combined Waters Bylaw**") and a comprehensive stormwater consent ("**CSC**") for the Whakatāne urban area.

Through the Combined Waters Bylaw, the Council can require Pollution Prevention Plans ("**PPP**") to be developed for sites deemed to be high risk for contaminants entering the public stormwater network. The Council intends to use this mechanism as a key tool to help manage overall stormwater quality within the Whakatāne urban area, in addition to achieving the stormwater quality requirements that are likely to arise from the CSC. As the Council will be responsible for urban stormwater quality upon approval of the CSC for the Whakatāne urban area, guidance is needed to implement the Combined Waters Bylaw, and particularly the PPP mechanism, as a tool for improving stormwater quality.

2 Background and requirement

The Council has prepared a catchment management plan (**"CMP**") for the Whakatāne urban area for the purpose of improving the quality of urban stormwater discharging into the Whakatāne River. The Council lodged a CSC application with Bay of Plenty Regional Council (**"BOPRC**") in 2001 to cover the numerous existing discharges and associated structures as required due to the impending expiry of existing use rights for activities predating the RMA's enactment. However, BOPRC placed the application on hold until a suitable CMP was prepared to support the CSC's implementation. In the interim, the discharges and associated structures listed in the CSC are subject to s124 of the RMA, which allows for existing consented activities to continue until a new consent is granted. This procedure will assist the Council with managing contaminants that may enter the stormwater system and forms a key component of achieving the objectives of the CMP and CSC.

3 Purpose of this procedure

The purpose of this management of contaminants procedure ("**procedure**") is:

- To set minimum standards for stormwater discharges and runoff from high risk sites
- To set the framework and methods for requiring PPP from high risk sites.

The CSC will cover all stormwater discharges from the Whakatāne urban area. As a result of this universal coverage, the Council will be responsible for the discharge quality and therefore requires mechanisms to ensure businesses and facilities discharging into the network will not unduly negatively affect the water

quality requirements of the CSC. This procedure will enable minimum standards to be met onsite for identified areas that are considered high risk in relation to stormwater quality discharges and runoff, with PPP as a tool for regulating and monitoring stormwater discharges into the public stormwater network. In addition, this procedure will help the Council to identify methods for action and enforcement if specific sites fail to comply with discharge quality standards.

Part Five of the Combined Waters Bylaw allows for the Council to regulate stormwater quantity and quality, in addition to being able to require PPP to be developed for facilities classified High Risk under Schedule 4 of the Bay of Plenty Regional Natural Resources Plan ("**RNRP**"). This procedure will set out the framework and methods for the Council to implement its requirements comprehensively and objectively while providing certainty to business and facility owners on the process for the requirement of a PPP.

4 Area jurisdiction

The public stormwater system is defined in Regulation 4 of the Combined Waters Bylaw as "*a set of facilities and devices (e.g. pipes, drains, detention ponds, curb and channelling and waterways) either man-made or natural, which are used to convey stormwater, reduce the risk of flooding and to improve water quality. It includes any stormwater system that serves more than one lot and is not part of a private stormwater system."*

While this procedure focuses on the Whakatāne urban area, a PPP can be required for any site deemed High Risk under Schedule 4 of the RNRP and discharging into the public stormwater reticulation network as defined within the Combined Waters Bylaw. While any area considered to incorporate public stormwater facilities can be included within this procedure, the focus will generally be on the following areas:

- Whakatāne urban area
- Ōhope
- Tāneatua
- Te Mahoe
- Murupara
- Matatā
- Te Teko
- Edgecumbe.

Any discharges into the public stormwater network can be subject to the requirements set out in Part 5 of the Combined Waters Bylaw, regardless of location. It is therefore inferred that the public stormwater system is owned and controlled by the Council (i.e. not private). Each premises shall have a single point of discharge and private stormwater systems may only serve a single premises unless it is a common stormwater system as approved by the Council in accordance with Regulation 63 of the Combined Waters Bylaw.

5 Legal authorisation

5.1 Combined Waters Bylaw

The Council is provided with the necessary powers to make and enforce bylaws under Part 8 of the Local Government Act 2002 ("**LGA**"). All territorial authorities can make bylaws for a district for the purposes of protecting, promoting, and maintaining public health and safety (s145(b) and s146 of the LGA) for specific purposes. The Combined Waters Bylaw was approved in 2017 in accordance with these two sections of the LGA in addition to section 64 of the Health Act 1956 which provides for improving, promoting, and protecting public health. All owners and occupants within the Whakatāne District are required to abide by the constraints of the Combined Waters Bylaw and any subsequent requirements stemming from the approved regulations.

The Combined Waters Bylaw will be the main mechanism for assisting with the regulation of stormwater quality from industrial, commercial, and business sites that connect to the public stormwater on an ongoing basis.

The objectives of Part 5: Stormwater of the Combined Waters Bylaw are to:

- Control the discharge of contaminants into the public stormwater system
- Enable the Council to meet relevant objectives, policies and standards for discharges from the public stormwater system
- Protect the land, structures and infrastructure of the public stormwater system
- Prevent the unauthorised discharge of stormwater into the public stormwater system; and
- Define the obligations of the Council, installers, owners and the public in matters related to the discharge of stormwater and management of stormwater systems.

The Council intends to use the regulatory mechanisms of the Combined Waters Bylaw to achieve these objectives.

5.2 Whakatāne District Plan

The Whakatāne District Plan ("**District Plan**") outlines the objectives, policies and objectives set by the Council to achieve the purpose of the RMA. Chapter 13 Transportation and Services includes the requirements that must be considered by landowners and occupiers of any lot within the Whakatāne District. All proposed activities will be subject to compliance with the District Plan and should be consistent with the suite of relevant objectives and policies. A resource consent is required for an activity that is contrary to the District Plan rules. However, an overarching CSC will override the requirement of individual sites to obtain resource consent to undertake an activity incorporating discharges to the stormwater network, provided the conditions of the CSC are met.

The relevant District Plan objectives and policies include:

Objective TS5: prevent uncontrolled or unauthorised disposal of stormwater, wastewater and sewage into the environment.

Policy 1: To ensure stormwater, sewage and other wastewater is detained, collected or removed from a lot or a site without causing an adverse effect on the natural environment or on other property, or to people.

Policy 2: To encourage where practicable the use of low impact design and retention based stormwater solutions for the treatment and disposal of stormwater.

Policy 3: To ensure that stormwater and floodwater is managed in accordance with catchment management plans and discharge consents.

The rules that must be complied with for proposed activities that will generate stormwater include those outlined in Chapter 13 of the District Plan:

13.2.28.1 *No building shall be located closer than the greater of;*

a) 1.5m from the centre of any public stormwater line or;
b) The sum of depth of the centreline of the line, plus the diameter of the line, plus 0.2m from the centre of that.

13.2.28.2 *A stormwater disposal system shall be provided to any residential, community or business activity or to any lot to be used for one or more of these activities which includes primary and secondary control systems that;*

a) shall be capable of disposing of surface water resulting from a rainfall event having 10% probability of occurring annually. This system shall contain or dispose of stormwater on site, or direct it into a designated stormwater reticulation and disposal system;
b) shall provide a secondary flow system capable of conveying surface water resulting from a rainfall event having a 1% probability of occurring annually to ensure that surface water shall not enter buildings (detached garages excluded); and

13.2.28.3 *Non-compliance with Rule 13.2.28 shall be a Restricted Discretionary activity.*

13.2.28.4 *All land use and subdivision development in the Whakatāne Urban Area (including the Hub, Coastlands, Piripai and the Gateway industrial area) shall comply with water quantity and quality provisions in the Whakatāne Urban Stormwater Catchment Management Plan and in addition;*

a) all activities shall ensure that stormwater shall be detained to discharge at levels no greater than pre-development levels;
b) stormwater from properties that are not located in the good ground soakage areas as indicated by the blue shaded areas on the Whakatāne Urban Area – Ground Soakage Plan. Appendix 13.7.4 shall not be discharged into the Council storm water system unless approved by Council.

13.2.28.5 *Noncompliance with Rule 13.2.28.4 shall be considered a Restricted Discretionary activity;*

13.2.28.6 *Open water-courses, where permitted, shall be located in a drainage reserve or easement vested in Council.*

Larger scale developments, including multi-lot subdivisions and builds and greenfield development, do not have an automatic right to connect to the Council stormwater reticulation, particularly if assets are intended to be vested to Council upon completion of the development. These developments and activities may be required to obtain their own stormwater discharge resource consents from BOPRC if necessary, and then transfer the consent to the Council at the same time as the vesting of the assets. It is the developer's responsibility to ensure that the assets and stormwater discharge quality meets the standards of the CSC prior to the Council accepting the assets and responsibility for the stormwater discharge quality and quantity.

6 Stormwater quality

Stormwater is defined for the purposes of Part 5 of the Combined Waters Bylaw as: *any water which enters directly (e.g. through a pipe or stormwater drain (or overland into the public stormwater system))*. It also includes ground and artesian water, overflows from the wastewater system, and water from site development and construction activities. However, the CSC will not authorise overflows from the wastewater system or from site development or construction activities. This procedure outlines what sources of contaminants are acceptable from sites into the reticulated stormwater network and the discharge of all stormwater is not automatically guaranteed.

Stormwater in relation to the requirements of the RNRP is defined as *short-term runoff associated with rainfall events.* The definition under the Combined Waters Bylaw does not apply to interpretation of the RNRP.

7 Acceptable sources of contaminants under the PPP

In accordance with Regulation 55 of the Combined Waters Bylaw, a person may discharge contaminants into the stormwater network if it is a permitted activity under the regional plan, approved by a resource consent, or authorised through the CSC. As such, given the intended wording of the CSC to incorporate a wide range of sources rather than exclusively rainfall runoff, theoretically a person may apply to discharge water from any range of sources into the stormwater network, provided there are approved management and treatment options implemented prior to the discharge that prevent the discharge of contaminants into the public stormwater network. However, there are technological and financial constraints associated with some contaminants that mean discharging into the stormwater network is not a viable option. In these instances, a trade waste consent will need to be obtained and these discharges directed to the wastewater network. The Council expects the discharge of waste from the business operation of any trade premises to be to the wastewater network through a trade waste consent.

Generally, runoff from carparks, accessways, and roofs could be accepted into the stormwater network provided appropriate pre-treatment is in place on the site such as enviropods within catchpits or raingardens. Other sources, such as truck washes or spill bund areas are unlikely to be accepted into the stormwater reticulation network due to the contaminant type and loading. A number of sites will be required to hold both a trade waste consent and a PPP to manage the different waste streams and subsequent discharges, such as a wash down area being directed to the wastewater network, and a roof and accessway being directed to stormwater after passing through a treatment device.

Applicants for building consent for new buildings or new activities are expected to engage with the Council's Three Waters staff to discuss the best practicable option for their site and activities. The Council reserves the right to ultimately decide whether to accept discharges into either network, with particular regard to the type, reputability and failsafe nature of proposed treatment devices.

Discharges from the following activities are highly unlikely to be accepted into the stormwater network:

- Grease traps from food preparation facilities
- Spill bund areas
- Areas accommodating heavy machinery or outdoor storage areas
- Areas of bare earth where there is a likelihood of sediment runoff
- Truck washes.

8 Pathways for stormwater discharge compliance

The Council intends to use the CSC to regulate stormwater quality discharging to surface water. The CSC will provide for all discharges to the stormwater network within the urban area to be authorised under the one consent, with the Council bearing ultimate responsibility for the discharge quality and quantity of stormwater into the Whakatāne River. The CMP will guide the management of stormwater within the urban area.

8.1 Regulation 55 of the Combined Waters Bylaw

Regulation 55 of the Combined Waters Bylaw specifies that:

1) No person shall allow the discharge of contaminants, either directly or indirectly, into any part of the stormwater network unless:
   a) The discharge is permitted by a rule in a regional plan;
   b) Is authorised by a resource consent; or
   c) Is authorised by a Council stormwater discharge consent.

Persons should be aware that if they wish to view a discharge associated with an activity as a permitted activity under the RNRP (i.e. Regulation 55(1)(a)) in order to avoid a PPP, then the discharge must meet the definition of stormwater in the RNRP: *short-term runoff associated with rainfall events.* As such, the discharge cannot include runoff from wash-down areas, grease traps etc where the discharge is generated from a source other than rainfall.

The Council reserves the right to require all sites and persons to ensure discharges into the public stormwater reticulation network do not result in subsequent discharges into water bodies (including the Whakatāne River) by the Council exceeding the minimum quality requirements specified in either a regional rule for a permitted activity, or within an approved CSC, whichever value is lower. Where applicable, the Council may require a lower threshold for the discharge of contaminants from identified sites or areas of the urban township in order to meet overall standards under the CSC pursuant to Regulation 55(1)(c) of the Combined Waters Bylaw.

8.2 Existing consents and authorised discharges

The Council will review all existing consented discharges that enter the public stormwater network within the Whakatāne urban area. In addition to any consent for discharge from BOPRC, the Council may require a PPP be submitted and approved for the site pursuant to Regulation 59(3) of the Combined Waters Bylaw. The Council may accept an alternative plan that sufficiently addresses the issues outlined in Regulation 59(1), such as one prepared for the BOPRC discharge consent.

Upon approval of the CSC, existing consent holders will be encouraged to replace their BOPRC consents with PPPs and compliance for the discharge will fall under the CSC. The Council cannot force consent holders to surrender consents; however, given that it is likely a PPP will be required for these sites, surrendering the existing consent and enacting a PPP for the site will provide a streamlined compliance process for these sites rather than needing to provide information for two sources of monitoring.

If consent holders are not willing to surrender consents, then the consent(s) will run concurrently with the requirement for a PPP for the duration of the consent term. Having a resource consent from BOPRC for stormwater discharge does not impact on whether a PPP will be required or not; they are separate processes enacted under differing legislation. However, the Council will not encourage replacement consents upon expiry of the discharge consents. The preferred option is a PPP for the site, which would come in under the conditions of the CSC. The Council would be an affected party pursuant to s95E of the RMA for any applications to discharge stormwater or contaminants from a private site into the Council controlled stormwater network.

8.3 New discharges and existing unauthorised discharges

Sites that are operating outside of the parameters of the CSC will require resource consent from BOPRC to undertake the discharge if it is unable to meet the requirements of the permitted activity criteria within the RNRP. However, given Council's intended control of stormwater quantity and quality through the CSC, the preferred pathway for non-compliant sites is to establish and implement an approved PPP to align the site within the CSC parameters and therefore be covered by Council's CSC. In this latter scenario, resource consent from BOPRC will not be required.

Owners and operators within the CSC boundaries cannot be stopped from applying for resource consent from BOPRC for stormwater discharge. However, the Council is an affected party to any application for discharges into the Council controlled stormwater network. In order to provide affected party approval for any discharge, the following will be required from any person wishing to discharge into the stormwater network:

- Establish and implement a PPP in accordance with the Combined Waters Bylaw 2017, including upgrading any infrastructure required to consistently meet discharge quality and quantity standards
- Agree to surrender any stormwater discharge consents for the site upon approval of the CSC for the Whakatāne urban area (if the CSC is not already approved and in place).

If the CSC is already approved and implemented at the time of the application for the sites discharge consent, affected party approval for discharges not intended to be vested to Council (for surrender and inclusion within the CSC parameters) will not be provided. As such, it is in the interests of owners and

operators to pursue the PPP pathway to reduce overall time, cost and complexities by operating to a single document (the PPP) and monitoring requirements rather than multiple. In any situation, Council can require a PPP be submitted for approval for any site that is identified as High Risk in Schedule 4 of the RNRP and discharging into the public stormwater network, irrespective of whether or not the discharge is authorised by BOPRC. Additionally, Council can require a PPP be submitted for approval from any site it considers poses a risk to the public stormwater network pursuant to Regulation 56 of the Combined Waters Bylaw.

Persons wishing to undertake new activities that would connect to the public stormwater network are expected to consult with Council prior to or during the building consent phase of the project to outline PPP requirements. For infrastructure proposed to be vested to Council upon completion, the site owner is to obtain approval from Council regarding the efficacy of the proposed infrastructure in terms of future sites being able to meeting discharge quality requirements and PPP requirements.

9 Identifying sites

A PPP can be required from any site deemed to be High Risk under Schedule 4 of the RNRP and that discharges to the Council public stormwater network pursuant to Regulation 58(1) of the Combined Waters Bylaw. A discharge can also include accidental discharges to the stormwater system and indirect discharges, such as overland flows into a road reserve and subsequently into catchpits for the public stormwater network. The Council is not required to prove a site is discharging contaminants into the public stormwater network, and is only required to provide evidence the site is considered an activity listed in Schedule 4 of the RNRP.

The Council can also regulate stormwater quality from any site through the Combined Waters Bylaw, in accordance with Regulation 56:

1) *Council may require the owner or occupier of any land to implement management options, treatment or works in order to prevent the discharge of contaminants into the public stormwater network or otherwise protect the network from damage or alteration.*
2) *Any management options, treatment or works shall be implemented in a timeframe stipulated by Council and shall be undertaken and / or maintained at the owner or occupier's expense.*

If the Council considers that a management option in the form of a PPP is best served to prevent the discharge of contaminants or to otherwise protect the public stormwater network from damage or alteration, the Combined Waters Bylaw has provision for this requirement.

The Council will use the following methods to identify sites that can be required to submit a PPP for approval:

- Sites with a PPP approved and implemented
- Desktop exercise to highlight sites contained within Schedule 4 of the RNRP:
    - This will be for the purposes of undertaking site visits to confirm discharges or potential discharges into the stormwater reticulation network occur from specific sites identified as High Risk

- Identifying sites with existing trade waste consents issued by the Council that have API interceptors that discharge into the stormwater network
- Identifying sites with existing stormwater discharge consents issued by BOPRC that discharge into either the public stormwater network or into surface water located within the Whakatāne urban area
- Audit(s) of commercial and industrial sites in areas where there is a public stormwater network, including use of any BOPRC audits of commercial and industrial sites for the purposes of determining whether any sites discharge to the public stormwater network
- Applications to the Council for building consent applications for commercial and industrial sites (to be checked specifically for potential or proposed discharges into the stormwater)
- Identify greenfields or vacant land within Commercial or Industrial zoned land and advise owners of future development requirements with regard to stormwater discharges.

Sites that have existing written approval from the Council to discharge into the public stormwater network are not exempt from the requirements under the Combined Waters Bylaw and may still need to produce a PPP for approval by the Council. These sites will be considered on a case-by-case basis and will take into account the quality of the discharge and source type.

10 Pollution Prevention Plan content

The Council can require an owner or occupier to provide a PPP for review within three months of the request. It is likely that the request to provide a PPP will come from the Three Waters department of Council, who will take into consideration advice provided from other areas of Council. Suitably qualified and experienced professionals will review and approve the PPP, as well as undertaking ongoing compliance and monitoring.

Once approved, the party who submitted the PPP must comply with all provisions and timeframes specified in the PPP. Additionally, the PPP owner must organise a review every three years and provide Council with the reviewed PPP for approval. The Council also reserves the right to require a PPP be revised where there has been any significant changes in the facility concerned or its operational procedures pursuant to Regulation 68 of the Combined Waters Bylaw.

Regulation 58(1) of the Combined Waters Bylaw outlines what must be included within a PPP:

- A suitably scaled drawing showing the site layout, boundaries, all private stormwater and wastewater drainage including the point of connection to the public networks, relevant buildings and outdoor spaces (including their use); and
- A site assessment identifying all actual and potential sources of stormwater pollution; and
- Methods in place to control contamination of the public stormwater network; and
- Methods and timeframes proposed to control and minimise contamination of the public stormwater network; and
- A description of the maintenance procedures in place and proposed; and
- Any proposed diversion to trade waste; and
- Spill prevention and spill response procedures.

An alternative plan for the site may be suitable if it addresses all aspects detailed in Regulation 58(1), although approval is at the Council's discretion.

11 Timeframes

11.1 Prior to approval of the CSC

Under Regulation 58(1) of the Combined Waters Bylaw, the Council can require a PPP to be developed of any site considered High Risk under Schedule 4 of the RNRP. The Council uses the Combined Waters Bylaw to ensure existing identified sites that are considered a potential risk to stormwater quality are operating within the bounds of a PPP. The Council will continue to undertake site visits and audits to identify sites where a PPP would be pertinent while awaiting the approval of a CSC for the Whakatāne urban area. A PPP may be required from sites on a case by case basis as decided by the Council in accordance with the Combined Waters Bylaw.

11.2 Subsequent to the approval of the CSC

Based on the identification methodology undertaken for site identification in section 9 of this procedure, the Council will notify all sites identified as requiring or likely to require a PPP to establish their obligations to submitting a plan. The Council will provide a grace period of 12 months from notification (instead of the required three months under the Combined Waters Bylaw) for submission of a PPP for all specified sites. The Council will require higher risk catchments to provide a PPP first and roll out the requirements into other catchment based on internal resourcing availability to process and approve the plans. However, the Council reserves the right under the Combined Waters Bylaw to require a PPP from any site that is discharging or has the potential to discharge into the public network in order to mitigate actual and potential adverse effects on the receiving stormwater environment.

The grace period relates solely to the submission and approval of a PPP and is does not allow unauthorised discharges into the public stormwater network. Owners and operators of all sites are required to abide by other relevant requirements of the Combined Waters Bylaw and District Plan to avoid unlawful discharges into the public stormwater network.

The Council reserves the right to provide written approval to specific businesses to waive the requirement for a PPP if it considers the risk to the public stormwater network is acceptable.

The Council will use public information channels to notify site owners and operators that this procedure will be implemented as part of the CSC. This can include an appropriate newspaper that is distributed to the Whakatāne area, business news channels / newsletters, and the Council's website. Closer to the time of implementation, a targeted letter drop will inform catchments of their requirement to submit a PPP for approval, while also providing timeframes and information for assistance in preparing a PPP. The Council may contact individual site owners or operators to outline their obligations on a case by case basis after the letter drop.

The Council will provide a PPP template for use by business owners and operators. Additionally, for the first 12 months subsequent to the approval of the CSC, each business required to produce a PPP will be eligible for one hour of free advice from a suitably qualified and experienced Council officer who can advise on the content required to be included.

The Council will undertake an audit of all sites within the Commercial, Business and Industrial Zones within and around the Whakatāne urban area to identify sites where a PPP has not been submitted but has been required. Enforcement action will commence for sites required to prepare a PPP but have not sought approval of one by the Council.

The Council may contact sites by way of letter or email that are deemed as low risk to the stormwater network and therefore do not require a PPP at this stage. However, the Council will clearly outline that if circumstances on site change or within the operation of the stormwater network, then the Council reserves the right under the Combined Waters Bylaw to require a PPP be submitted for approval at a later date.

12 Fees and charges

The Council can require fees or charges to be payable for approvals and inspections made by the Council under the Combined Waters Bylaw pursuant to s150 of the LGA.

Fees and charges are outlined by the Council in the Fees and Charges Manual, which is accessible on the Council's website. PPPs are provided for within s3.1.7 of the Fees and Charges 2022-24 manual at a rate of $130. This includes the administration, plan review, one annual site monitoring inspection and is to be paid at the time of submission of the PPP to the Council by the owner or operator of a site. Actual costs for the processing of PPPs can also be charged at the standard engineering hourly rate. Owners and operators are encouraged to submit high quality PPPs to reduce their potential fees for Council processing.

Fees and charges are reviewed every three years through the Long Term Plan process or annually as required through the Annual Plan process. As such, should it be identified that the existing fees and charges structure is not representative of actual time and costs for approving PPPs and associated site visits, monitoring and enforcement requirements, the Council can amend the fees as necessary to recoup costs. The Council will also propose to amend the wording of s3.1.7 to require the $130 to be paid for all submitted revisions of the PPPs to Council, including the three yearly review or updates based on changes to the site or activities on the site.

If a PPP is approved outside of the three yearly review process, a PPP will not be required to be submitted for approval for another three years from the date of the latest approval (unless changes to the site or onsite activities occur in the interim).

The Council also proposes to emulate the current administrative charges applied to trade waste discharges for the PPP process. Changes to the fees and charges manual for PPPs could include:

Table 1 Potential future fee structure for PPPs

Category	Description	Cost
Administration	Application fee (deposit), one annual inspection (as required), annual user charge; transfer of consent to new owner or occupier	$130 annually
Processing	Building consent and compliance costs. Includes site inspection for confirmation of PPP controls and infrastructure as set out in PPP	Actual costs based on Council officer hourly rates

PPP renewal	Re-issue of consents after current maximum term of three years	Actual costs based on Council officer hourly rates
Monitoring	Compliance monitoring inspections required in addition to one annual inspection included under standard annual charges	Actual costs based on Council officer hourly rates
Testing	Analysis costs for testing required pursuant to allowable discharge quality based on PPP	Actual costs based on Council officer hourly rates
Hourly rate	The Council's professional fee rate for investigations, studies, inspections, advice etc.	$172.50 per hour (2022-24 rate – subject to change)

Any investigation and additional compliance monitoring inspections will be charged at actual cost.

13 Approvals

Operation of a business or site without a PPP when one has been requested by the Council would constitute an offence against Regulation 58(3) Combined Waters Bylaw. Approval of a PPP by the Council will be from the Three Waters department, with personnel undertaking the review and approval being suitably qualified and experienced in stormwater discharges.

On receipt of a PPP for approval, the Council may:

- Require the applicant to submit additional information which Council considers necessary to reach an informed decision, or
- Approve the PPP and inform the applicant of conditions (if any) imposed on the application in addition to the submitted materials.

Once the PPP is approved by Council, the owner / occupier must comply with all provisions, including timeframes specified in the PPP.

No timeframes for approval are provided under the Combined Waters Bylaw. However, once a PPP is submitted, a twenty day turnaround is envisaged, to align with other consenting processes.

The PPP will be issued to whomever submits the application (either the owner or occupier of a site) with the deposit required to be paid prior to the commencement of processing the application. As with the trade waste consent processing regime, the final invoice for processing in addition to any additional monitoring or enforcement requirements will be sent to the owner of the site, who can then pass on the cost to the required party.

A PPP is not transferable and new owners or occupiers of sites must apply for a new PPP to be issued in their name. The administration fee is required to accompany any application for a new PPP to be issued in a new name. The Council reserves the right to reduce this fee, depending on the timeframe since an annual charge has been paid for the site, or a revised PPP has been submitted (i.e. if the content of the PPP and the physical site remain largely unchanged). The Council will use the transfer process to ensure that new owners and occupiers are aware of their obligations and to conduct a site visit to confirm there are no substantial changes made to the site layout, activities undertaken onsite, or the controls in place for discharging into the public stormwater network.

14 Monitoring

Every approved PPP must be reviewed every three years by the owner or occupier of a site, pursuant to Regulation 59(5) of the Combined Waters Bylaw. The PPP must be provided to the Council for review and approval. Additionally, the Council can require any PPP be revised where there have been significant changes in the facility concerned or its operational procedures (Regulation 69(6)).

The Council can inspect private and public stormwater networks in order to ensure compliance with Regulations 54 and 55 of the Combined Waters Bylaw (Minimum Quality Standards and Treatment of Works) pursuant to Regulation 57.

Monitoring of the PPPs is undertaken by a warranted officer for stormwater pursuant to s174 and s177 of the LGA. S174 provides an officer with the authority to enter private land on behalf of the Council which can be used for the purposed of monitoring and compliance checking for individual sites. A warranted officer is able to enter sites for stormwater compliance purposes regardless of whether a PPP is approved or submitted to the Council for approval. It is expected that the warranted officer under s177 of the LGA will have experience as a three waters engineer or trade waste for the Council.

Arising from initial site visits as part of the approval of the PPPs, a database will be established for all sites requiring a PPP. Sites with a history of non-compliance or poor performance, significant breaches, sites identified as having an elevated risk for the discharge of contaminants into the public stormwater network, or sites where the Council believes on reasonable grounds that the site is operating contrary to an approved PPP may be subject to more frequent monitoring inspections at the expense of the PPP holder. Sites identified as compliant and low risk may not be subject to annual monitoring. This database will also serve for providing information on three yearly reviews, site history, inspection history, and any changes that have occurred on a site to necessitate the need for a revised PPP to be submitted to the Council for approval.

15 Enforcement

While PPP are an integral mechanism to achieve the water quality standards anticipated to arise from the CSC, the PPP and associated monitoring, treatment and minimum quality standards are regulations specified under the Combined Waters Bylaw. As such, enforcement of the PPP must also come via avenues from the LGA. The pathway that the Council will use for enforcement is outlined below and represented in Figure 1.

S177 of the LGA allows the Council to appoint persons to be enforcement officers in relation to any offence under the LGA, including offences against bylaws made under the LGA. In order to be able to enforce against offences against the Combined Three Waters, the Council must issue written warrants to enforcement officers appointed under s177 of the LGA. The warrants must specify the responsibilities and powers delegated to them and the infringement offences in relation to which they are appointed (s177(2)(a) and (b)). The Council will be required to issue warrants specific to allowing enforcement under Council bylaws.

The Council will maintain and adequate number of warranted officers able to respond appropriately to the Combined Waters Bylaw. The total number will be dependent on monitoring requirements, which will

become more apparent as the Council progresses through the sites that may be required to submit a PPP and be subject to monitoring.

It is expected that enforcement issues will be identified and addressed through monitoring of high risk sites near the Council's public stormwater networks. The Council can also respond to alert from the public and other organisational bodies regarding incidences or complaints.

Non-compliance with the Combined Waters Bylaw will be addressed as per the framework set out in Figure 1. Should breaches of the Combined Waters Bylaw or by identified, the Council can issue a notice to any person in breach to carry out remedial action in order to comply with the requirements.

The Council may give notice to any person in breach of the Combined Waters Bylaw, such as breaches to specific regulations or non-conformity to any approved PPP to carry out any remedial action in order to comply with the relevant regulations. Every notice shall state the time in which the remedial action is to be carried out, and can be extended from time to time at the discretion of the Council. Depending on the severity of the non-compliance and the potential risk to water quality and human health, the Council will endeavour to issue notices to rectify breaches against the Combined Waters Bylaw before pursuing more acute measures.

Under s163 of the LGA, the Council can remove or alter a work or thing that is, or has been, constructed in breach of a bylaw. As such, any unauthorised connection to the public stormwater network can be removed or decommissioned to cease unauthorised discharges. An unauthorised connection can include a connection from a site that has failed to obtain an approved PPP when requested by the Council. The Council will use s163 of the LGA for immediate threats to the stormwater network or human health in addition to disconnecting sites with a history of non-compliance with PPPs or the Combined Waters Bylaw.

Under s162 of the LGA, the Council may apply to the District Court for the grant of an injunction restraining a person from committing a breach of the Combined Waters Bylaw.

Under s239, any person who commits an offence in respect of beach of bylaws is liable on conviction to the penalty set out in s242(4) which is a fine not exceeding $20,000.

Irrespective of the PPP process, if the Council believes on reasonable grounds that contaminants are entering the public stormwater system from a site, the Council can require the owner or occupier to implement management options, treatment or works in order to prevent the discharge from occurring pursuant to Regulation 56 of the Combined Waters Bylaw.

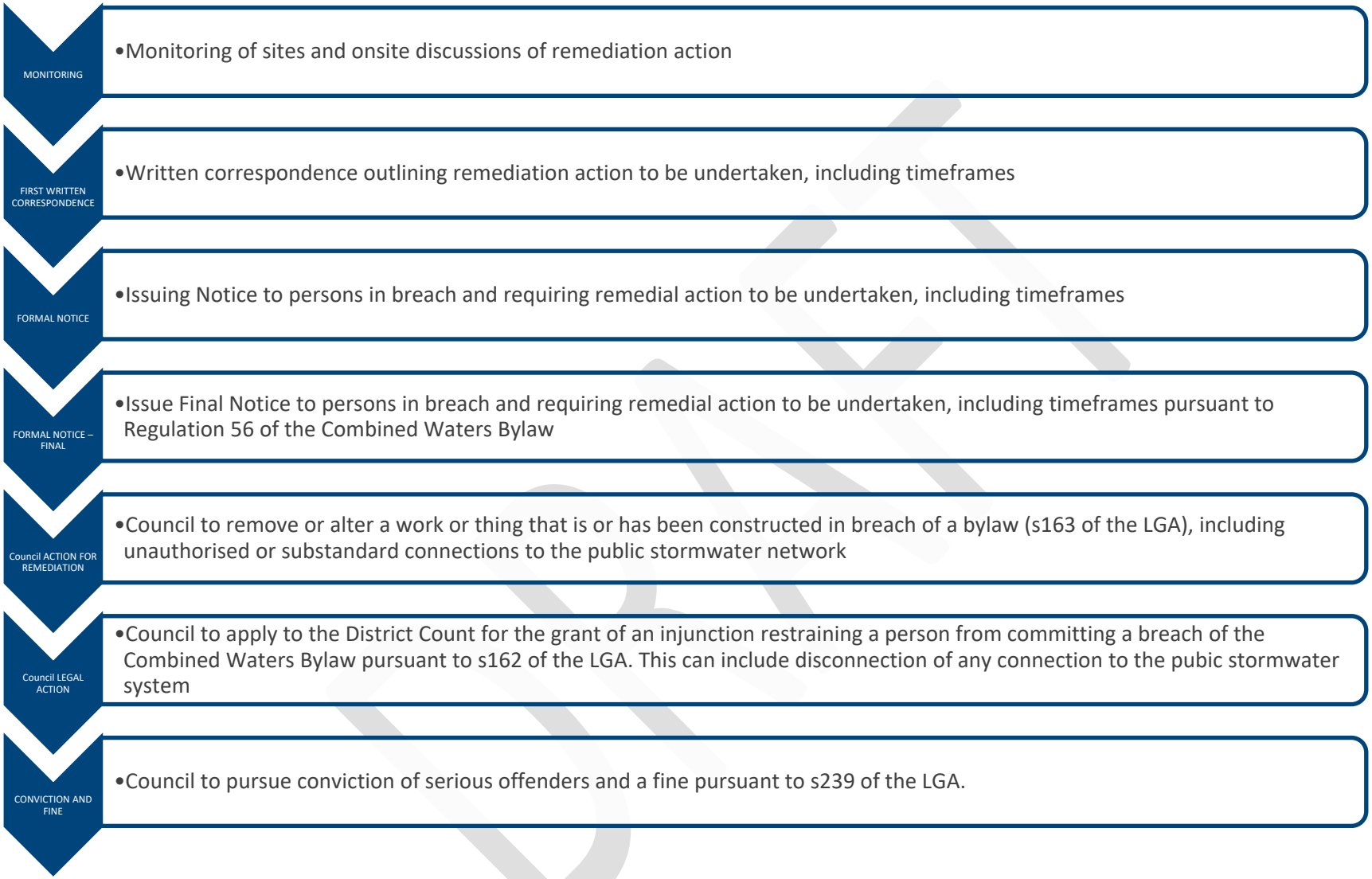

Figure 1 Pathway for enforcement

16 Review of this procedure

This procedure will be revised every six years to coincide with the review of the Whakatāne Urban Stormwater CMP, which is in turn to be reviewed to coincide with every second LTP. This will provide owners and occupiers with certainty about the process necessary for PPPs, including implementation. Changes to this procedure can be undertaken between the formal review process to reflect changes to the existing environment, receiving environment water quality, or the legislative environment.

Appendix B. Whakatāne Urban Area Stormwater Catchment Description – WSP

Appendix C. Whakatāne Comprehensive Stormwater Consent: Potential effects on ecology and water quality – K. D. Hamill (River Lake Ltd)

Appendix D. Whakatāne Comprehensive Stormwater Consent Monitoring Plan: DRAFT – K. D. Hamill (River Lake Ltd)

Appendix E. Whakatāne Urban Stormwater Modelling: Model Build and System Performance Report – WSP

Appendix F. Stormwater Quality Monitoring Report – WSP