

Water and Wastewater Servicing Plan

Warkworth Structure Plan

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1 Executive Summary

This report confirms that the yield from the structure plan can be serviced for water and wastewater.

1.1 Water

New groundwater abstraction bores at Hudson Road and a new water treatment plant at Sanderson Road are operational. The plant is designed to treat the consented abstraction volume limit, which caters for approximately 16,000 people.

A future water source will need to be found to provide water beyond the current abstraction consent limit. However, Watercare is confident that such a source will be found prior to this population trigger being reached.

Trunk and local network pipelines providing water to the structure plan area will be sized to meet the proposed development yield. Additional reservoir storage may be required to enable the water treatment plant to operate at a consistent throughput and to provide security of supply to customers. The location of additional reservoir storage is yet to be determined.

1.2 Wastewater

A new scheme to collect, treat and discharge the wastewater from the Warkworth structure plan will be delivered by the end of 2021. The scheme, called the 'North East Wastewater Servicing Scheme', provides a bulk wastewater connection point on Sandspit Road, called Pump Station No.2.

The structure plan area will largely be a new conveyance system functioning separately to the existing township and will connect to Pump Station No.2. Trunk and local network pipelines collecting and conveying wastewater from the structure plan area will be sized to meet the proposed development yield.

2 Introduction

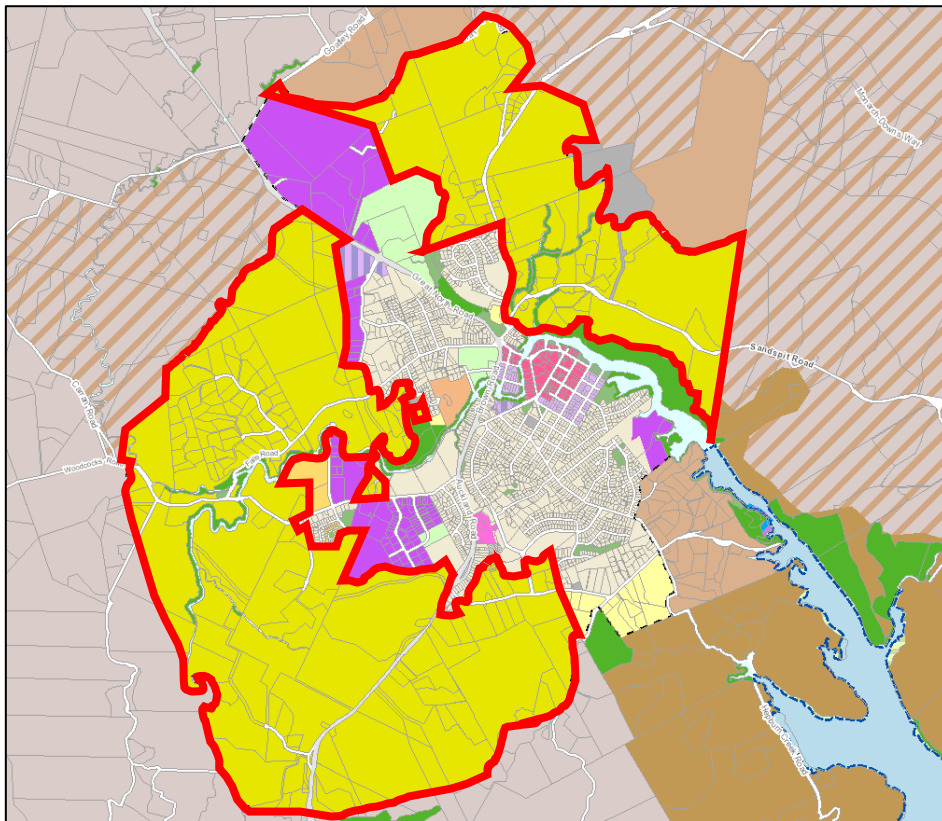
2.1 Purpose and scope of the report

This is one of a number of reports that have been prepared for the Warkworth Structure Plan as part of the supporting information behind the structure plan document. This report outlines the existing environment in the study area with regards to Water and Wastewater and assesses the Warkworth Structure Plan in relation to Water and Wastewater.

2.2 Study Area

The study area for the Warkworth Structure Plan is the Future Urban zone around Warkworth. It comprises around 1,000ha of land. The study area is shown outlined in red on Figure 1 below.

Figure 1: Warkworth structure plan study area (outlined in red)



3 Existing environment

3.1 Description of study area

There are existing local network assets in place to provide both water and wastewater services to the existing urban area in Warkworth. There are currently no constructed assets in the structure plan area.

3.1.1 Water

Water is abstracted by two new bores on Hudson Road is then treated at a new facility on Sanderson Road. The new water bores and treatment plant have headroom for population growth, and this is discussed further in Section 4.2.

The treated water is pumped to two reservoirs (View Road and Thompson Road) that service the existing township.

3.1.2 Wastewater

The Warkworth wastewater network is a combination of gravity and low-pressure systems and has limited capacity for population growth. The Warkworth Wastewater Treatment Plant (WWTP) is located on the southern bank of the Mahurangi River on Alnwick St, near to the township. The Warkworth WWTP discharges the treated wastewater into the Mahurangi River adjacent to the plant.

The Warkworth WWTP will continue to service the existing township until the end of 2021, at which time the wastewater will be redirected to a new conveyance system for treatment at an upgraded Snells Beach WWTP, which will discharge the treated wastewater to the Hauraki Gulf, south of Martins Bay. This new conveyance, treatment plant and discharge system has headroom for population growth and is discussed further in Section 4.2.

4 Warkworth Structure Plan

4.1 Overview of Warkworth Structure Plan

The Warkworth Structure Plan sets out the pattern of land uses and the supporting infrastructure networks for the Future Urban zoned land around Warkworth. In preparing the Warkworth Structure Plan, the following were considered:

- the context of the existing town in Warkworth
- the opportunities and constraints of the structure plan area as identified in 16 technical papers¹
- the feedback received from various stakeholders and public engagement events².

The structure plan is show in **Figure 2**.

Some of the key high-level features of the Warkworth Structure Plan include:

- Ecological and stormwater areas are set aside from any built urban development.
- The new residential areas across the Future Urban zone enable around 7,500 dwellings³ and offer a range of living types from spacious sections around the fringe to more intensive dwellings such as town houses and apartments around the new small centres and along public transport routes.
- Warkworth’s local and rural character is protected through various measures including provisions to protect the bush-clad town centre backdrop by the Mahurangi River and retaining the Morrison’s Heritage Orchard as a rural feature of the town.
- New employment areas are identified, comprising land for new industry (e.g. warehousing, manufacturing, wholesalers, repair services) and land for small centres (e.g. convenience retail, local offices, restaurants/cafés). The existing Warkworth town centre by the Mahurangi River will remain as the focal point of the town.

The land uses are supported by infrastructure including:

- Prioritising active transport in Warkworth through a separated walking and cycling network providing connectivity to new and existing centres, employment areas, schools and public transport stations.
- A roading network including a potential southern interchange on Ara Tūhono – Pūhoi to Warkworth (south facing ramps only).
- A public transport network built upon the recently introduced ‘New Network for Warkworth’ and in the long term has a bus station/interchange in Warkworth’s southern Local Centre and a Park and Ride near the potential Ara Tūhono – Pūhoi to Warkworth southern interchange.

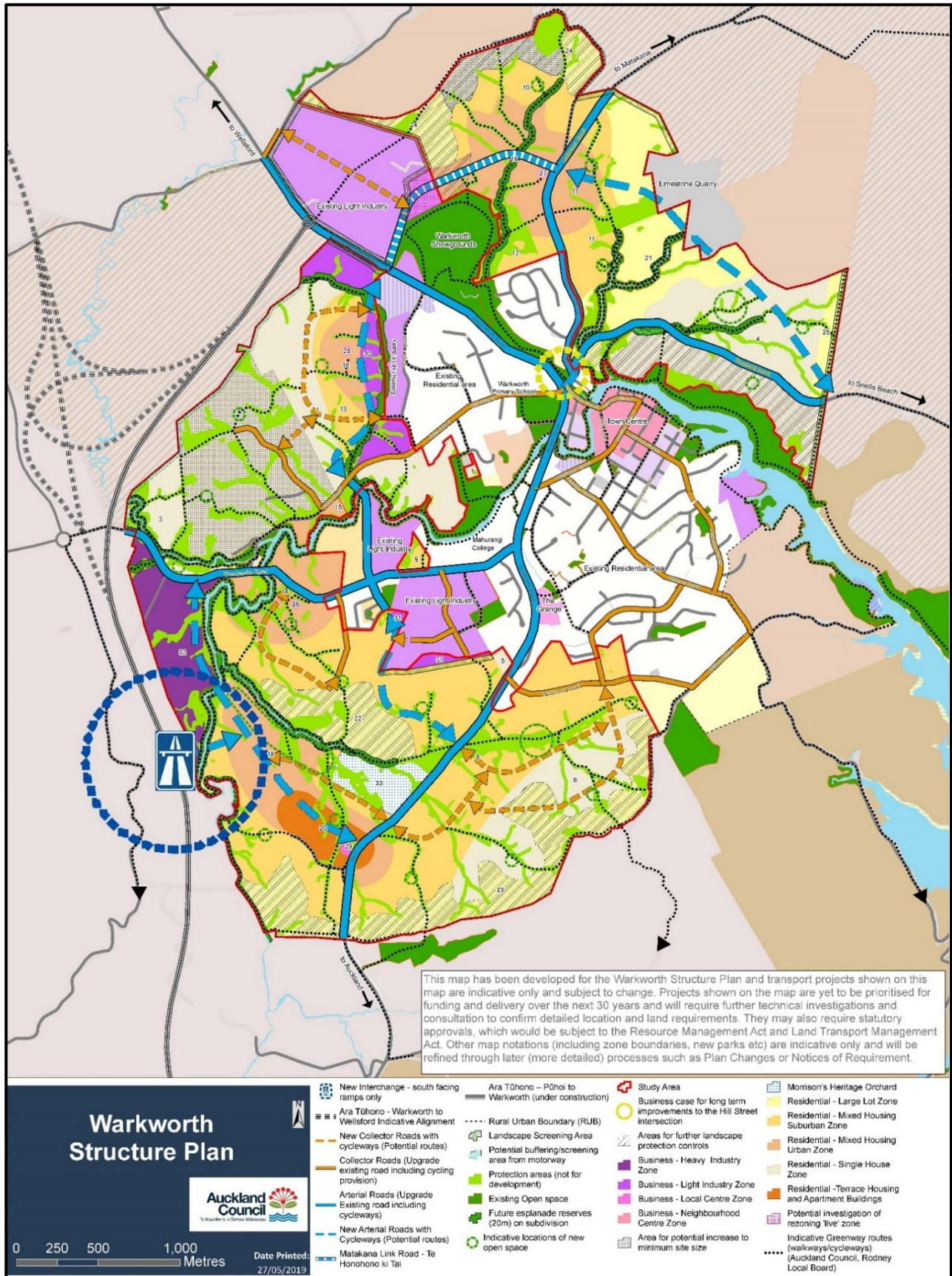
¹ 16 topic papers that were prepared in February 2018 as part of initial consultation of the draft structure plan

² This includes feedback from mana whenua, business, resident and community groups, engagement survey findings and community workshops held to generate land use ideas for the Warkworth area.

- Other infrastructure providers for utilities such as wastewater, water, power supply, telephone, broadband, community facilities, schools, and healthcare have plans underway to service the planned growth of Warkworth.

Further details on the Warkworth Structure Plan can be found in the structure plan document on the project website.

Figure 2: Warkworth Structure Plan



4.2 Assessment of the Warkworth Structure Plan

4.2.1 Structure Plan Yield

The yield from the draft structure plan can be serviced for water and wastewater.

4.2.2 Water

New groundwater abstraction bores at Hudson Road and a new water treatment plant at Sanderson Road are operational. The plant is designed to treat the consented abstraction volume limit, which caters for approximately 16,000 people.

A future water source will need to be found to provide water beyond the current abstraction consent limit. However, Watercare is confident that such a source will be found prior to this population trigger being reached.

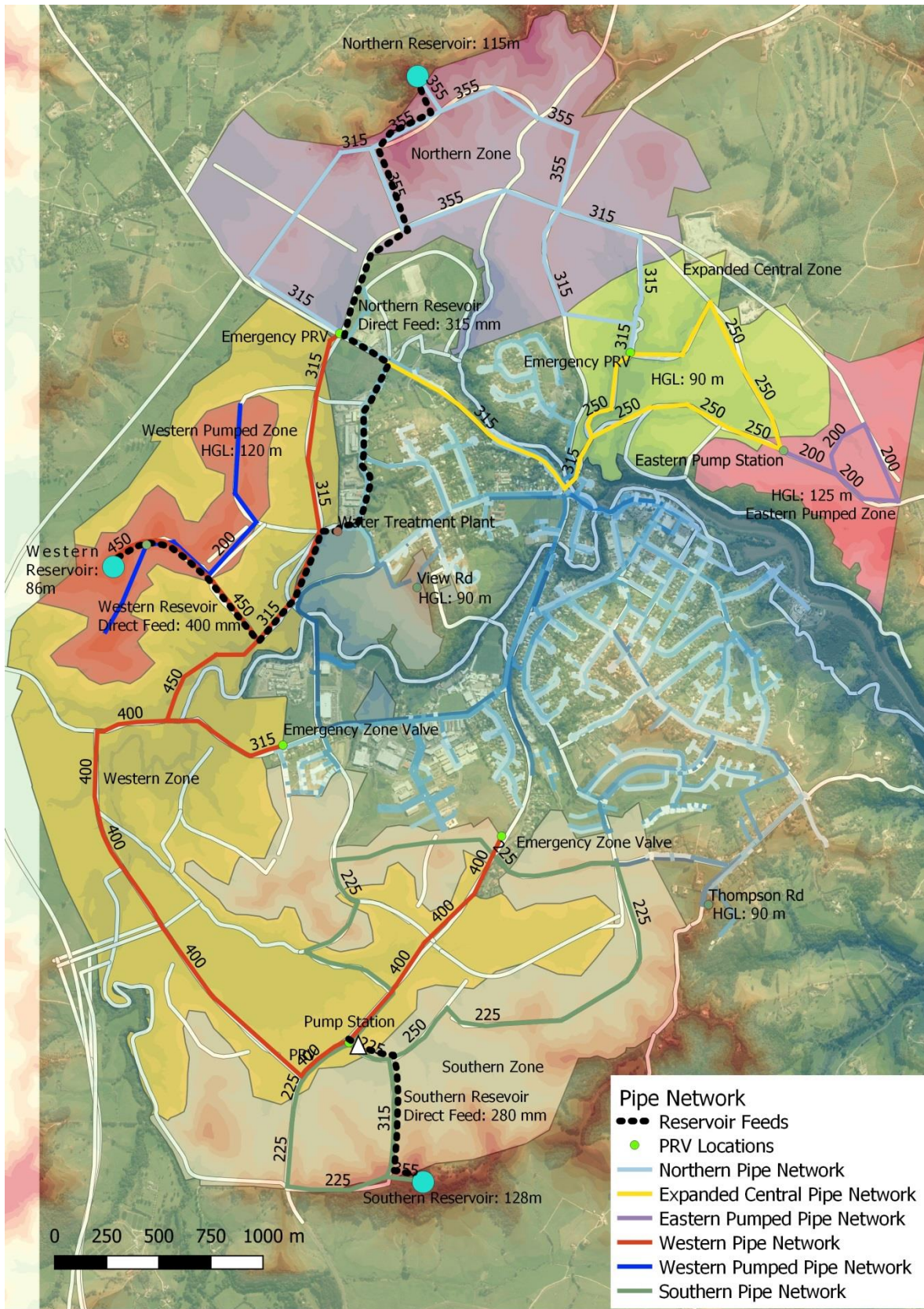
The water treatment plant has provision for future capacity extensions to cater for long term growth subject to the confirmation of a supplementary water source.

Trunk and local network pipelines providing water to the structure plan area will be sized to meet the proposed yield. As much as practical, water pipelines will follow roading alignments as this is preferred for consenting and access during construction, maintenance and renewal. All new pipelines will consider the upstream and downstream development potential when being designed and constructed.

Additional reservoir storage will be required to enable the water treatment plant to operate at a consistent throughput and to provide security of supply to customers.

Figure 3 on the following page presents the indicative alignments for water infrastructure in the structure plan area.

Figure 3: Indicative Warkworth Water Servicing Plan



4.2.3 Wastewater

A new scheme to that provides a connection point for the wastewater from the Warkworth structure plan will be delivered by the end of 2021.

The scheme, called the 'North East Wastewater Servicing Scheme', provides a bulk wastewater connection point on Sandspit Road, called Pump Station No.2. The overall scheme includes:

- A new transfer pipeline between Warkworth and a new Snells Beach WWTP consisting of approximately 10 km of pipeline and three pump stations.
- New Snells Beach WWTP with a capacity for a population of 18,000, expandable to 30,000 (future project).
- A new outfall from the Snells-Algies WWTP to the Hauraki Gulf consisting of a pump station, 9 km of pipeline and a marine outfall.

Wastewater from the existing Warkworth township will be redirected from the Warkworth WWTP to the North East Wastewater Servicing Scheme via a new pump station and rising main, which connects into Pump Station No.2.

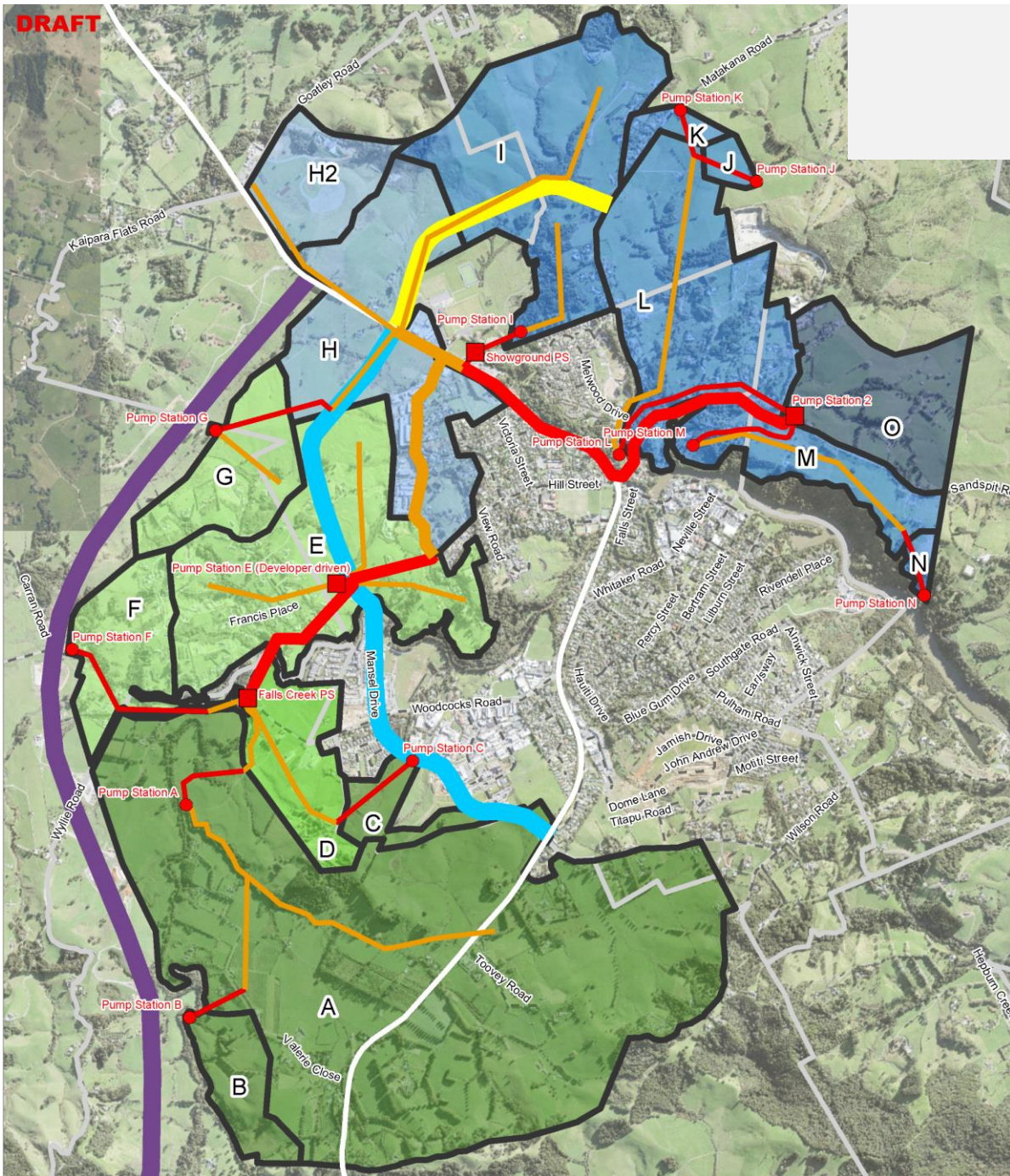
The structure plan area will need a completely new conveyance system functioning separately to the existing township and connecting into Pump Station No.2.

The structure plan area will have a gravity collector sewer in the south that drains to the north to around the Falls Creek area, where the wastewater will then be transferred via a series of pump stations to Pump Station No.2. There will at least two bulk pump stations, one near Falls Creek and the other near to the Showgrounds. In addition, there will a number of small drainage catchments that will have local network pump stations that transfer wastewater into the gravity collector or into trunk pump stations.

Trunk and local network pipelines collecting and conveying wastewater from the structure plan areas will be sized to meet the proposed development yield. As much as practical, pipelines will follow roading alignments as this is preferred for consenting and access during construction, maintenance and renewal. All new pipelines will consider the upstream and downstream development potential when being designed and constructed.

Below is a map that shows an indicative servicing plan for wastewater infrastructure in the structure plan area.

Figure 4: Indicative Warkworth Wastewater Servicing Plan



4.2.4 National Policy Statement/s

4.2.4.1 National Policy Statement on Urban Development Capacity 2016 (NPS-UDC)

Auckland is defined as high growth area (by MFE guidance), and accordingly there are a number of objectives which must be implemented to give effect to the NPS-UDC. In particular, Objective OD1 of the NPS-UDC requires the integration of urban growth and infrastructure. Objective D1 is delivered in part by Policy A3 which applies to any urban environment that is expected to experience growth.

Policy A3: When making planning decisions that affect the way and the rate at which development capacity is provided, decision-makers shall provide for the social, economic, cultural and environmental wellbeing of people and communities and future generations, whilst having particular regard to:

- a) Providing for choices that will meet the needs of people and communities and future generations for a range of dwelling types and locations, working environments and places to locate businesses;*
- b) Promoting the efficient use of urban land and development infrastructure and other infrastructure; and*
- c) Limiting as much as possible adverse impacts on the competitive operation of land and development markets.*

The key messages from the NPS-UDC is to provide a range of housing choice, efficient use of land and infrastructure and provide for current and future people and communities.

4.2.4.2 National Policy Statement for Freshwater Management 2014

The National Policy Statement for Freshwater Management (Freshwater NPS) provides direction for the council on the management of freshwater. The council must give effect to the Freshwater NPS through the provisions of AUPOP – notably through RPS B7.4 and the Auckland-wide provisions. Some of these provisions are relevant to structure planning.

Wastewater

(10) Manage the adverse effects of wastewater discharges to freshwater and coastal water by all of the following:

- (a) ensuring that new development is supported by wastewater infrastructure with sufficient capacity to serve the development;
- (b) progressively reducing existing network overflows and associated adverse effects by all of the following:
 - (i) making receiving environments that are sensitive to the adverse effects of wastewater discharges a priority;
 - (ii) adopting the best practicable option for preventing or minimising the adverse effects of discharges from wastewater networks including works to reduce overflow frequencies and volumes;
 - (iii) ensuring plans are in place for the effective operation and maintenance of the wastewater network and to minimise dry weather overflow discharges;
 - (iv) ensuring processes are in place to mitigate the adverse effects of overflows on public health and safety and the environment where the overflows occur;
- (c) adopting the best practicable option for minimising the adverse effects of discharges from wastewater treatment plants; and

(d) ensuring on-site wastewater systems avoid significant adverse effects on freshwater and coastal water.

Freshwater and geothermal water quantity, allocation and use

(11) Promote the efficient allocation of freshwater and geothermal water by all of the following:

- (a) establishing clear limits for water allocation;
- (b) avoiding over-allocation of water, including phasing out any existing overallocation;
- (c) safeguarding spring flows, surface waterbody base flows, ecosystem processes, life-supporting capacity, the recharge of adjacent aquifers, and geothermal temperature and amenity; and
- (d) providing for the reasonable requirements of domestic and municipal water supplies.

(12) Promote the efficient use of freshwater and geothermal water.

(13) Promote the taking of groundwater rather than the taking of water from rivers and streams in areas where groundwater is available for allocation.

(14) Enable the harvesting and storage of freshwater and rainwater to meet increasing demand for water and to manage water scarcity conditions, including those made worse by climate change.

4.2.5 Auckland Plan 2050 (2018)

The Auckland Plan 2050 (“Auckland Plan”) is a long-term spatial plan to ensure Auckland grows in a way that will meet the opportunities and challenges of the future.

The Development Strategy in this plan and 30-year Infrastructure Strategy address the prioritisation, sequencing and funding of essential infrastructure. This includes requirements under the National Policy Statement on Urban Development Capacity to provide sufficient feasible development capacity in the medium and long term.

Within the Auckland Plan, Warkworth is defined as a satellite town functioning as the rural node in the north of Auckland. It provides a range of services to the surrounding rural areas. Significant future employment growth is anticipated alongside residential growth.

4.2.6 Future Urban Land Supply Strategy

The purpose of the Future Urban Land Supply Strategy (2017) is to identify the sequencing and timing of future urban land for development over a 30-year timeframe. This is to integrate supply of greenfield land for development and provision of infrastructure. The proposed sequencing of development ready future urban zoned land in Warkworth is as follows:

- Warkworth North (Decade One 1st half 2018-2022)

- Warkworth South (Decade Two 1st half 2018-2032)
- Warkworth North East (Decade Two 2nd half 2033-2037)

This strategy also addresses the council's obligations under The NPS-UDC which requires the council to ensure there is greater focus on enabling urban development and that there is sufficient capacity for housing and businesses. As noted in section 4.1.1, NPS-UDC requires the integration of urban growth and infrastructure.

4.2.7 The Auckland Unitary Plan (Operative in Part) (2016)

Regional Policy Statement

The Regional Policy Statement (RPS) is part of the AUPOP. It sets out the overall strategic framework for Auckland. Sections B1 to B10 of the RPS all have varying degrees of relevance to structure planning.

Of particular relevance is Section B3 – Infrastructure, which sets out objectives and policies relating to infrastructure. Policy 5 for example, requires that Infrastructure planning and land use planning are integrated to service growth efficiently. Policy 6 requires that Infrastructure is protected from reverse sensitivity effects caused by incompatible subdivision, use and development.

B3. - Infrastructure, transport and energy

B3.2.1. Objectives

- (1) Infrastructure is resilient, efficient and effective.
- (2) The benefits of infrastructure are recognised, including:
 - (a) providing essential services for the functioning of communities, businesses and industries within and beyond Auckland;
 - (b) enabling economic growth;
 - (c) contributing to the economy of Auckland and New Zealand;
 - (d) providing for public health, safety and the well-being of people and communities;
 - (e) protecting the quality of the natural environment; and
 - (f) enabling interaction and communication, including national and international links for trade and tourism.
- (3) Development, operation, maintenance, and upgrading of infrastructure is enabled, while managing adverse effects on:
 - (a) the quality of the environment and, in particular, natural and physical resources that have been scheduled in the Unitary Plan in relation to natural heritage, Mana Whenua, natural resources, coastal environment, historic heritage and special character;
 - (b) the health and safety of communities and amenity values.

- (4) The functional and operational needs of infrastructure are recognised.
- (5) Infrastructure planning and land use planning are integrated to service growth efficiently.
- (6) Infrastructure is protected from reverse sensitivity effects caused by incompatible subdivision, use and development.
- (7) The national significance of the National Grid is recognised and provided for and its effective development, operation, maintenance and upgrading are enabled.
- (8) The adverse effects of infrastructure are avoided, remedied or mitigated

In terms of RPS relevant objectives, it is noted that:

- The proposed Water and Wastewater Servicing plan generally integrates land use and infrastructure to service future growth of the Warkworth Structure Plan area efficiently
- The Plan will provide essential services for the functioning of communities, businesses and industries within and beyond Warkworth;
- Proposed Water and Wastewater Infrastructure is protected from reverse sensitivity effects caused by incompatible subdivision, use and development.

District Plan

Chapter E26 of the Auckland-Wide provisions sets out District Level objectives, policies and rules relating to infrastructure. These provisions provide a framework for the development, operation, use, maintenance, repair, upgrading and removal of infrastructure.

The plan recognises that Infrastructure is critical to the social, economic, and cultural well-being of people and communities and the quality of the environment. This means that in some circumstances other activities and development need to be managed in a way that does not impede the operation of infrastructure.

The plan also acknowledges that as well as benefits infrastructure can have a range of adverse effects on the environment, visual amenity of an area, and public health and safety. The sensitivity of adjacent activities, particularly residential, to these effects can lead to complaints and ultimately constraints on the operation of infrastructure. Managing these reverse sensitivity effects is essential.

E26. Infrastructure

E26.2.1. Objectives [rp/dp]

- (1) The benefits of infrastructure are recognised.
- (2) The value of investment in infrastructure is recognised.
- (3) Safe, efficient and secure infrastructure is enabled, to service the needs of existing and authorised proposed subdivision, use and development.
- (4) Development, operation, maintenance, repair, replacement, renewal, upgrading and removal of infrastructure is enabled.

(5) The resilience of infrastructure is improved, and continuity of service is enabled.

(6) Infrastructure is appropriately protected from incompatible subdivision, use and development, and reverse sensitivity effects.

(9) The adverse effects of infrastructure are avoided, remedied or mitigated

In relation to the relevant District level Infrastructure provisions:

- The proposed water and wastewater plan will enable the safe, efficient and secure infrastructure to service the needs of existing and authorised proposed subdivision, use and development in Warkworth
- The proposed water and wastewater plan will provide for resilient infrastructure in the Structure Plan area as improved and continuity of service is enabled.

5 Conclusion

Overall it is considered that the yield from the structure plan can be serviced for water and wastewater.

A future water source needs to be found to provide water beyond the current 16,000 people water abstraction consent limit. However, Watercare is confident that such a source will be found prior to this population trigger being reached. Trunk and local network pipelines providing water to the structure plan area will be sized to meet the proposed development yield. Additional reservoir storage may be required.

Wastewater will be connected to the North East Wastewater Servicing Scheme for treatment at a new Snells Beach Wastewater Treatment Plant and discharge to the Hauraki Gulf, south of Martins Bay. Trunk and local network pipelines collecting and conveying wastewater from the draft structure plan area will be sized to meet the proposed development yield.

Find out more: **phone 09 301 0101**
or visit **www.aucklandcouncil.govt.nz/have-your-say**

