Water and Wastewater Servicing Plan

Draft Drury – Opāheke Structure Plan

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Auckland Council
Te Kaunihera o Tāmaki Makaurau

Table of Contents

1 Executive Summary

This report confirms that the development yield anticipated by the draft structure plan can be serviced for water and wastewater. Watercare is investing in trunk water and wastewater networks to service the existing live zoned developments underway, allowing to bring forward the structure planning of the future urban zoned land. This report sets out the water and wastewater plan for servicing the structure plan area. It is based on an anticipated yield of around 20,000 dwellings.

1.1.1 Water

Watercare provides bulk water services to the Papakura district. The existing local water services to Drury, Papakura and Takanini are provided by Veolia under a franchise agreement. Some of the trunk assets are reaching the limits of their ability to provide a water service to a growing community. Watercare has planned projects to address future growth.

Water bulk supply points are planned to be constructed on existing trunk assets to provide water beyond the current population.

A new bulk supply point has recently been constructed at Watercare's existing Flanagan Road water pump station with associated infrastructure, to allow the servicing of the bulk of the structure plan area. A new watermain is also planned westward from the existing Hunua bulk supply point to improve resilience and the ability to stage construction, and upgrades to allow for shutdowns during construction. Watercare will work with developers in the Bremner Road and Hingaia Peninsula areas to connect the transmission infrastructure to the two bulk supply points.

Trunk and local network pipelines providing water to the structure plan area will be sized to meet the anticipated yield. All new pipelines will consider the upstream and downstream development potential when being designed and constructed.

1.1.2 Wastewater

The Drury – Opāheke Structure Plan area will be connected to the existing Hingaia pump station, which is planned to be upgraded in a staged manner to meet growth expectations of the area. Augmentation of downstream infrastructure is in the detailed planning stages to allow for this growth. The Mangere wastewater treatment plant future upgrades consider Auckland wide growth, including this area.

The structure plan area will largely be serviced by a new wastewater network connected to the Hingaia pump station. The existing township already connects separately to this pump station. Trunk and local network pipelines collecting and conveying wastewater from the draft structure plan area will be sized to meet the proposed development yield.

2 Introduction

2.1 Purpose and scope of the report

This report sets out the water and wastewater servicing plan for the Drury – Opāheke Structure Plan Area. It is a supporting document that forms part of the draft structure plan information.

2.2 Study Area

The study area for the draft Drury – Opāheke Structure Plan is the Future Urban zone around Drury, including Opaheke, Drury South and Drury West. It comprises around 1921ha of land. The study area is shown coloured yellow Figure 1 below. The anticipated dwelling yield for the structure plan area is around 22,000 dwellings.

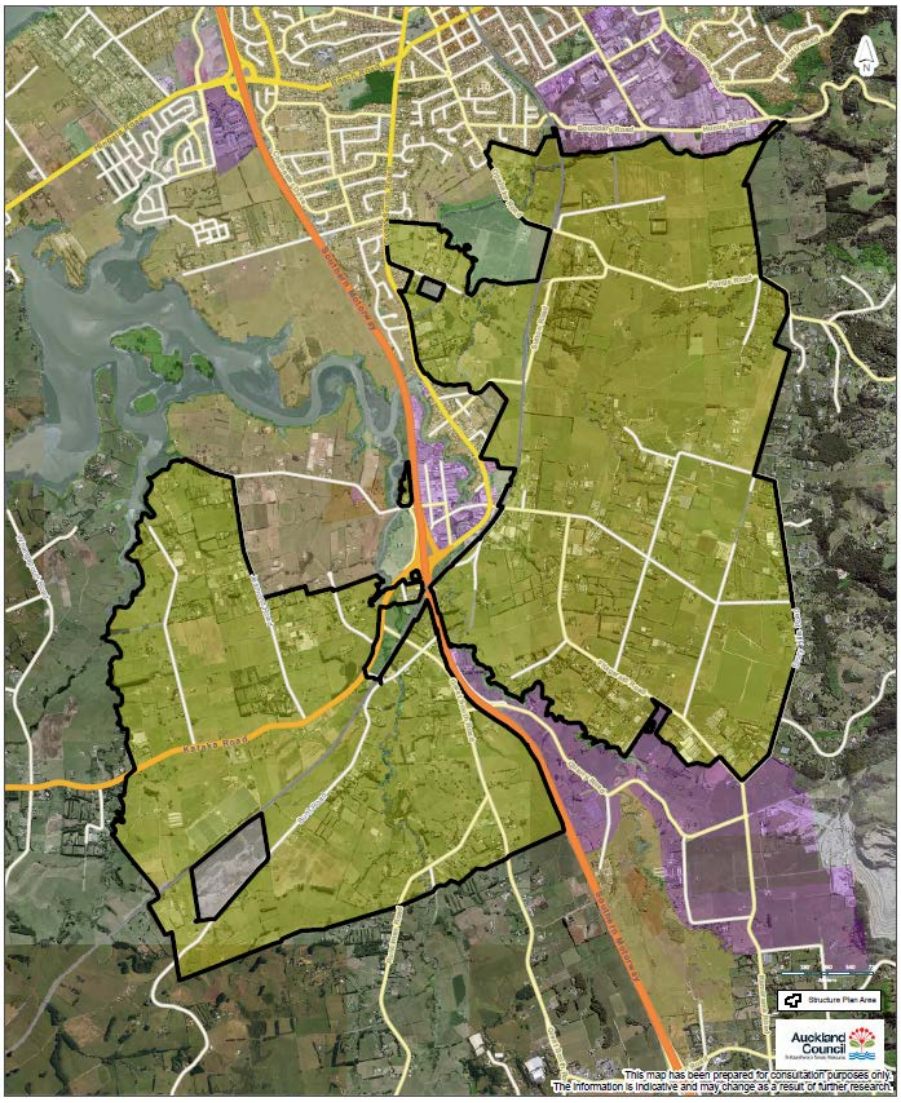

Figure 1: Drury structure plan study area (coloured yellow)

3 Existing environment

3.1 Description of study area

There is existing network infrastructure in place to provide both water and wastewater services to the existing urban area in Drury. There are currently no constructed bulk assets in the draft structure plan area, although services are being constructed by Watercare and developers to service development as it occurs. The existing Bremner Road development is constructing both water and wastewater services, connected to the existing Hingaia pump station, to provide these services. This infrastructure will form a key component of the structure plan servicing plan.

3.1.1 Water

Water is collected at Watercare's southern dams and treated at the Ardmore water treatment plant. Treated water is the transferred to Drury and Papakura through the Papakura 3 transmission main, to the Papakura Kaipara Road storage reservoir. From the reservoir the Papakura 1 transmission main services Drury and Papakura through two existing bulk supply points at Dominion Road and Hunua Road. There is also some ability to feed water south from Takanini into Drury and Papakura. These transmission mains will not have capacity to supply water demand for the structure plan area, without reinforcement.

In addition to the trunk infrastructure there are also hundreds of kilometres of smaller diameter pipes in each suburb and street, servicing individual customers.

3.1.2 Wastewater

The existing Drury and Papakura wastewater network is a predominantly a gravity system, but also includes a number of pump stations, and has limited capacity for population growth. The main trunk wastewater network collects wastewater from Papakura and Drury and transfers it to the Southern Interceptor and to the Manurewa trunk pump station. From Manurewa wastewater is conveyed to the Mangere Wastewater Treatment Plant either by continuing through the Southern Interceptor, or is diverted to the South Western Interceptor. The length of trunk servicing this area main is around 20km overall. Both of these interceptors collect wastewater from all of the southern suburbs between Drury and the treatment plant. In addition to the trunk infrastructure, there are hundreds of kilometres of smaller diameter pipes in each suburb and street, servicing individual customers.

The Southern Interceptor has capacity during dry weather, but is significantly influenced by wet weather events, as rain enters the wastewater network eroding capacity.

4 Draft Drury – Opāheke Structure Plan

4.1 Overview of draft Drury – Opāheke Structure Plan 2019

The Draft Drury – Opāheke Structure Plan 2019 shows the arrangement of various land uses (residential, business, and parks) and infrastructure. It also shows how these areas connect to adjacent urban areas and wider infrastructure networks. Important cultural values, natural features and heritage values are also addressed.

With the development of the draft residential zonings shown on the Draft Drury – Opāheke Structure Plan 2019, the population of the structure plan area could grow by about 60,000 over 30 years. The draft residential zonings would provide for around 22,000 new dwellings in the structure plan area. Live zoned land at Paerata adds a further 4,500 and there will be some intensification within the existing urban area. The draft Drury – Opāheke Structure Plan 2019 is also estimated to provide for about 12, 000 new jobs. These estimates are based on current development feasibility and exclude areas that may not be developable because of constraints.

4.2 Assessment of the Draft Drury – Opāheke Structure Plan

4.2.1 Draft Drury – Opāheke Structure Plan Development Yield

The development yield anticipated from the draft structure plan can be serviced for water and wastewater. The above ground assets are generally minimal. Land requirements for these assets vary depending on the population connected to them and can range from approximately one standard lot size up to four or five standard lots sizes. These lots are created as part of development proposals as required, or located on publicly owned land where appropriate. The land is transferred to Watercare as part of the development, but is not normally designated.

4.2.2 Water

The existing water services to Drury, Papakura and Takanini will remain operational. There is some capacity to accept additional growth, however these assets are reaching the limits of their ability to provide a water service to a growing community.

Water bulk supply points are planned to be constructed on existing trunk assets to provide water beyond the current population. A new bulk supply point has recently been constructed at Watercare's existing Flanagan Road water pump station with associated infrastructure. This will service developments already underway in the short term and will form the basis of the servicing plans for the structure plan area. New watermains will be constructed between this new bulk supply point and the development areas of the draft structure plan, sized to suit future growth expectations. These projects are already underway.

Development in the structure plan area is also dependent on infrastructure servicing areas outside of the area. A new watermain is required westward from the existing Hunua bulk supply point to improve resilience and the ability to stage construction and upgrades to allow for shutdowns.

Trunk and local network pipelines providing water to the draft structure plan area will be sized to meet the forecast 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. The majority of these assets will be constructed by developers in conjunction with their development proposals.

The map that shows an indicative servicing plan for water infrastructure in the draft structure plan area is below. As noted above, the majority of the water assets will be constructed by developers as part of their development proposals.

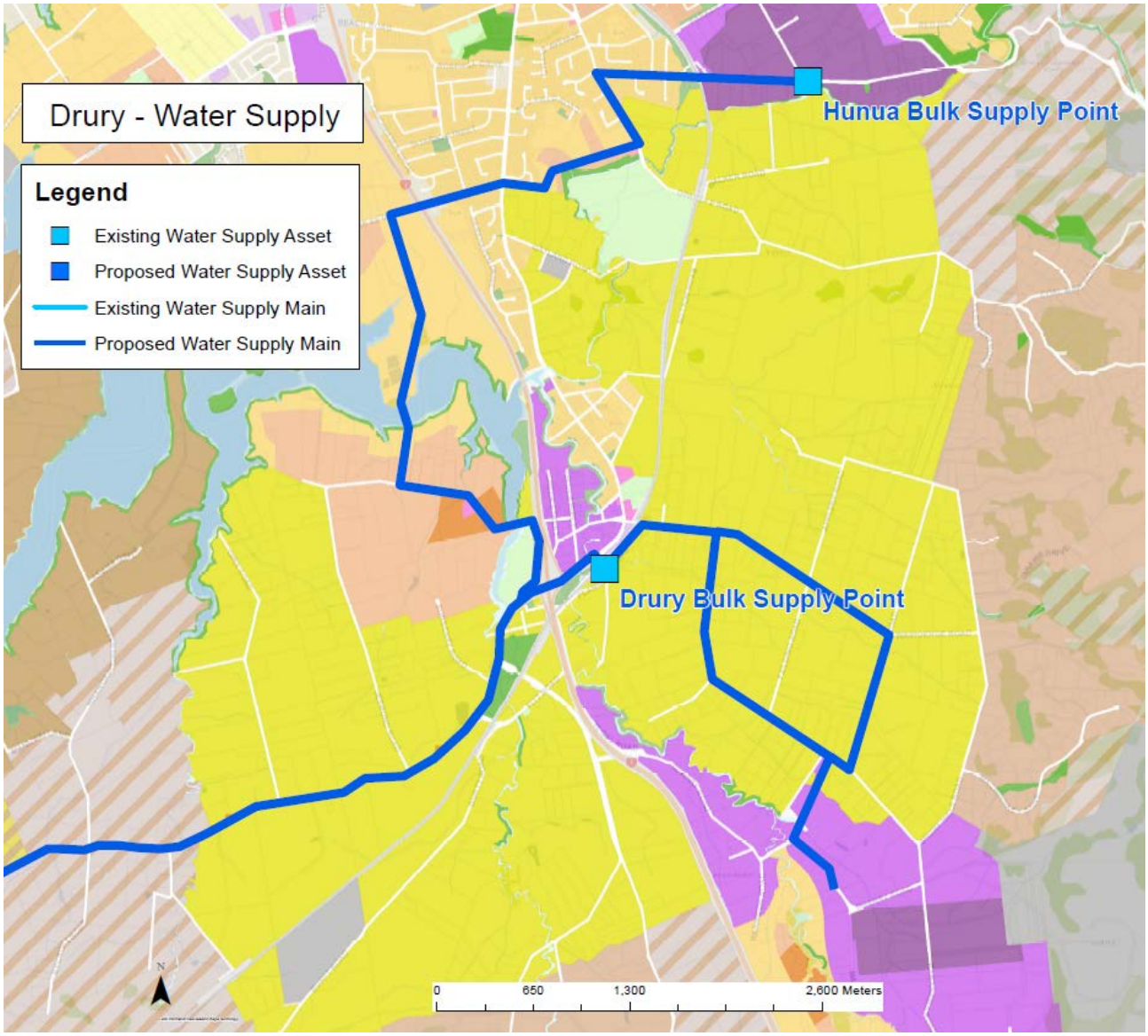

Figure 2: Indicative Drury – Opāheke Water Servicing Plan

4.2.3 Wastewater

The Draft Drury – Opāheke Structure Plan population will largely connect to the existing wastewater network at the existing Hingaia pump station, and to the Southern Interceptor. These assets will be upgraded in a staged manner to meet growth expectations of the area.

Wastewater from the existing Drury township and the structure plan area will be connected to the Hingaia pump station by new wastewater networks, constructed by Watercare and developers as they progress the development proposals. This pump station also services the Hingaia Peninsula. The Southern Interceptor, between Hingaia and Manurewa, will need augmentation to accommodate the expected growth in the structure plan area. The first stage of the augmentation is currently expected to be completed in 2023. Future stages will align with the rate of development. The Mangere wastewater treatment plant future upgrades consider Auckland wide growth, including this area.

The draft structure plan area will have new gravity collector sewers in all catchments, supported by a number of pump stations where required. The key new wastewater pump stations are at Bremner Road and Flanagan Road, which will service current developments underway, as well as developments expected to start in the near term in the southern parts of Opāheke. Watercare is already well advanced in these areas, working with the developers around staging and infrastructure provision.

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. While gravity wastewater networks are heavily influenced by local topography, 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.

The map that shows an indicative servicing plan for wastewater infrastructure in the draft structure plan area is below. This includes assets expected to be constructed by Watercare, as well as assets servicing the local catchments, expected to be constructed by developers.

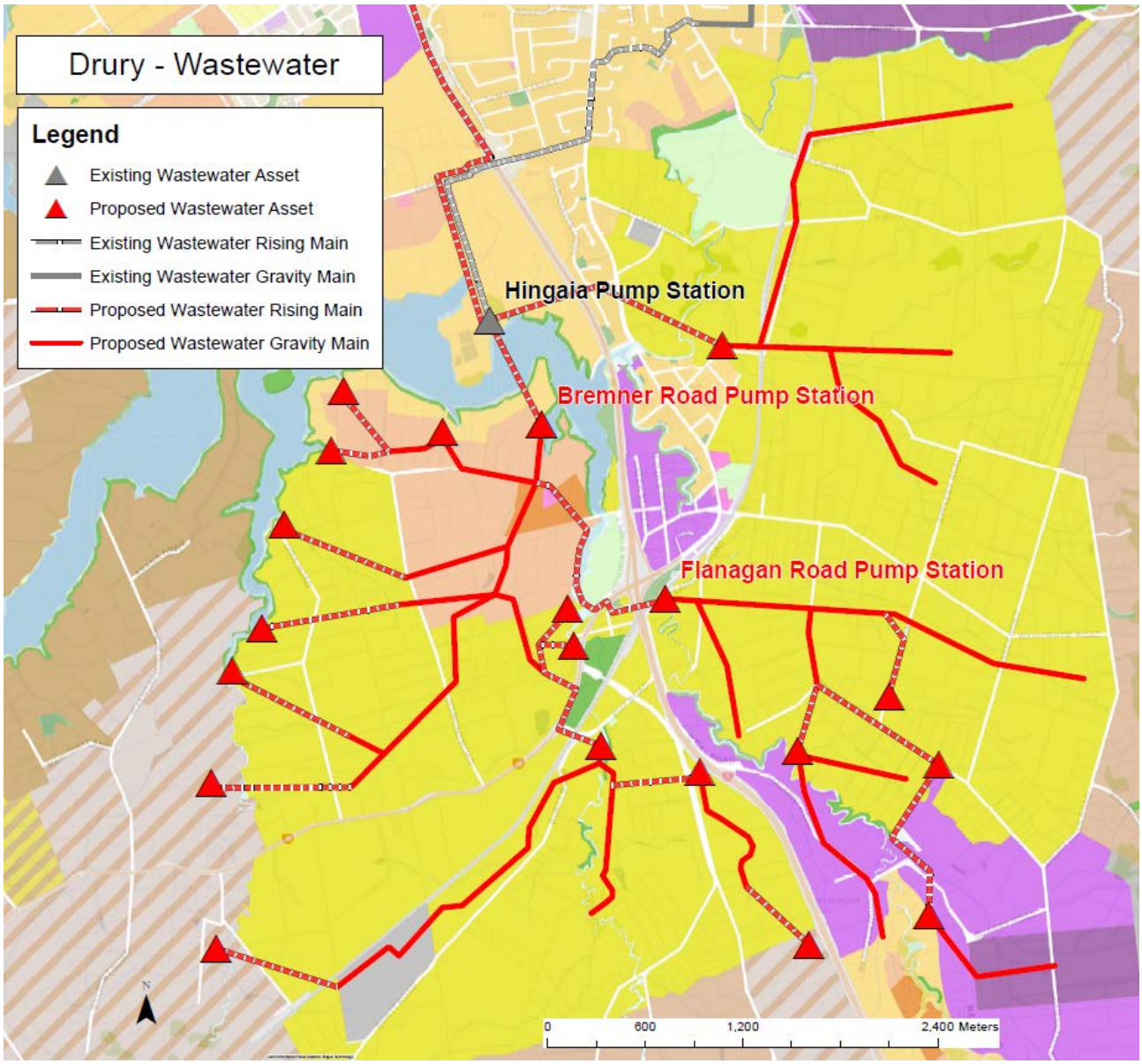

Figure 3: Indicative Drury – Opāheke Wastewater Servicing Plan

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, Drury – Opāheke structure plan area is a defined as significant urban growth node also functioning as a major rural node in the south of Auckland. It provides a range of services to the surrounding rural areas. Significant future employment growth is anticipated alongside residential growth.

The Auckland Plan is a critical document in future Resource Management Act 1991 processes in Auckland. It will be a key driver of future plan changes to Unitary Plan, including Council-initiated and private plan changes to "live zone" future urban areas. It will also be relevant for the assessment of future resource consent applications. The Auckland Plan has close links with the Future Urban Land Supply Strategy. The strategy informs the

greenfield element of the Auckland Plan Development Strategy which makes up a portion of the overall growth anticipated over the next 30 years. The FULSS sets out sequencing for the release of development ready land (large future urban areas).

4.2.6 Future Urban Land Supply Strategy

The purpose of the Future Urban Land Supply Strategy (FULSS 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 Drury – Opāheke is as follows:

- Drury South (Planned now)
- Drury West (Decade One 1st half 2018-2022)
- Remaining structure plan area (Decade Two 1st half 2028-2032)

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 outs 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

<u>In terms of RPS relevant objectives, it is noted that:</u>

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

<u>District Plan</u>

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 Drury – Opāheke.
- 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, as well as the live zoned undeveloped land and intensification in the existing urban area, can be serviced for water and wastewater.

Future water connections to existing transmission networks are required to service this structure plan area. Watercare is working with current developers, to consider the shorter-term infrastructure needs, and have planned upgrade paths for the relevant water infrastructure to support longer term growth aspirations. Trunk and local network pipelines providing water to the structure plan area will be sized to meet the anticipated development yield.

Wastewater will be connected to the existing Hingaia pump station, and on to the Mangere wastewater treatment plant. Augmentation is required for the pump station and associated downstream infrastructure, and this process is underway. Trunk and local network pipelines collecting and conveying wastewater from the structure plan area will be sized to meet the proposed development yield.

The majority of the water and wastewater assets for the structure plan area will be constructed by developers, in discussion with Watercare, to service their developments.