Plan change 12– Enabling Housing: Part 2 Section 32 Evaluation

Appendix 2.5 Infrastructure Capacity Provisions

Section 77J of the HSAA

Author: David Mead

Date: 7 July 2022

Table of Contents

1 Summary

Hamilton City Council must amend its Operative District Plan in accordance with the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2022 (HSAA).

The HSAA requires that the District Plan be amended to provide for three, three storey units on all sites in residential zones within the urban area, subject to specified standards (Medium Density Residential Standards, or MDRS). In addition, the HSAA requires that Policy 3 of the National Policy Statement on Urban Development (NPS-UD) be implemented. Policy 3 states that development of at least 6 storeys in height must be provided for in the walkable catchment of the central city.

Increased rates of infill and redevelopment of established parts of the city raises significant issues with the capacity of three waters infrastructure to accommodate such growth and the associated likelihood of additional pressures on the natural environment where existing capacity is constrained (such as increased wastewater overflows).

Council's Infrastructure team have reviewed available information on three waters infrastructure capacity within the city, providing a "traffic light'' assessment[1]. This assessment highlights that there is insufficient infrastructure capacity (trunk and local networks) across much of the city to meet current demands, let alone additional demands that may be generated by the required NPS-UD or MDRS amendments. There is the potential for significant additional adverse effects on the health and wellbeing of the Waikato River.

As detailed in the Plan Change Overview Report, Te Ture Whaimana o Te Awa o Waikato/the Vision and Strategy for the Waikato River is the primary direction setting document for the Waikato River. Te Ture Whaimana requires the restoration of the health and wellbeing of the River. The HSAA provides for qualifying matters to moderate the intensification sought by the NPS-UD and MDRS, with one of those qualifying matters being Te Ture Whaimana.

Even if the implementation of the MDRS and Policy 3 does not accelerate current rates of infill and redevelopment in the existing urban area, and as a result, there are no additional demands on infrastructure over and above demands currently generated by development enabled by the Operative Hamilton District Plan (OHDP), council is required to take action to reduce pressure on the River. The introduction of the MDRS

[1] See Appendix 3.5 –Three Waters Performance Assessment Report

and Policy 3 provides an opportunity to take a city-wide approach to better co-ordinating land use with infrastructure capacity.

A range of planning approaches have been considered as to how to best co-ordinate on-going city growth with the necessary upgrade and replacement of existing infrastructure in a way that avoids as best as possible adverse effects on the River. This report has evaluated a number of options within the framework set by Sections 32 and 77J of the RMA.

A 'three waters infrastructure capacity' overlay is identified as the preferred method. The overlay would apply across much of the existing, urbanised area of the city and require infrastructure capacity assessments for housing developments of a medium to high density. Local and trunk network capacity would need to be considered, along with planned council upgrades and whether any actions could be taken by the development to limit three water infrastructure demands.

Over time, the overlay should be progressively reduced in extent as infrastructure is upgraded.

The overlay would not be applied to greenfield areas that are yet to be subdivided, as well as the central city, its walkable catchment and land to the immediate north. In the areas not subject to overlay, the MDRS will not be modified to accommodate the qualifying matter, while Policy 3 of the NPS-UD would apply in the central city walkable catchment. However, a local infrastructure capacity check would still be required for development which exceeded 3 units per lot. This check would be similar to the current Restricted Discretionary Water Impact Assessment process.

For residential land subject to the overlay, the MDRS would apply in the underlying General Residential zone (and as modified for the proposed Medium and High Density residential zones), but these standards would be qualified by the overlay. In the General Residential zone development of up to three units on a site would not trigger the infrastructure assessment process, provided net density remains at 1 unit per 200m^2 net site area (reflecting current Operative Plan provisions).

Development of more than three units or of a density greater than 1 unit per 200m^2 net site in the general residential zone, or 1 unit per 150m^2 net area in the medium density zone would trigger an infrastructure capacity assessment that considers both local and trunk capacity issues. Policies support avoidance of additional impacts on the health and wellbeing of the River. Assessment matters take into account what works Council has planned in its Long Term plan.

In addition to infrastructure capacity assessments, Council is also proposing to strengthen management of stormwater generation from sites through new on-site stormwater rules. Water conservation techniques are also to be enhanced[2].

[2] See separate section 32 reports on these matters.

In terms of housing capacity, the infrastructure capacity provisions will still provide housing capacity well in excess of expected demand over the short to medium term. Greenfield areas are not subject to the overlay, while the central city, its walkable catchment and land to the north has been excluded from the overlay to provide options for brownfield redevelopment in a mix of densities and housing types. Housing development of a lower density remains possible for residential sites subject to the overlay.

2 Introduction

2.1 Purpose of this report

This report assesses proposed changes to the Hamilton City Operative District Plan (OHDP) relating to three waters infrastructure capacity, as part of Hamilton City Council's (council) reporting obligations under section 32 of the Resource Management Act 1991 (RMA).

The proposed three waters infrastructure capacity provisions form part of Council's Intensification Planning Instrument (IPI) that is required to be prepared by section 77G of the RMA (also referred to as Plan Change 12). The IPI must give effect to the National Policy Statement on Urban Development 2020 (NPS-UD) and the Medium Density Residential Standards (MDRS) introduced into the RMA by the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2022 (HSAA).

Plan Change 12 includes significant changes to increase permitted heights and densities of residential development across the city, particularly in locations of higher accessibility. This raises issues with the capacity of three waters infrastructure to accommodate such growth and the associated likelihood of additional pressures on the natural environment where existing capacity is constrained (such as increased wastewater overflows).

Council's Infrastructure team have reviewed available information on three waters capacity for 19 areas within the city, providing a "traffic light'' assessment for each area. This assessment highlights that there is insufficient capacity across much of the city to meet current demands, let alone additional demands that may be generated by the required NPS-UD and MDRS amendments. In turn this will impact on the implementation of Te Ture Whaimana.

This section 32 report assesses a number of options as to how additional housing capacity can be co-ordinated with necessary upgrades and replacement of older three waters infrastructure so as to reduce impacts on the River.

Three Waters Reform

The Government is progressing reforms so that three waters services will be provided by four publicly-owned water service entities from July 2024. This means that the planning and funding of three waters infrastructure upgrades will transfer from Hamilton City Council to the new entity. While the new entity will have to respond to the infrastructure demands of the NPS-UD and MDRS, it will likely take some time to develop infrastructure strategies and plans. In the interim, Hamilton

City Council does not wish to enable growth that will create harm to the wellbeing of the Waikato River, nor pass onto the new entity an unsustainable level of work required to accommodate growth.

2.1.1 Structure of the report

This report is structured as follows:

Section 1 discusses the background to Plan Change 12

Section 2 outlines the required evaluation framework

Section 3 sets out the current city growth context

Section 4 identifies relevant three waters infrastructure capacity issues

Section 5 reviews existing district plan policies and methods as they relate to infrastructure capacity

Section 6 considers a range of management options to better align infrastructure and land use planning

Section 7 and 8 assesses these options

Section 9 outlines the proposed approach.

2.2 Background and Issues

2.2.1 National Policy Statement – Urban Development (NPS-UD) and Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 (HSAA)

The NPS-UD and HSAA require significant up-zoning of the existing Hamilton residential urban area. Current district plan policy enables a gentle form of intensification of the existing urban area – in particular, duplex type development involving two adjoined units on a 400m^2 site is possible in the city's General Residential zone.

Briefly, the up-zoning requirements of the NPS-UD and HSAA can be broken down into three components as they relate to residential zones:

1. 1 MDRS to be applied in all relevant residential zones
2. NPS-UD mandatory 6 storeys in the walkable catchment of the city centre
3. NPS-UD rezoning around local commercial centres as relevant to the local context.

In all three cases, the required up-zoning can be modified if specified qualifying matters are present. The main section 32 report details required zoning amendments in more detail.

2.2.2 Infrastructure constraints

Council's assessment of three waters infrastructure capacity (see Appendix 3.5 for more detail) is that the city's infrastructure cannot accommodate high levels of urban intensification in the city without worsening effects on the Waikato River and its tributaries.

For much of the existing (brownfield) parts of the city, the local infrastructure is decades old and constructed for lower densities than those anticipated by the NPS-UD and HSAA, with design standards that reflect the requirements of the time. Further detail of the nature of constraints is set out in the Overview Report.

Effects of increased urban density include:

- Additional wastewater overflows
- Greater untreated stormwater runoff into the Waikato River
- Added pressure on water supply and water take from the River.

Wastewater network capacity constraints and declining condition, coupled with population growth will likely result in increased periodic overflow events and contamination of receiving waters with consequent social and cultural effects and risk to public health.

Additional impervious areas and more concentrated activity may lead to increased contaminated stormwater run-off entering the Waikato River and erosion of stream channels from unmanaged stormwater flows.

The city's sole water source is the Waikato River. The Council's consented water take is insufficient to provide for the increased plan-enabled capacity of the Operative District Plan, let alone HSAA and the NPS-UD. Without significant intervention regarding water usage, the Council will exceed its currently consented take before the term of its consent.

Upgrading and expanding infrastructure to cope with additional intensification will be an expensive project that will need to span multiple decades. Delivering large scale infrastructure upgrades in brownfield areas is difficult because of the significant existing development and the need to maintain services for the existing community during construction and implementation.

Ensuring that the delivery of that infrastructure upgrade is timely, and able to anticipate development pressures across all residential zones in the City is extremely difficult to achieve. Given planning and funding constraints, it is likely that enabled development densities will attract growth at a rate, and in locations that put pressure on existing infrastructure capacity, leading to capacity breaches, consent limit

breaches, and ultimately breaches of the City's obligation to give effect to Te Ture Whaimana.

The likely outcome is that enabling further widespread intensification required by the HSAA and NPS-UD will mean that Hamilton City Council is not giving effect to Te Ture Whaimana o Te Awa o Waikato - the Vision and Strategy - both in terms of the restoration, protection and betterment of the Awa, and the relationships between Waikato Tainui (and other stakeholders) and the Awa.

To understand the significance of these outcomes it is important to recognise that Te Ture Whaimana o Te Awa o Waikato/the Vision and Strategy for the Waikato River is the primary direction setting document for the Waikato River. Te Ture Whaimana Vision and Strategy sets out a number of objectives and strategies that will help achieve the restoration and protection of the health and wellbeing of the Waikato River and the relationship between tangata whenua and the River. Section 12 of the enabling Act clarifies that, in the event of any inconsistency, the Vision and Strategy for the Waikato River prevails over any national policy statement or New Zealand coastal policy statement.

The vision is for a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come. The Vision and Strategy contains objectives and strategies which are in place to realise the vision.

Even if the implementation of the MDRS and Policy 3 does not accelerate current rates of infill and redevelopment in the existing urban area, and as a result, there are no additional impacts on the River over and above effects generated by development enabled by the operative District Plan, under the Vision and Strategy council is required to take action to reduce pressure on the River. The introduction of the MDRS and Policy 3 provides an opportunity to take a city-wide approach to better co-ordinating land use development with infrastructure capacity.

2.3 Potential Qualifying Matter

Both the NPS-UD and HSAA set out a range of qualifying matters that may alter the mandatory up-zoning requirements of either instrument. That is, the housing densities set out in the NPS-UD and HSAA may be reduced or set aside in certain circumstances.

Section 77I of the RMA sets out these qualifying matters. In particular Section 77I(c) states:

> *A specified territorial authority may make the MDRS and the relevant building height or density requirements under policy 3 less enabling of development in relation to an area within a relevant residential zone only to the extent*

necessary to accommodate 1 or more of the following qualifying matters that are present:

…a matter required to give effect to Te Ture Whaimana o Te Awa o Waikato—the Vision and Strategy for the Waikato River:

Before the qualifying matter can be applied, the RMA requires that there be an assessment of the impact of the qualifying matter on the outcomes sought by the NPS-UD and HSAA. As the operative Hamilton District Plan does not contain an explicit city-wide approach to the integration of land use with three waters infrastructure capacity, the required assessment must be in accordance with Section 77J.

Section 77J(3) of the HSAA requires this assessment to cover:

- Identifying where the qualifying matter will apply
- Demonstrating why the qualifying matter is incompatible with the level of development permitted by the MDRS/ Policy 3
- Assessing the impact that limiting development capacity, building height, or density (as relevant) will have on the provision of development capacity; and
- Assessing the costs and broader impacts of imposing those limits.

It is also necessary to provide a description of how modifications to the MDRS and Policy 3 as applied to the relevant residential zones are limited to only those modifications necessary to accommodate qualifying matters and how the modifications are to be implemented (such as by way of a district plan overlay or similar).

It is noted that infrastructure constraints are not directly identified as a specific qualifying matter under the NPS-UD and HSAA. The select committee considering the HSAA Bill noted in response to submissions on the topic that: “there is a risk that such a qualifying matter would place a long-term restriction on development in certain areas, rather than focussing on the provision of infrastructure”.

Section 80DA of the HSAA does recognise ‘infrastructure’ as a related matter where controls additional to the density standards of the MDRS can be imposed (but which do not reduce the density enabled). This reference to infrastructure is in relation to the potential impact of development on the operation of infrastructure rather than capacity issues.

It is therefore important to note that application of the Te Ture Whaimana qualifying matter must be related to impacts on the health and wellbeing of the Waikato River, not to impacts of increased density on all types of infrastructure. The qualifying matter is not Te Ture Whaimana itself, but the “matter” required to give effect to Te Ture Whaimana. In the case of Hamilton City, that “matter” is the balance in the relationship between enabled residential densities, and the provision of public infrastructure necessary to address adverse effects arising from development taking up those densities.

With regard to the health and wellbeing of the Waikato River, notably Council's role and function under the RMA does not extend to controlling the discharge of contaminants into water, or the maintenance of water quality within waterbodies, as those responsibilities rest with the Waikato Regional Council as regulator. However, through Council's comprehensive stormwater and wastewater discharge consents the Council is accountable to the Waikato Regional Council, and those consents must be operated within requisite discharge parameters that align with Te Ture Whaimana. In turn this means that Council must be able to control land uses so as to ensure that discharge consent conditions are met. There have been recent examples of alleged breaches of these consents during heavy rainfall events, and it is likely that these capacity constraints will be exacerbated under increased residential densities.

Under section 31 of the RMA, the Council is tasked with the establishment, implementation, and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district. Managing land use to match infrastructure capacity so as to protect the health and wellbeing of the River accords with this function.

3 Approach to Section 32 analysis

The Overview Report and main Section 32 Analysis sets out the background to the required evaluation under the RMA.

Clause 3.33 of the NPS-UD and Section 77J of the RMA sets out further analysis required for when a new qualifying matter that is not already part of the district plan is to be used. Rather than treat clause 3.33/section 77J as separate tests to that of section 32, an integrated approach is followed in this report.

The standard section 32 steps can be modified to reflect the matters set out in Clause 3.33/Section 77 J (3). Relevant matters are:

- The 'default' environment upon which to consider the efficiency and effectiveness of methods includes the application of the MDRS and Policy 3 of the NPS-UD. It is against this baseline or reference point that modifications of density requirements should be considered.
- Objectives against which options should be considered include the objective of a well- functioning urban environment required to be inserted into the Hamilton District Plan by Schedule 3A of the RMA[3].
- Other objectives include those in the Waikato Regional Policy Statement, and the operative district plan.
- Options are limited to not qualifying the requirements of NPS-UD/MDRS; qualify in part or qualify in whole (i.e. retain status quo as it relates to the specific matter)
- Clause 3.33/Section 77J require additional focus in the assessment on issues of housing capacity and efficient operation of housing markets when considering costs and benefits.

The modified section 32 steps are:

Standard section 32 steps	Plus section 77J steps for existing qualifying matter
<u>Issue</u> **Define the problem- provide overview/summary**	**Sec 77J(3)(a)(i)** Describe the qualifying matter.

[3] Objective 1: a well-functioning urban environment that enables all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future:

Standard section 32 steps	Plus section 77J steps for existing qualifying matter
	Identify by location (for example, by mapping) where an existing qualifying matter applies.
Identify and discuss new objective(s) / outcomes.	**Sec 77 J (3)(a) (ii)** Demonstrate why the Council considers that the qualifying matter is incompatible with the level of development permitted by the MDRS (as specified in Schedule 3A) or as provided for by policy 3 for that area
Identify reasonably practicable options to achieve the objectives	**Sec 77J (4) (b)** Consider a range of alternative density standards or methods for these areas, having considered the particular MDRS standards and/or Policy 3 intensification requirements.
Collect information on the identified options	**Sec 77J (3) (b)** Assess the impact that limiting development capacity, building heights or density, as relevant, will have on the provision of development capacity.
Evaluate options – costs for housing capacity	**Sec 77J (3) (c)** Assess the costs and broader impacts of imposing the limits on development capacity.
Evaluate options - environmental, social, economic, cultural benefits and costs, efficiency and effectiveness	**Sec 77 J (3) (c)** Provide an assessment of the benefits and costs of the options in the light of the new objectives introduced by the NPS-UD and MDRS relating to well-functioning urban environments, as well as relevant settled objectives.
Select most appropriate method / approach	**Sec 77J (4) (b)** Describe how the preferred approach to implementing the qualifying manner is limited to only those modifications necessary

Standard section 32 steps	Plus section 77J steps for existing qualifying matter
	to accommodate the qualifying matter; and how the qualifying matter is applied.
Overall judgement as to the better option (taking into account risks of acting or not acting)	Conclusion as to the implications of the qualifying matter for development capacity to be enabled by NPS-UD/MDRS in the areas where the qualifying matter applies.

The evaluation report "must contain a level of detail that corresponds to the scale and significance of the … effects that are anticipated from the implementation of the proposal".

The effects of the proposed changes set out in this report are significant in terms of their shift from the new 'status quo' as represented by the NPS-UD and HSAA. Consequently, this stand-alone 'contributing' report has been prepared so that the various issues can be examined in detail, with the outputs feeding into Council's overall section 32 report for plan change 12.

3.1 Supporting information

Important supporting documents are:

- Plan Change 12: Three Waters Performance Assessment report, June 2022. (Traffic Light Assessment) See Appendix 3.5
- Capacity Modelling. See Appendix 3.4
- Hamilton City 2051 Infrastructure Strategy.

3.2 Statutory Plans

A thorough analysis of relevant policy, regulations and other statutory and non-statutory documents has been undertaken for Plan Change 12 as a whole, as part of the main section 32 report. Key higher order policy directions relevant to infrastructure capacity issues, led by Te Ture Whaimana as the primary policy setting instrument for the Waikato, include:

3.2.1 Te Ture Whaimana – Vision and Strategy for the Waikato River

A full copy of Te Ture Whaimana is provided in Appendix 3.3 to the Plan Change 12 section 32 report.

The vision and strategy responds to four fundamental issues:

1. *The degradation of the Waikato River and its catchment has severely compromised Waikato River iwi in their ability to exercise mana whakahaere or conduct their tikanga and kawa;*
2. *Over time, human activities along the Waikato River and land uses through its catchments have degraded the Waikato River and reduced the relationships and aspirations of communities with the Waikato River;*
3. *The natural processes of the Waikato River have been altered over time by physical intervention, land use and subsurface hydrological changes. The cumulative effects of these uses have degraded the Waikato River; and*
4. *It will take commitment and time to restore and protect the health and wellbeing of the Waikato River.*

In order to realise the Vision, the following Objectives are to be pursued:

a. *The restoration and protection of the health and wellbeing of the Waikato River.*
b. *The restoration and protection of the relationship of Waikato-Tainui with the Waikato River, including their economic, social, cultural, and spiritual relationships.*
c. *The restoration and protection of the relationship of Waikato River iwi according to their tikanga and kawa, with the Waikato River, including their economic, social, cultural and spiritual relationships.*
d. *The restoration and protection of the relationship of the Waikato region's communities with the Waikato River including their economic, social, cultural and spiritual relationships.*
e. *The integrated, holistic and coordinated approach to management of the natural, physical, cultural and historic resources of the Waikato River.*
f. *The adoption of a precautionary approach towards decisions that may result in significant adverse effects on the Waikato River, and in particular those effects that threaten serious or irreversible damage to the Waikato River.*
g. *The recognition and avoidance of adverse cumulative effects, and potential cumulative effects, of activities undertaken both on the Waikato River and within its catchments on the health and wellbeing of the Waikato River.*
h. *The recognition that the Waikato River is degraded and should not be required to absorb further degradation as a result of human activities.*
i. *The protection and enhancement of significant sites, fisheries, flora and fauna.*
j. *The recognition that the strategic importance of the Waikato River to New Zealand's social, cultural, environmental and economic wellbeing requires the restoration and protection of the health and wellbeing of the Waikato River.*
k. *The restoration of water quality within the Waikato River so that it is safe for people to swim in and take food from over its entire length.*

l. *The promotion of improved access to the Waikato River to better enable sporting, recreational, and cultural opportunities.*
m. *The application to the above of both maatauranga Maaori and latest available scientific methods.*

The following strategies are particularly relevant:

1. *Ensure that the highest level of recognition is given to the restoration and protection of the Waikato River*.
2. *Encourage and foster a 'whole of river' approach to the restoration and protection of the Waikato River, including the development, recognition and promotion of best practice methods for restoring and protecting the health and wellbeing of the Waikato River*
3. *Ensure that cumulative adverse effects on the Waikato River of activities are appropriately managed in statutory planning documents at the time of their review.*

3.2.2 National Policy Statement on Freshwater Management 2020

Clause 3.5(4) of the National Policy Statement on Freshwater Management 2020 (NPS-FM) directs:

> *Every territorial authority must include objectives, policies, and methods in its district plan to promote positive effects, and avoid, remedy, or mitigate adverse effects (including cumulative effects), of urban development on the health and well-being of water bodies, freshwater ecosystems, and receiving environments.*

This direction supports the inclusion of district plan provisions to strengthen the management of stormwater quality and quantity, as well as taking steps to manage wastewater overflows.

3.2.3 National Policy Statement on Urban Development.

This Policy Statement seeks to ensure that urban areas can develop, grow and adjust efficiently to urban growth pressures in ways that do not hamper housing supply. The NPS-UD 2020 recognises the national significance of:

- Having well-functioning urban environments that enable all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future
- Providing sufficient development capacity to meet the different needs of people and communities.

Objective 1 and Policy 1 outlines that well-functioning urban environments cover factors such as enabling a variety of homes that meet the needs (in terms of type, price, and location) of different households; have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; which support, and limit as much as

possible adverse impacts on, the competitive operation of land and development markets, and which reduce greenhouse gas emissions.

In achieving well-functioning urban environments, Objective 6 states that local authority decisions on urban development that affect urban environments are:

a. *integrated with infrastructure planning and funding decisions; and*

b. *strategic over the medium term and long term; and*

c. *responsive, particularly in relation to proposals that would supply significant development capacity.*

3.2.4 Waikato Regional Policy Statement

The Waikato Regional Policy Statement (RPS) incorporates Te Ture Whaimana – Vision and Strategy for the Waikato River. Relevant objectives and policies are set out in the main Section 32 report. Important matters contained in the RPS include that the health and well being of the Waikato River is restored, while urban growth occurs in a manner that supports the Vision and Strategy for the Waikato River.

3.2.5 Tai Tumu Tai Pari Tai Ao, the Waikato-Tainui Environment Plan and Te Rautaki TaamatAo Turoa o Hauaa: Ngaati Hauaa Environmental Management Plan

Both these plans place strong emphasis on improving water quality and the health of the Waikato River. The section 32 report addresses these documents in more detail.

4 City Planning Context

This part of the report looks at the nature and extent of the two main issues – housing capacity and the issues involved in upgrading inadequate infrastructure.

4.1 Strategic planning

The need for a staged approach to infill and intensification has been well signalled in various urban growth plans and strategies for Hamilton. Hamilton City is part of the Future Proof (FPP) group of councils.

The Hamilton Waikato Metropolitan Spatial Plan (MSP) was published in September 2020.

The MSP identifies that approximately 70 percent of growth in the FPP area will be focussed in Hamilton, with around 30 percent of growth in key townships in the Waikato and Waipā districts. Of this growth, around 50 percent will be provided through infill or intensification of existing urban areas. While the MSP directs growth to these areas it is important to note that the plan assumes a limited amount of ongoing growth will occur outside of these identified areas, in line with district growth strategies and Future Proof.

In terms of spatial drivers, the MSP identifies the following 'spatial plan' directives:

- Application of water sensitive city design principles that support and enable population growth and deliver positive environmental and cultural outcomes by taking account of the three waters infrastructure investment and operational requirements in assessing and planning development.

- Ensure environmentally integrated and water sensitive planning and design principles are considered at all scales.

- Collaborate to give effect to Te Ture Whaimana o Te Awa o Waikato – Vision and Strategy for the Waikato River.

- Seek responsive solutions that lead to positive environmental outcomes within the catchment.

The MSP notes that the nature and value of investment in upgraded infrastructure is to be considered through the next versions of Hamilton City Council's infrastructure master plans and will be informed by new land use expectations arising from the NPS-UD changes. Increased development densities across all parts of the residential zones, without any spatial refinements, are likely to make that master planning unaffordable.

4.2 Housing supply

The NPS-UD and HSAA have the express goal of stimulating increased housing supply by increasing opportunities for new housing. These additional opportunities should be well in excess of demand for housing.

In terms of current trends in house building relative to population growth, in the period 2017 to 2021, the population of Hamilton expanded by around 13,400 people, while 5,974 residential units have been consented. This is one consented dwelling unit per 2.24 additional residents. While not all building consents will be actioned, and some consents will be for replacement dwellings, the data suggests a relatively buoyant house building market, relative to population growth.

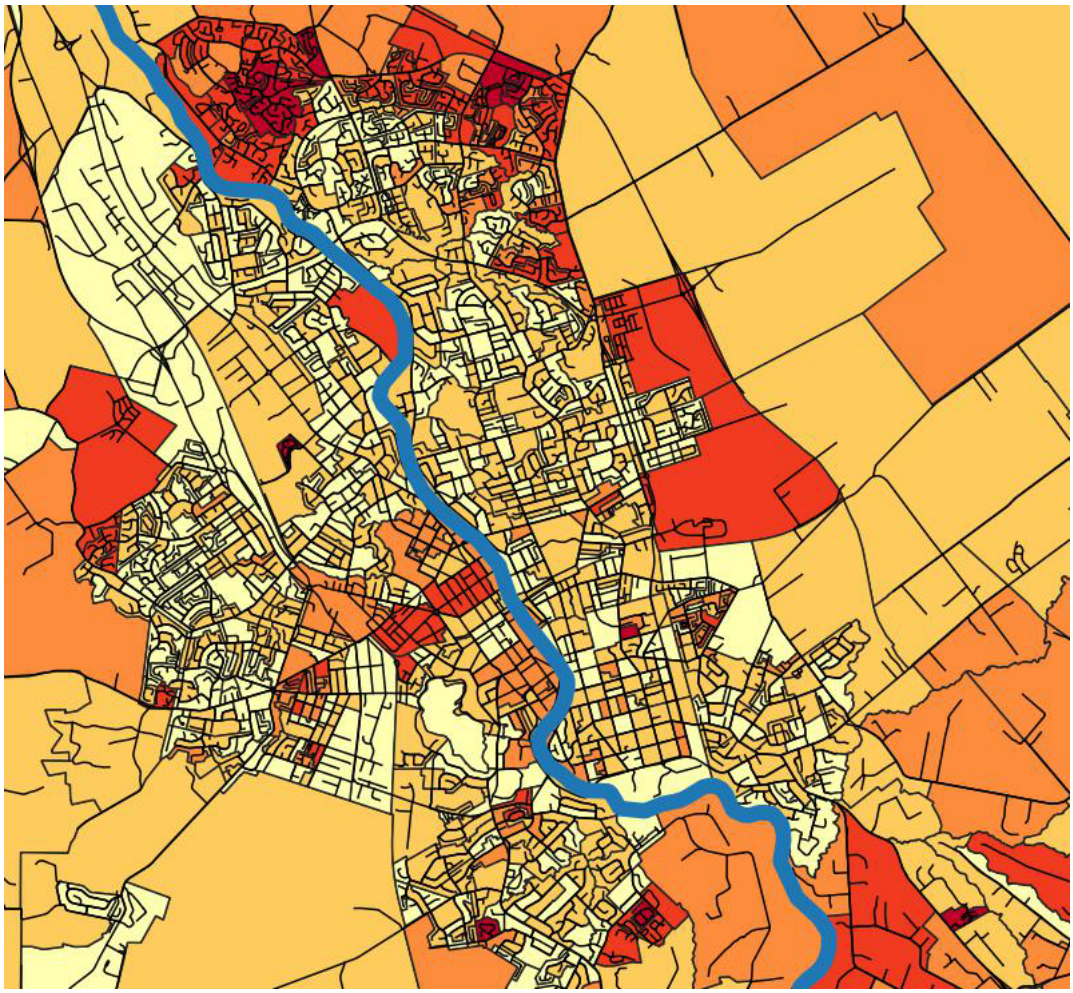
Table 1 provides the data on annual estimated population growth and the number of residential units issued with building consents. In 2020 to 2021, the city recorded very low growth compared to previous years, but high building consent numbers. The low population growth reflects the impact of Covid-19 on inward migration patterns.

Table 1: Hamilton City population increase versus residential building consents

	2017-18	**2018-19**	**2019-20**	**2020-21**	**2017-21**
Population added	3,500	3,900	4,400	1,600	13,400
Dwelling consents issued	1,192	1,620	1,594	1,568	5,974
Dwellings consented per 100 residents added	34.05	41.53	36.22	98.00	44.58

In terms of recent spatial growth patterns, census data on residential buildings constructed between 2006 and 2018 does not suggest any strong pattern of infill development being concentrated in one part of the city or another. There is strong growth in peripheral (greenfield) sites. Within the existing urban area, most areas have seen modest levels of growth.

Figure 1: Increase in dwelling numbers 2006-2018



Legend

<0 dwellings	0-12 dwellings	12-33 dwellings	33-72 dwellings	72+ dwellings

Looking at the capacity to accommodate more dwellings under current policy settings, the 2022 Residential Capacity Modelling report (see Appendix 3.4) found that in total, under the Hamilton Operative District Plan, there is a plan enabled capacity for an additional 41,000 to 140,000 dwellings within the existing Hamilton urban area (depending upon the extent of infill versus redevelopment).

Greenfields capacity is estimated at 32,000 dwellings. For Brownfields, major components of capacity include the central city, with over one-third (38%; 41,000 dwellings) of the plan enabled redevelopment capacity in the form of apartment dwellings within the City Centre. Across the remainder of the existing urban area, there is a modelled plan enabled redevelopment capacity for 67,500 additional dwellings.

There is a projected demand for an additional 3,500 urban dwellings (greenfields and brownfields) in the short-term (to 2023), or an additional 4,200 dwellings once a competitiveness margin is applied[4]. In the medium-term there is a demand for an additional 11,900 dwellings (+14,300 dwellings with a margin), and an additional 37,500 dwellings in the long-term (+43,100 dwellings with a margin).

The 2021 Housing and Business Assessment[5] provides an assessment of how much infill capacity under the Operative Plan is commercially feasible (as defined in the NPS-UD). In the medium term feasible capacity is estimated to be 16,300 dwelling units.

Demand for infill and redevelopment units (rather than greenfields housing) is subject to a range of assumptions. The 2021 HBA estimates that if a moderate to high preference shift toward attached dwellings were to occur, where around half of the future demand was for attached dwellings, then this would amount to demand for around an additional 19,300 detached dwellings and around 18,100 additional attached dwellings, in the long term.

In the short to medium term, Council's growth strategies seek a 50/50 split between brownfields and greenfields. If it is assumed that the identified infrastructure constraints will see less ability for brownfields areas to absorb growth in the short term, then a rough 60/40 split between greenfields and brownfields may occur in the short term, transitioning to a 40/60 split in the longer term, Under these assumptions, then brownfields demand could be as follows:

[4] 10%, as required by the NPS-UD.

[5] NPS-UD Housing Development Capacity Assessment Future Proof Partners 30 July 2021 – final

Table 2: Estimates of brownfield housing demands without MDRS

Planning period	City wide dwelling demand plus NPSUD margin	% Brownfields	Brownfields dwelling demand	HBA Capacity assessment – infill and redevelopment (Commercially feasible) – current plans
Short term (2020-23)	4,200	40%	1,680	16,300
Medium term (2023 to 2030)	14,300	50%	7,150	16,300
long term (2030 to 2050)	37,500	60%	22,500	43,800

In the medium term, reasonably likely to be realised capacity is greater than brownfields demand. Current district plan policy settings provide for a much larger pool of potential development capacity in the urban area. The amount of feasible capacity that is likely to be realised out of this pool is based on judgements as to the level and scale of development which is likely to be delivered by the market. This means that as demand increases for infill units, more and more of commercially feasible units capacity will be realised.

HSAA requires that there be additional housing capacity, over and above current allocations. In simple terms, most of Hamilton urban area will see capacity increase by at least a third, as the 3 unit model of HSAA replaces the duplex model of the Hamilton Operative District Plan. Further capacity will be provided in the walkable catchment of the city centre zone and adjacent to local shopping centres.

The extra capacity provided by HSAA may stimulate faster growth of the Hamilton urban area. For example, the Cost-Benefit study that supported the HSAA[6] stated that the MDRS policy, during the five to eight years following policy enactment, is expected to generate additional demand of between 3,400 to 12,200 dwellings, with a mid-

[6] Cost-Benefit Analysis of proposed Medium Density Residential Standards, page 13.

range estimate of 8,300. This is demand over and above current population growth estimates. However, some of this new dwelling demand may be generated from the current population (average number of people per household drops as new households are formed out of the existing population).

About 75% of the 'extra' supply is expected to locate in brownfields areas. This will draw off some demand for greenfields development.

In other words, the MDRS may increase the current estimates of demand for living within brownfields areas, up to 2030, from around 7,150 dwelling units to perhaps 13,300 dwelling units.

4.3 Accelerated housing supply

The main impact of the MDRS is likely to be faster rates of development in the existing urban area, along with more intensive use of land in some areas. As noted, modelling of the draft MDRS[7] suggested an additional 830 dwellings per year over the medium term, of which 600 may locate in the existing urban area, compared to the without MDRS situation. In theory, this increased demand will result in more of the current urban area being redeveloped, than the without MDRS scenario.

The greater site intensity of development allowed for by the MDRS may see this increased development concentrated into a smaller area. For example, with the MDRS in place, a 650m^2 site may accommodate three units, rather than two. Table 3 explores the basic dynamics.

Table 3: Development scenarios

Scenario	Brownfields dwelling demand – medium term	Net increase in dwellings per site	Number of sites required to accommodate extra dwellings
Current demand / district plan	7,300	1 (OHDP duplex model)	7,300
Future with MDRS – district plan plus MDRS	13,300	2 (MDRS ''triplex'' model)	6,650

[7] Cost-Benefit Analysis of proposed Medium Density Residential Standards, MfE, page 56

Future with Policy 3 in place	13,300	12 (NPS 6 storey apartment)	1,108

It is unlikely that many 6 storey apartment buildings will be feasible in the next 10 years, given limited demand. Alternatively, if the housing market retains a preference for a duplex-type model and does not take up the MDRS model of 3 units per site, then the number of sites that need to be redeveloped would increase under the MDRS scenario, compared to the current situation.

In both cases - faster more concentrated growth or steady more spread patterns of brownfields growth - it is not easy to determine beforehand where this growth will locate, and as a result line up infrastructure investment.

Council's traffic light assessment indicates that in the case of Hamilton, on-going brownfields development will trigger the need for substantial upgrading of existing infrastructure. While this upgrading would be required at some point under current policy settings (given Council's strategy of enabling brownfields development), the necessary upgrades will need to be funded earlier and to a greater scale than currently anticipated, with MDRS and Policy 3 in place.

Analysis for the HSAA suggests that once inner-city areas are rezoned, lower quality or single dwellings are likely to be converted into multi-unit dwellings at a reasonably rapid pace, assuming there are no other housing supply chain constraints, such as infrastructure. This increased supply is identified as providing the following benefits for Hamilton:

- The forecast increase in dwellings is predicted to decrease 2043 median dwelling prices by $167,100 in 2019 dollars.
- Along with reduced house prices, the increased density of activity is expected to generate some 'urban agglomerations' benefits that will increase per capita GDP, perhaps by a total of around $51.9m per year.
- In terms of infrastructure costs, the switch away from greenfields growth to an emphasis on brownfields growth is anticipated to see some benefits, in terms of development not generating as much 'external' – or unaccounted for – costs. In other words, greenfields growth is seen to only contribute to some of the infrastructure and environmental costs it incurs (such as congestion costs). The Cost-Benefit study assumes that brownfields growth has a closer match between costs and development contributions (due to assumptions about the ability of current networks to accommodate modest levels of growth without major upgrades). As discussed below, this assumption is not correct in relation to Hamilton.

4.3.1 Infrastructure provision and brownfields development

Whether infrastructure capacity issues should restrain rates of brownfield development is a matter of contention.

The cost benefit study that accompanied the HSAA noted that additional pressure on infrastructure in existing urban areas is expensive to remedy but there is limited evidence on the infrastructure pressures which would be triggered by rezoning and subsequent uptake of development opportunities. Brownfield redevelopment may reduce, to some extent, greenfield expansion (which can be more expensive to service).

The study goes on to say that impacts from the MDRS are expected to be manageable in the short to medium term, as poorer housing stock, predominantly in inner city suburbs, is replaced gradually. These areas are often well serviced by infrastructure and councils have the ability to signal when infrastructure capacity will be increased. Developers can be required to contribute to the costs of infrastructure upgrades required to enable the development.

The study notes that the addition of the MDRS may change the expected pattern of development under current plans. If patterns of development differ considerably from existing growth scenarios, as a result of these initiatives, this could lead to unexpected large one-off costs, where new infrastructure investment is required. Central and local government will need to monitor the patterns of development that result from the MDRS and implementation of the NPS-UD closely.

The last point is relevant to Hamilton City. The MDRS / Policy 3 requirement will likely accelerate a growth pattern that will trigger large infrastructure costs earlier than anticipated. A monitoring response to this issue is insufficient to address the risks to the health and wellbeing of the Waikato River. A much more proactive response is needed.

Central government has stated that risks and costs facing council can be addressed through the three water reforms, rather than a planning response. For example, the recent Infrastructure Commission Strategy[8] notes that the costs of maintaining existing water infrastructure and building new water networks to cope with growth is a challenge for growing cities. A lack of water infrastructure can put a handbrake on housing development. Water-sector reforms offer opportunities to improve the way water infrastructure is provided in growing cities. Reforms can improve the ability of water providers to respond to the need to renew ageing infrastructure, improve water quality and provide for growth. The Strategy suggests that performance-based economic regulation, which requires high-quality service for both existing and new users and sets incentives for providing services at an affordable cost, is important to

[8] Rautaki Hanganga o Aotearoa. New Zealand's Infrastructure Strategy.

achieving this. This approach is already used in sectors like telecommunication and electricity distribution.

To improve responsiveness to new housing development, the Strategy states that there is a need to unlock the ability of water providers to:

- Borrow to finance new infrastructure.

- Set prices for access to and use of water networks that allow the cost of infrastructure upgrades to be paid back over time.

There is also a need to recognise the role that private developers may play in providing water infrastructure, such as through the use of the Infrastructure Funding and Financing Act 2020 or through agreements that allow developers to benefit from providing spare capacity that can be shared with other users.

In other words, consideration in the Hamilton context of district plan-based methods to co-ordinate growth with infrastructure upgrades occurs within a framework of the government favouring nonplan-based methods to achieve integration. Yet, given the extent of issues facing Hamilton, there is a high risk of land use decisions being made without associated infrastructure funding plans or mechanisms being in place, resulting in an inability to fund and deliver necessary upgrades, leading to adverse effects on the natural environment. While new funding streams are important, along with improved infrastructure planning, the sheer scale of the works required mean that a staged approach to upgrade and replacement must be taken. This is the situation that Hamilton City faces.

5 Infrastructure Constraints (s77J(3)(a)(i))

5.1 Current state

Council has undertaken a 'traffic light' assessment (TLA) of three waters infrastructure capacity across the city, based on best available information. See Appendix 3.5 to the section 32 report.

For the purposes of the study, the urban area has been divided into 19 sub areas.

The study used a range of criteria to categorise the ability of infrastructure to cope with additional growth.

Analysis has been provided for stormwater, wastewater and potable water. No attempt has been made to provide an overall classification for each of the sub areas as there is no appropriate method to combine the ratings across three different types of infrastructure.

The analysis of capacity of existing infrastructure is based on very limited population growth in the existing urban area out to 2040. 2018 projections were used in the analysis, based on then current ODP zonings and growth patterns. The population projections do not reflect the potential growth patterns with MDRS / Policy 3 in place. In particular, greater densities in greenfield areas and more redevelopment in brownfield areas is likely with the MDRS /Policy 3 in place.

Table 1 provides a summary of this analysis for the three waters, based on the following coding.

Impact on River from additional development	**Colour code**
Low impact	
Medium impact	
High impact	
Extreme impact	

Table 4: Traffic Light Assessment

Area		Population growth assumed (2021-51)	Stormwater	Wastewater	Potable Water
1	Flagstaff East	+ 2804			
2	Huntington	-2381			
3	Chartwell	+190			
4	Pukete East	+173			
5	Enderley North	+2238			
6	Claudelands	+723			
7	Hamilton East	-174			
8	Beerescourt	+2112			
9	Crawshaw	+52			
10	Dinsdale North	+1887			
11	Hamilton Lake	+584			
12	Mangakootukutuku / Bader	+2206			

Area		Population growth assumed (2021-51)	Stormwater	Wastewater	Potable Water
13	Hillcrest East	+2062			
14	Greensboro	-181			
15	Rotokauri	+ 13624			
16	Te Rapa	0			
17	Ruakura	+3566			
18	Peacocke	+16851			
19	Temple View	+1444			

No one area benefits from limited constraints. All areas have constraints of one form or another. However, within this general picture there are discernible differences between areas with significant constraints and those with more moderate constraints.

One way of distinguishing areas is based on the type of infrastructure. In particular, wastewater overflows represent a more significant threat to the ecological, cultural, amenity and recreational values associated with the River.

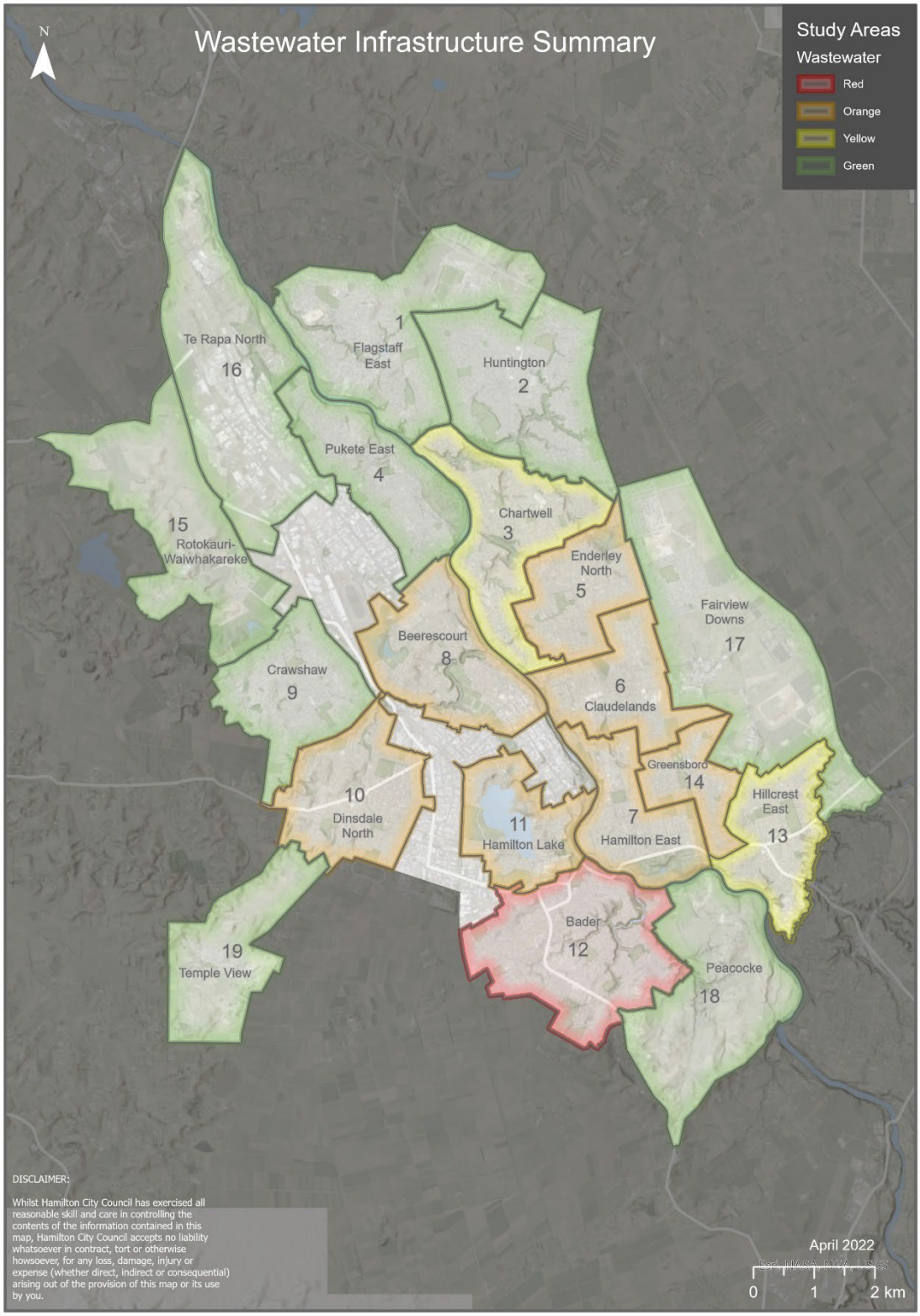
The wastewater assessment has the greatest variability across the city, with some low impact 'green areas' and some high impact areas.

In contrast, the summary assessment of water supply shows consistent problems across the city relating to low water pressure and inadequate local capacity. Issues with water supply do impact upon the health and well-being of the River through bulk water supply take.

Stormwater network issues are variable across the city. The impact of additional houses and impervious surfaces can be ameliorated to an extent by stronger on-site stormwater controls, but catchment wide works are still needed to manage additional pressures.

Figure 1 shows the outcome of the wastewater assessment. The older, central parts of the city have limited capacity while the outer greenfield areas have more ability to cope with growth.

Figure 1: Wastewater constraints



The Three Waters assessment has highlighted the challenges facing the council in responding to growth pressures and national direction to increase housing capacity in the existing urban area, let alone in managing current growth plans.

The assessment highlights that:

- Wastewater networks have the greatest variability in capacity across the city.
- Water supply issues are “city-wide” with less geographic variability
- Stormwater network issues vary to a degree, depending upon the immediate receiving environment (e.g. stream gullies)

In general, greenfield areas can better cope with additional growth than brownfield areas.

An important conclusion of the assessment is that there may need to be assessment of all development proposals against three waters infrastructure capacity, as no area is free of constraints. For example:

1. Detailed assessments needed in areas of significant constraints, where trunk and local services are stretched
2. General assessments needed in areas of low to moderate constraints (similar to current practice).

5.2 Potential Impacts (Sec 77 J (a) (3) (ii))

In terms of potential impacts on the River environment from increased intensification placing additional load on inadequate three waters infrastructure, the following points can be made.

Stormwater

Additional run off (quantity)

Current district plan rules limit building coverage to 40% in the residential zone and 50% in the residential intensification zone, while a minimum permeable area of 30% and 20% apply respectively.

Housing development is subject to a water efficiency rule which helps to mitigate some runoff effects while larger residential developments (4 or more units) must complete a water impact assessment.

Under the MDRS, all residential sites can have 50% building coverage, but must meet a 20% landscape requirement. No minimum permeable area applies.

City wide application of the MDRS could see impervious cover increase to at least 80% on all residential sites, up from 70% in the residential zone (but similar to the residential intensification zone). However, the 20% landscape rule of the MDRS is unclear and may allow for impervious surfaces, under tree canopies for example, so the increase in coverage could be to 90%, for example.

On a practical level, current impervious coverage of suburban residential areas is often around 50 to 60%. While there is the theoretical ability for a site to go to 70% under current district plan rules, this level is often only reached upon redevelopment. In effect, intensification could lead to a 30% to 40% increase in run off, if not managed.

Comprehensive redevelopment of sites may open up opportunities to 'claw back' some effects. For example, where an existing house is removed and three new houses built, then mitigation of the runoff from all existing and new impervious areas is more practicable to achieve, than if the existing house remains and a single new house is added.

Additional quality impacts

Intensification has the potential to concentrate vehicle use (and as a result contaminant loads) into a smaller area, compared to if the same level of development was spread over a larger area. At an on-site level, intensification will likely lead to more concentrated use of right of ways by vehicles, for example. Currently a stand-alone house on a 650m^2 site may have (on average) 1.79[9] cars. If the single house is replaced by three units, then vehicle ownership may increase to 5.37, each potentially making 10 trips (in and out) per day.

New dwellings may incorporate building materials that generate contaminants such as copper and zinc.

Concentration of development may help with some mode shift towards public transport, walking and cycling compared to more dispersed patterns. Concentrated development may also offer benefits from a number of dwellings utilising the same water quality treatment device, sharing maintenance costs.

Greater population density may help to reduce per capita costs of retrofitting water quality treatment devices into the existing urban area.

Wastewater

All of Hamilton City's wastewater is currently pumped to and treated at the Pukete Wastewater Treatment Plant (WWTP), at the northern end of the city.

Network capacity constraints and declining condition of the network, coupled with population growth may result in increased overflow events and contamination of receiving waters with consequent social and cultural effects and risk to public health.

The MDRS provides scope for three, three-level dwellings on all sites. This will see wastewater generation increase compared to the current 'duplex' model, if all sites take up the larger development envelope.

[9] Average based on 2018 census data for Hamilton Urban Area.

Under current rules, in the residential zone, a 650m^2 site may have 2 units on it. Covering 40% of the net site area, the building footprint would be 240m^2 or 120m^2 per unit. Two storey development could double this floorspace. Total floorspace may be 480m^2. Maximum occupancy may be roughly 50m^2 per person, or 10 people (for example two larger families in each house).

With the MDRS in place, the 650m^2 could accommodate three units, each with a footprint of 100m^2, and a floor area of 300m^2. Total floorspace could be 900m^2, or an occupancy of 18. This is a 50% increase. This will generate additional overflows in the local network.

For the current residential intensification zone, with the potential for 'apartments' at 1 unit per 150m^2, the 650m^2 site could accommodate 4 units. The building footprint would be 300m^2, which if over 3 levels, could equal 900m^2 of floorspace. This would equal the occupancy rate of the MDRS.

On the positive side, greater population density may help to reduce per capita costs of upgrading and replacing wastewater networks in the urban area.

Water

Per capita water demands across the city may not change with a greater emphasis on intensification, although local networks may come under pressure.

The increased housing supply options may induce additional population growth as households shift to the city due to the expanding housing stock.

Intensification with smaller garden areas and less space for pools and other water intensive outdoor uses may help moderate some water demands compared to lower density, more suburban forms of development.

The process of redevelopment has the potential to see greater take up of water conservation measures as older houses are removed and newer houses are built. This is in comparison with an emphasis on greenfield growth, where there is less replacement of older housing stock.

5.3 Current response

Council's 2021-51 Infrastructure Strategy recognises the need to invest in the upgrade and expansion of infrastructure in the existing urban area to address existing problems and to cater for future growth, but also recognises the financial constraints that limit the extent to which these upgrades can be accelerated.

The Council's Long-Term Plan 2021-2031 contains a multi-decade programme with three packages of investments in three waters and transport infrastructure to support changes in land use for intensification precincts within the existing city.

In years 2024-2031, $114 million has been allocated. A further $262 million has been budgeted for 2031-2041, with the final package of investments totalling $64 million for 2041-2051. The three packages of work total $440 million.

Upgrading and expanding three waters infrastructure capacity in brownfield areas is going to be a long term, expensive project. There is no quick fix. Current LTP allocations are likely to be inadequate. In short:

- The MDRS and NPS-UD will have the effect of bringing forward the date as to when major upgrades are needed.
- Implementing the Vision and Strategy places an emphasis on upgrading infrastructure ahead of intensification.
- Council's ability to simultaneously fund large scale greenfield and brownfield development is restricted.
- Financial contributions may help with meeting some additional brownfield costs, but new growth will represent only a modest proportion of total costs in brownfield areas.
- Council has limited ability to 'react' to unanticipated growth demands due to current commitments and limits on expansion of financial resources.

Council's resources are already oversubscribed. A step change in both resourcing and approach to land use and infrastructure co-ordination is required.

6 District plan provisions (s77J 4)

6.1 Operative Objectives and Policies

The Operative Hamilton District Plan recognises that infrastructure capacity is an issue that influences the nature and type of intensification enabled**.**

Strategic Policy 2.2.2c states that the release of land for urban development will not be allowed unless appropriate infrastructure is available, and the servicing of this land does not compromise the efficiency and sustainability of planned infrastructure.

Chapter 3 sets out the role and purpose of structure plans. The preparation of a Structure Plan is one of the first steps in advancing the development of new (greenfields) urban areas. It illustrates land uses such as residential, commercial, industrial and public open space. Structure plans usually contain broad servicing details such as transport configuration and may include other important key infrastructure features such as Three Waters networks. Structure Plans are incorporated into the district plan.

Chapter 4 deals with residential zones. Policy 4.2.1a refers to a variety of housing densities and types should be developed, consistent with the capacity of the existing infrastructure, while Policy 4.2.1c identifies that new residential development shall be able to be adequately serviced in terms of Three Waters infrastructure.

Under objective 4.2.2 - efficient use of land and infrastructure – policy 4.2.2a (ii) recognises that there may be a need to stage and sequence development.

Policy 4.2.8a identifies that development should encourage the efficient use of energy and water by incorporating water-sensitive techniques.

The subdivision chapter (Chapter 23) also addresses infrastructure. Objective 23.2.4 refers to the provision of infrastructure services as part of the subdivision process. Related policies (23.2.4a) cover:

- Provision of adequate levels of infrastructure and services appropriate for the proposed development.
- Taking into account and not compromising the infrastructural needs of anticipated future development.
- Appropriate infrastructure and/or infrastructure capacity is to be available to service the proposed development.
- Ensuring that the capacity, efficiency, performance and sustainability of the wider infrastructure network is not compromised.

Chapter 25 covers various city-wide matters, one of which is ‘development suitability’. Objective 25.1.2.1 refers to the provision of safe, efficient and integrated infrastructure as part of land development. Policy 25.1.2.1c states that urban

development will not be allowed unless appropriate infrastructure is available, or is made available by the developer, and the servicing of this land does not compromise the safety, efficiency and sustainability of planned infrastructure.

Chapter 25.13 contains objective 25.13.2.2 and policy 25.13.2.2a promoting the incorporation of water efficiency measures into new subdivision and development. Chapter 25.13 also sets out the purpose of Integrated Catchment Management Plans and Water Impact Assessments.

> *25.13.2.3a*
> *All subdivision and development provides integrated Three Waters infrastructure and services to a level that is appropriate to their location and intended use.*
>
> *25.13.2.3b*
> *Subdivision and development shall not occur unless the required infrastructure is available to service it.*
>
> *25.13.2.3c*
> *Three Waters infrastructure is to be designed and constructed in accordance with any existing Structure Plan and relevant Integrated Catchment Management Plan.*
>
> *25.13.2.3d*
> *Large scale subdivision and development proposals are to prepare an Integrated Catchment Management Plan (where one does not already exist) or a Water Impact Assessment.*

The plan notes that Integrated Catchment Management Plans will be used as a tool to help manage the form and function of Three Waters infrastructure in an integrated, effective, efficient, functional, safe and sustainable manner.

Over time Integrated Catchment Management Plans are anticipated to be developed for existing urban areas. Structure Plans and large-scale activities require an Integrated Catchment Management Plan (as outlined in Volume 2, Appendix 1.2.2.6). Until this occurs, stormwater, water and wastewater infrastructure must continue to be provided and managed. Water Impact Assessments are another complementary tool that are used to assess and ensure Three Waters integration at a more detailed level.

6.2 Current Methods

In terms of methods to implement these policies, the most relevant methods for residential development are density standards; connection requirements; and requirements for ICMPs and Water Impact Assessments.

The district plan has density targets 'promoted by Future Proof and the Regional Policy Statement'. Specifically, this means achieving, as a minimum, the following average gross density targets (excluding transport corridors) over time in the Residential zones.

16 dwellings per hectare for most residential areas (excluding the identified Large Lot Residential Areas).

30 dwellings per hectare for identified intensification areas.

Table 5 sets out a summary of relevant density standards.

Table 5: Current density controls

Type of development	**Residential zone**		**Residential intensification zone**	
	Activity status	**Density**	**Activity status**	**Density**
Stand alone house	P	400m^2	P	350m^2
Duplex	RD	200m^2 per unit	RD	150m^2 per unit
Apartment building	D		RD	150m^2 per unit
Integrated residential development	D	Minimum 2000m^2	NC	

The RD (restricted discretionary) activity status for duplex units limits assessment to matters of design, layout and character and amenity. Infrastructure issues are not a relevant matter.

However, development at a density of greater than 1 unit per 200m^2 is a discretionary activity and assessment of infrastructure capacity issues is relevant.

In relation to provisions aimed at three waters infrastructure, City-wide Chapter 25.13 – Three Waters - contains four main methods to address impacts on infrastructure. These are:

Requirements for stormwater, wastewater and water supply management (Rule 25.13.2.3e). This rule states that Three Waters infrastructure must be designed and constructed to:

Minimise the effects of urban development on downstream receiving waters and groundwater.

Ensure that the capacity, efficiency and sustainability of upstream and downstream infrastructure will not be compromised.

Facilitate access, maintenance and operational requirements.

Cater for the potential effects of climate change.

Ensure appropriate standards of public health, safety and amenity.

Rule 25.13.4.5 sets out a number of 'Water Efficiency Measures' that must be incorporated into new residential development. The water efficiency standard requires that in addition to low flow fixtures, at least one water sensitive technique for stormwater shall be incorporated, connected to, achieved or maintained as part of any new development as identified. The water efficiency therefore mix water conservation measures (i.e. rain tank for non potable use) with stormwater management (e.g. permeable paving).

The rule is as follows:

> *In addition to Low Flow Fixtures, at least one water sensitive technique for stormwater shall be incorporated, connected to, achieved or maintained as part of any new development as identified below.*

Detention of stormwater to 80% of pre-development runoff by an appropriate means

Permeable surfaces protected to achieve at least 20% above the minimum standard of the zone. For the purposes of this rule the permeable surfaces may include:

Permeable paving for parking, access and manoeuvring areas associated with residential units (excluding where used for shared vehicle access)

Uncovered decks which allow water to drain through to a surface which can absorb water.

Rainwater tank for non-potable reuse system

Other equivalent feature.

The selection of water efficiency measures is also intended to be informed by more appropriate site / development / catchment specific measures coming out of a Water Impact Assessment or an ICMP.

Rule 25.13.4.1 requires an ICMP for larger scale developments including more than 40 residential units or allotments or being over 3ha in size. These are a restricted discretionary activity, and Appendix 1.2.2.6 sets out the information requirements for ICMPs. The rule also requires that Three Waters infrastructure be developed in accordance with any existing full ICMP applying to that area. Compliance with an ICMP is considered a means to comply with the other three waters standards, including Rule 25.13.4.2.

Rule 25.13.4.6 requires a water impact assessment for medium scale developments, including all development of four or more units, or creating a new building for industrial activities with a gross floor area greater than 1,000m². No assessment is needed where an ICMP is in place. A water impact assessment is a restricted discretionary activity, and Appendix 1.2.2.5 sets out information requirements for the assessment, which include details of what water-sensitive techniques are proposed. Assessment matters include: "Can the development be adequately serviced by capacity within existing Three Waters infrastructure, including access to and use of an appropriate and sustainable water source'.

In summary, the operative district plan contains a number of overlapping methods to address infrastructure capacity issues. However, there are gaps.

The current provisions do not adequately address the issues raised by the NPS-UD and HSAA. In particular:

- The focus of qualifying matters on the health and well being of the River, rather than infrastructure capacity as a whole;
- The temporal nature of infrastructure constraints (they will have to be resolved over a long time period);
- The need for Council to take a lead on upgrade and replacement of older infrastructure;
- Network versus local servicing issues;
- The nature and extent of temporary solutions.

6.2.1 Adequacy of objectives

Review of current district plan provisions shows that there is a gap in the plan's management framework, as it relates to co-ordinating redevelopment with infrastructure upgrades. As such, it is necessary to first consider existing (and possible new) objectives that could address this gap.

The HSAA requires that the following two objectives be added to district plans:

> *Objective 1: a well-functioning urban environment that enables all people and communities to provide for their social, economic, and cultural wellbeing, and for their health and safety, now and into the future:*
>
> *Objective 2: a relevant residential zone provides for a variety of housing types and sizes that respond to:*

HJousing needs and demand; and

The neighbourhood's planned urban built character, including 3-storey buildings.

Objective 1 is wide ranging, but notable is the absence of reference to the natural environment. Managing impacts on the River has important social, economic and 'cultural wellbeing' components. River water quality is obviously closely related to people's health and safety.

These two HSAA objectives will sit alongside existing objectives, the most relevant of which are:

2.2.2
Urban development takes place within areas identified for this purpose in a manner which uses land and infrastructure most efficiently.

25.1.2.1
To ensure the provision of safe, efficient and integrated infrastructure as part of land development.

None of these objectives expressly refer to three waters infrastructure capacity constraints and their associated impacts on the health and wellbeing of the River, as being a specific issue for Hamilton that influences the nature and rate of intensification.

6.3 New Outcome

Based on the above, the following new objective is proposed:

Three waters infrastructure capacity

25.13.2.X Urban development and redevelopment:

The health and wellbeing of the Waikato River is restored and protected, with urban development and redevelopment:

i. *Being supported by adequate three waters infrastructure that ensures that adverse effects on the River from development and redevelopment of urban areas are avoided;*

ii. *Contributing toward improving the health and well-being of the Waikato River; and*

iii. *Where necessary staged over the medium and long terms, taking into account the future planned environment and the City's ability to upgrade and replace relevant infrastructure where there is inadequate infrastructure.*

There are no set criteria for assessing the utility of new objectives. Section 32 refers to the extent to which the objectives of the proposal being evaluated are the most appropriate way to achieve the purpose of this Act. Relevant criteria in published guidance[10] cover whether the objective is:

- directed to addressing a resource management issue
- focused on achieving the purpose of the Act
- assisting a council to carry out its statutory functions
- within scope of higher level documents
- consistent with identified iwi/Māori and community outcomes
- realistic and feasible
- not going to result in unjustifiably high costs on the community or parts of the community.

In terms of the criteria listed:

- The integration of development with infrastructure so as to reduce impacts on the environment is a resource management issue; it is a matter that directly links to the purpose of the Act (sustainable management) and is within scope of higher order documents. Integration of development with infrastructure capacity is an important function of the Council under Section 31(1) of the RMA

- The objective is consistent with iwi/Māori outcomes for the River (as set out in Te Ture Whaimana o te Awa o Waikato - Vision and Strategy for the Waikato River)

- In terms of feasibility and potential costs, integration may slow some development proposals where capacity constraints apply. However not requiring integration is likely to see added pressures on the natural environment.

[10] A guide to section 32 of the Resource Management Act, Ministry for the Environment, published: 1 April 2017

7 Developing Management Options (S77J(4)(b))

7.1 High level methods

Achieving the objective of close integration between infrastructure capacity, infrastructure upgrades and urban redevelopment that does not harm the health and wellbeing of the River could take a number of paths.

At a conceptual level, infrastructure upgrades and land use integration can be achieved through the following approaches:

- Zone now and upgrade infrastructure over time
- Upgrade infrastructure and then re-zone
- Stage / manage re-zoning over time to co-ordinate with infrastructure provision.

In greenfields situations, the third method is the most common approach, usually co-ordinated through structure plans. It is increasingly common to see various development triggers or thresholds being set in place through structure plans to manage infrastructure funding and financing demands (such as more than x number of dwellings can only occur once y infrastructure is in place). Funding agreements are often necessary to ensure that the required infrastructure is delivered in a timely manner and the absence of the required infrastructure does not reduce development progress.

For brownfields areas, to date the first approach has been the most common. This reflects the pressure to respond to greenfields growth; the potential for spare capacity in existing networks to be utilised (that is, the need for extensive upgrades has not been triggered), as well as the modest pace of infill and redevelopment.

However, as the pace and scale of infill and redevelopment of brownfields areas gathers momentum then a more proactive approach is needed, particularly where valued environments are at risk due to development rates exceeding current capacity and the ability of Council to undertake necessary upgrades of infrastructure.

The investment required to address these matters in Hamilton is likely to be large, and currently planned investment signalled in Council's Infrastructure Strategy is not likely to be at a rate or scale that can keep pace with development. This imbalance in the relationship between land use enablement and infrastructure capacity will lead to outcomes which are contrary to the vision and strategy for the Awa.

A moratorium on all development (such as no further OHDP or MDRS enabled housing development) in areas within a specified area is one possible response to this issue, but this response is outside the scope of the HSAA legislation. The HSAA provides the potential for MDRS to be qualified, but not OHDP provisions. That is, while the MDRS may be able to be set aside trough the IPI process, the current OHDP cannot.

In this context a more integrated, staged approach is needed. But rather than delay rezoning until all infrastructure is upgraded, there is the ability to provide a district plan framework that seeks to identify areas that can accommodate growth on the expectation that infrastructure can be delivered as development occurs and areas where growth opportunities need to be restrained until infrastructure programmes are put in place.

7.1.1 Integrated approaches

Broadly, implementing an integrated approach could involve a number of methods:

- District plan density standard
- Consent-by-consent assessments
- An infrastructure overlay defining “go” and “no go” areas
- Site-based ‘related’ controls
- Reliance on development contributions / financial contributions and other new sources of funding
- Connections policy / Bylaw.

These options can be described as follows:

Density standards

The density of development in the General Residential zone is currently controlled, one purpose of which is to limit demands on infrastructure capacity. While the level of plan-enabled housing capacity is well in excess of current infrastructure capacity, the density control does help to spread development loads across the city, to an extent. There are few hot spots or areas of concentrated redevelopment. In this sense, the density control is a useful “holding pattern” while council formulates long term plans to upgrade and replace older infrastructure.

However, the density currently enabled in the OHDP is less than that anticipated by Policy 3 of the NPS-UD and the MDRS and so maintaining the current ‘across-the-board’ density standard needs to be justified.

As infrastructure capacity is upgraded, then in theory a zone-based density standard could be removed in the areas that are upgraded, by way of plan changes. This would allow for Policy 3/MDRS density standards to be applied through a number of stages, but it would require the use of sub zones with and without density standards.

The main disadvantage of this approach is that the structure of density standards being part of the operative zone is likely to cause “friction” in the removal of these standards, in the future. Even when infrastructure has been upgraded, residents may

resist removal of the density standards when plan changes are implemented. The density standards also send mixed messages to other infrastructure providers as to what level of development should be planned for in the long term.

Furthermore, the National Planning Standard does not recognise sub zones as a valid technique, preferring instead overlays or Precincts to apply specific matters. As a result, sub zones are not a realistic option.

Consent-by-consent assessments

This option would build on the current requirements for water impact assessments and Integrated Catchment Management Plans. The threshold for these assessments may need to be lowered, such as more than 2 dwellings, rather than the current 4 or more dwellings. The scope of the assessment would need to be determined, in particular the extent to which local versus trunk network capacity must be assessed. Policy guidance on when to refuse consent on the basis of infrastructure capacity issues would need to be clear.

Such an approach provides scope for site-specific matters to be taken into account, with the possibility for bespoke responses to infrastructure constraints.

However, a consent-by-consent assessment is likely to cause uncertainty and delay if the framework for assessment is not clear.

Infrastructure Overlay

National Planning Standards describes zones and overlays as follows:

- Zones: A zone spatially identifies and manages an area with common environmental characteristics or where environmental outcomes are sought, by bundling compatible activities or effects together, and controlling those that are incompatible.
- Overlay: An overlay spatially identifies distinctive values, risks or other factors which require management in a different manner from underlying zone provisions.

Overlays take precedence over zone-based rules, and therefore an overlay approach is well suited to signal a specific constraint, like infrastructure capacity. Overlays are often based on geographic features, with boundaries of the overlay following natural contours or physical features (or in this case infrastructure catchments).

The HSAA appears to support an overlay approach. Section 77H(4) states that supporting analysis for the IPI must provide a description of how:

- Modifications to the MDRS as applied to the relevant residential zones are limited to only those modifications necessary to accommodate qualifying matters and,
- In particular, how they apply to any spatial layers relating to overlays, precincts, specific controls, and development areas, including:

- any operative district plan spatial layers; and
- any new spatial layers proposed for the district plan.

An overlay incorporated into the district plan could identify areas of the city where development in accordance with Policy 3 and MDRS could proceed without a substantive infrastructure capacity assessment, versus areas where development ahead of infrastructure upgrades would be strongly discouraged. The areas where a substantive infrastructure capacity check would not be required would need to be defined on the basis of council commitment to the upgrade of infrastructure in the relevant area in the short to medium term.

Site-based controls

Some aspects of increased intensification can be managed at the site level. For example, on-site stormwater management techniques can help to reduce peak flows from increased impermeable surfaces through on-site reuse and retention of run off from hard surfaces. Water quality issues (such as run off from heavily trafficked surfaces) can also be managed at a site level. Increased water use can be addressed to an extent by requiring dual purpose rain tanks (rain tanks that reuse water for toilet flushing, laundry and outdoor use) and use of low flow fixtures.

Wastewater demands are not easily managed at a site level in an urban context.

These on-site measures do add to building costs, while their benefit is incremental (as existing development remains the dominant form of housing in most neighbourhoods).

Monetary contributions

Under this option, Council would undertake works in a staged manner, drawing on existing and new sources of revenue to help accelerate remediation and replacement of old infrastructure, such as financial contributions, development contributions and possibly targeted rates or similar. This option addresses both legacy issues as well as the additional effects generated by new development. However, the option will not avoid additional impacts on the River in the short to medium term as development and intensification continues in areas that are not in the initial stages of upgrades.

Connections Policy / Bylaw

Council as asset owner (of wastewater and water pipes, stormwater network) can control access to and use of the public network to provide potable water to sites and dispose of wastewater and excess stormwater from sites. In areas of constrained capacity council could refuse connections to this network under the powers available to it under the Local Government Act. In other words, the RMA would continue to manage the built environment effects of intensive development (as per the MDRS and implementation of Policy 3), but infrastructure capacity issues would rest outside the RMA sphere. This option remains a possible method that is independent as to what method is used in the district plan. However, the method tends to be reactive, rather

than pro-active. Council can come under pressure to grant a connection if resource consent has been issued for an intensive development, for example.

Assessment

At a general level, these options can be considered against the following screening criteria:

Criteria	**Source**
Health and well being of the River is enhanced	Qualifying matter under sec 77
Housing capacity / competitive land markets are supported	Purpose of NPS-UD and HSAA: - Well functioning urban environments
Affordability to community – improving the environment while enabling social and economic outcomes	Relates to Section 5 of the RMA (sustainable management)

In terms of alignment of the options with these high-level goals, Table 6 provides a desk top assessment of the options, using a simple high-medium-low score for alignment.

Table 6: High level option assessment

District Plan Options	**Health and wellbeing of the River**	**Housing capacity and supply**	**Sustainable management**
Zone-based density standard	Low to medium – indirect means of limiting impact	Low – density standards are contrary to the intent of the MDRS / Policy 3	Low – a density standard cannot be justified where capacity exists or can be provided in the near future

District Plan Options	Health and wellbeing of the River	Housing capacity and supply	Sustainable management
Consent-by-consent assessment	Medium – provided assessments are robust and extensive	Low to Medium Uncertainty over the outcomes of relevant assessments likely to deter some development proposals	Medium – but likely to generate a number of transaction costs for developers who have to prepare resource consent applications when there is uncertainty as to whether capacity exists or not, while council will need to resource assessment of the applications
Overlay	Medium to high. Overlay can help direct development to areas where capacity/works can accommodate more development with no/reduced impacts on the River	Medium – in the short term, the area of the city excluded from the overlay may be relatively small, limiting housing options	High - enables upgrade costs to be spread over a period of time, helping to maintain affordability for current and future residents while steadily improving the health and well being of the River
Site -based controls	Low to Medium addresses some impacts of intensification (e.g. stormwater water quantity and quality), but cannot address	High – MDRS type development is possible	Medium - imposes additional costs on development, but is likely to be more efficient than retrofitting large scale catchment

District Plan Options	Health and wellbeing of the River	Housing capacity and supply	Sustainable management
	wastewater overflows		based stormwater treatment devices
Connections Policy	High – the connections policy could be used to halt most development in areas of constrained capacity	Low to medium - The connections policy could increase uncertainty about whether developments can proceed or not.	Medium – depending upon how the connections policy is applied
Monetary contributions	Low – development will continue to occur in areas that generate impacts on the River	High – development can occur unencumbered by density controls or complex assessment requirements	Medium – likely to impose a cost on the community and/or the environment through the extra funding that council will need to source.

All the options come with advantages and disadvantages:

- A density-based approach would maintain a current district plan method. However, it is not likely to be effective or efficient in achieving the stated outcomes of enabling development and managing impacts on the River. It is an indirect method.

- Consent-by-consent assessments of infrastructure capacity could place a substantial burden on development to substantiate where capacity in public networks exist. Cumulative effects can also be hard to manage. However, this option can respond to new information (whether that be better information about constraints, innovative methods to remediate constraints or changes in housing preferences).

- Site-based controls are a useful and important technique to address stormwater impacts and help with water conservation outcomes. However, not

all effects can be managed – such as wastewater – while there will always be residual off-site impacts that need to be addressed.

- An overlay can help to direct development to the areas of the city where capacity can be expanded, but if tightly drawn, will likely restrict the ability of housing markets to respond to changes in buyer demands/preferences.

- The council's connections policy is a helpful tool, but it is a reactive tool and not integrated with the resource consent process.

- A reliance on monetary contributions to fund accelerated investment in replacement and upgrades of infrastructure will risk investment being undertaken in numerous areas at the same time, diluting benefits.

The options are not exclusive and a combination of methods is likely to be needed.

Site-based controls relating to stormwater and water conservation will help to reduce additional loads on water and stormwater networks. These controls could apply across the city.

An overlay approach would help to establish a basic framework within which infrastructure assessment and density approaches could be structured. The underlying zoning of residential land could provide for Policy 3 / MDRS densities, with the overlay restraining the uptake of those densities in areas where there are significant capacity constraints.

Within the overlay (that is where infrastructure capacity constraints are present), development similar to current OHDP densities could continue, while more intensive development in-line with Policy 3 / MDRS could be subject to consent-by-consent assessments. Financial contributions could be one method of mitigating impacts, as well as local upgrades. In some circumstances, development may not be able to proceed due to capacity issues.

Maintaining densities of development equivalent to current OHDP provisions (1 unit per 200m^2 of net site area in the General Residential zone) for areas subject to the overlay is not based on specific modelling of available infrastructure capacity. Capacity is already constrained in most brownfields areas. Rolling over existing density standards into the overlay seeks to limit further or additional pressures, rather than represent an acceptable level of development in terms of infrastructure capacity.

Outside the overlay (areas where capacity constraints can be resolved in the short to medium term), development up to the MDRS / Policy 3 envelopes could be allowed, subject to checks as to local service level connections. This assessment would not extend to issues of trunk network capacity. Development contributions / targeted rates may apply, along with financial contributions.

The benefit of the overlay is that it clearly distinguishes infrastructure issues as being the driver of specific assessment, from other issues like amenity and character issues. The overlay signals where significant assessment is needed, above a basic 'floor'. Density controls are part of the overlay and therefore squarely related to infrastructure issues.

The overlay could be removed in stages through plan changes, without those plan changes needing to adjust density standards in the underlying zone at the same time.

However, plan users would need to be aware that when looking at how the district plan affects a property it is necessary to review both zone-based provisions as well as overlay-based provisions.

The Council's connection policy and Bylaw would remain as a possible 'back up' method.

7.2 Spatially identifying intensification constraints

The NPS-UD and MDRS expect that up-zoning will occur across the city, unless there is good reason to reduce the level of redevelopment to be enabled. Any restriction on required up-zoning must be for a defined area (not across the board).

In the case of Hamilton, the qualifying matter must be based on adverse consequences to the health and wellbeing of the River.

The Council's TLA report has highlighted that the brownfields areas of the city face the greatest capacity constraints, yet it is these areas that the MDRS / Policy 3 place an emphasis on in terms of intensification.

In identifying an area where the qualifying matter should not apply, there are two main approaches:

- Infrastructure-led (such as greenfields)
- Plan-led (mix of greenfields and brownfields)

One possible infrastructure-led response would be to divide the city into two areas:

- Green area –fewer constraints - NPS-UD, MDRS apply, but local infrastructure related constraints on development need to be checked;
- Red area – more constraints – full infrastructure capacity assessments apply for development that is more intensive than current OHDP envelopes.

The red areas are where three water impacts are rated as medium to high. Given the current state of infrastructure, this approach effectively means that any infill and redevelopment in the existing urban area will require specific assessments. This is likely to discourage such development and encourage further urban expansion.

A plan-led approach would seek a balance between greenfields and brownfields development options, in-line with council growth strategies, with brownfield options

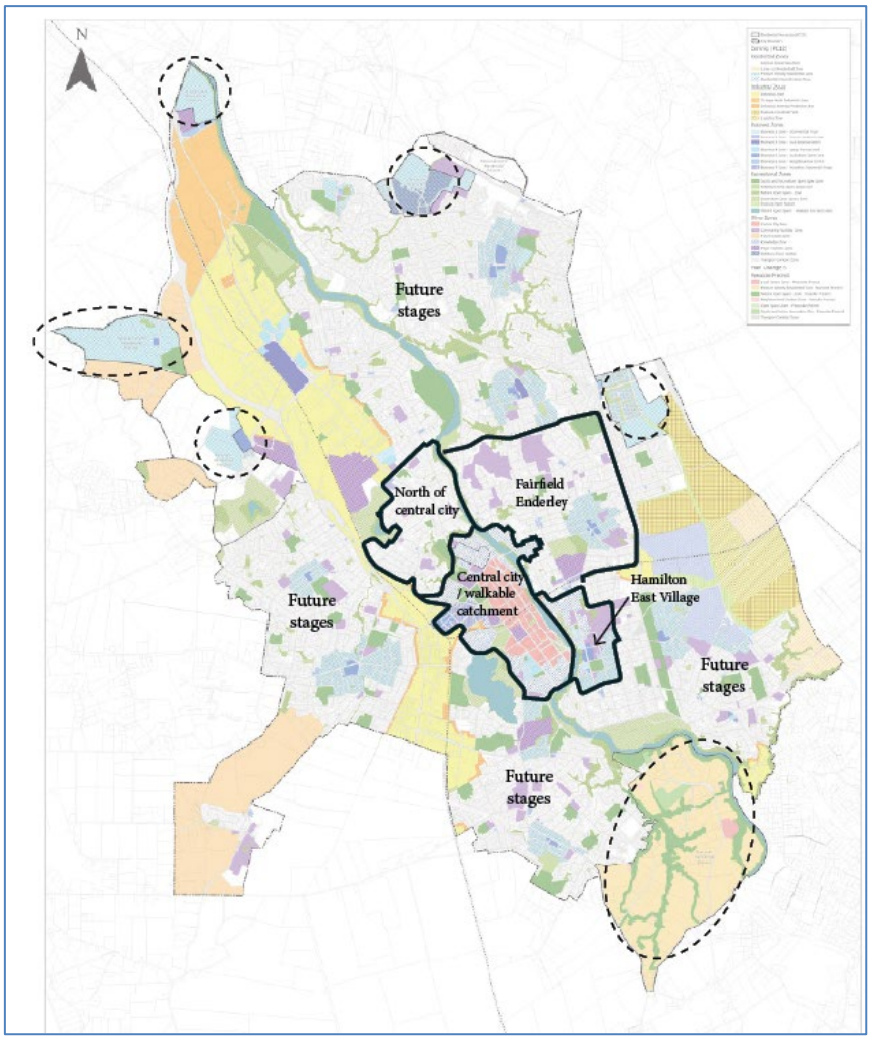
selected on the basis of their degree of congruence between urban form and infrastructure issues.

The brownfield areas to be excluded from the overlay would be areas where the council has determined that it will invest in necessary infrastructure upgrades and replacements.

Based on council's work to date, the main candidates for brownfield areas to be excluded from the overlay and prioritised for brownfield development / infrastructure investment are the following:

- Central city / walkable catchment of the central city: includes an 800m walking catchment from the central city zone, but only those areas on the west of the Waikato River
- Area to the north of the central city
- Hamilton east village
- Area east of the River (Fairfield, Elderly).

Figure 2: Possible Brownfields Exclusions



As explained in the Three Waters Performance Assessment Report all these locations, being brownfields, have similar three waters infrastructure capacity issues in relation to existing networks. What is important is their relative contribution to wider urban efficiency outcomes, such as:

Greenhouse gas reductions as indicated by mode shift potential
Meeting the needs, in terms of type, price, and location, of different households
Support for the vitality of the central city
Scale of area to be serviced with infrastructure capacity (smaller indicates better general affordability).

The table below assesses alignment between these goals and the four options.

Table 7: Degree of Alignment

Candidate Area	Mode shift potential	Needs of different households	Vitality of the central city	Scale of area for servicing
Central city / Walkable catchment of the central city	High - walkable to central city commercial and employment. Walkable street network.	Medium – expected to yield higher density housing typologies, but low demand in short term	High – development within and in walkable distance to central city	High – while not the smallest area the concentrated densities expected create a high servicing efficiency
Area to the north of the central city	High – area currently provides access to over 75% of employment in the city on a short bus ride. Signalled in the H-W MSP Transport Programme Business Case as a future Bus Rapid Transit corridor and a top priority.	Medium – age of housing stock indicates good redevelopment potential, location close to a variety of employment opportunities	High – located in cycling distance to central city on a PT route with high level of service that will improve the connection with central city over time	Medium – second largest area

Candidate Area	Mode shift potential	Needs of different households	Vitality of the central city	Scale of area for servicing
Hamilton east village	High – walkable block structure, close to major destinations in central city and university. Signalled in the H-W MSP Transport Programme Business Case as a future Bus Rapid Transit corridor.	Medium – location close to a variety of employment and education opportunities. Zoning indicates a range of housing types are likely to develop.	High – contiguous to walkable catchment to central city zone.	High – smallest area to service, but with limited service connections to west side of the River.
Area east of the River (Fairfield, Enderley).	Medium – further from key employment destinations than other areas. Signalled in the H- MSP Transport Programme Business Case as a future Bus Priority corridor.	High – substantial redevelopment potential for residential intensification as single landholder has large property portfolio. Likely high take up	Medium - Further from central city than other options, Ruakura greenfield development area may become focus of employment over time.	Low – largest area for servicing

Considering the above discussion, the areas are prioritised in the following order:

1. Central city / walkable catchment
2. North of central city
3. Hamilton East village
4. Area east of the River (Fairfield, Enderley)

Areas 1 and 2 are supportive of mode shift outcomes and related greenhouse gas emissions reductions and will provide, over time, a greater diversity of housing. Hamilton East Village is closely linked to the central city. Areas 1,2,3 are the areas where the overlay should not be applied initially. Area 4 also provides substantial possible benefits and should be considered for prioritisation when revisions are made

to the overlay extent through future district plan changes as infrastructure funding becomes available.

Excluding Areas 1,2 and 3 from the overlay must come with a commitment from Council to fund and implement necessary upgrades in this area, as the first stage in a much larger and longer upgrade project.

7.2.1 Assessing infrastructure issues

This relates to what methods would be used to assess infrastructure capacity issues and what matters would be taken into account in any infrastructure capacity assessment triggered by the presence of an infrastructure overlay.

Variables include:

- Scope of assessment – local and/or trunk network
- Time frame of assessment
- Interim or temporary measures
- Small scale developments / incremental uptake of capacity.

As noted, the OHDP currently uses two main methods to address capacity issues:

- ICMPs
- Water Impact Assessments.

ICMPs are required for any development involving 40 more lots or units or more than 3 hectares, unless an ICMP is in place via a structure plan.

Water Impact Assessments apply to any development of 4 or more units in areas not covered by an ICMP.

In terms of a structure for enhanced capacity assessments, it is proposed that these current approaches be modified as follows:

1. The ICMP remain for larger developments, with the same assessment matters for whether the area subject to the ICMP is within the Infrastructure Capacity Constraints overlay or not.
2. For developments that do not meet the triggers for an ICMP, Water Impact Assessments be replaced by the following two types of assessments in residential zones:
    - Subject to overlay – local and wider network capacity assessment when the number of dwellings or the density of that development exceeds 1 unit per 200m².
    - Not subject to overlay – local service connection assessment only.

The matters to be considered in the assessment would therefore vary between whether sites are subject to the overlay or not.

Local versus network: There is no easy way to differentiate between local versus trunk network effects. Consideration has been given to various measures such as local network effects being those within a certain distance of the development site. In reality, the 'boundary' for a local service check will need to be determined on a case-by-case basis. Council will need to have the staff resources and technical information available to enable review of relevant assessments

Temporary measures: Council is not encouraging of temporary solutions to constraints, such as wastewater holding tanks. This is because of concerns over longer term maintenance and upkeep.

Incremental effects. Many developments will be small scale additions to the dwelling stock (an existing dwelling removed with two or three new dwellings being added). There is no simple method to address the cumulative impact of these small scale developments, for example in some way reserve part of the spare capacity available for this type of development. Capacity constraints have to be managed on a "first in first served" basis, rather than involve some form of rationing of capacity between different users.

7.2.2 Practice Notes / Information

In all cases, having available in the public realm information on the nature and extent of three waters infrastructure capacity constraints across the city will be important in assisting with implementation of the preferred method. Practice notes and the like will be important in helping to address the uncertainty present in an assessment-based approach to capacity constraints.

8 Assessing options (S77J(3)(b))

This part of the report identifies the likely consequences of the proposed methods on the key outcomes relating to the health and wellbeing of the Waikato River and well-functioning urban environments.

8.1 Health and wellbeing of the Waikato River

Restoring the health and wellbeing of the River is dependent upon council investment in upgrading and replacing aging infrastructure in a way that not only addresses the impacts of growth but represents a net improvement in the management of adverse effects arising from urbanisation. Site-based controls should help to moderate stormwater impacts and measures can be put in place to reduce potable water use. Wastewater demands cannot be readily managed on-site.

Addressing legacy issues with infrastructure while managing new growth and development will be most effectively and efficiently achieved through a targeted approach which directs council investment into selected areas, rather than attempting to remediate problems “on-all-fronts’”. An inability to focus infrastructure pressures may increase infrastructure costs for the community through the council having to provide greater infrastructure capacity across a wide area at the same time. In reality, funding infrastructure investment on this basis is inefficient and unaffordable, meaning that if intensification is allowed to proceed “on- all- fronts", infrastructure investment will not keep pace, which in turn will lead to consent breaches, and a failure to achieve the objectives of Te Ture Whaimana.

In terms of which areas should be first upgraded, there appears to be little to distinguish areas on the basis of infrastructure issues – all areas need substantial work. In this context, the areas selected for the first stage of upgrades and replacement are likely to be the areas which have the potential to best unlock development capacity and support wider goals relating to well-functioning urban environments.

A concern with an overlay approach is that it may create an incentive for the council to slow down plans to upgrade and replace older infrastructure. That is, by delaying the up-zoning sought by the NPS-UD / MDRS, additional impacts on the health and wellbeing of the River can be avoided, and council (or the future 3 waters entity) does not face the significant financial burden involved in addressing these impacts. This delay comes at the cost of future housing supply and housing affordability. It also means that current adverse effects from wastewater overflows and stormwater run-off is likely to continue to grow as the city gradually densifies. Any incentive to ‘go slow’ is counterbalanced by the NPS-UD which clearly expects up-zoning. Without an effective framework to accommodate intensification, Council is also likely to be faced with numerous private plan changes and resource consents to exceed density standards.

It is acknowledged that under the proposed overlay approach, areas subject to the overlay will still see density increases in line with current Operative District Plan provisions (e.g. duplex developments). This means that some adverse impacts on the River would continue. However, some of these impacts will be mitigated through enhanced on-site stormwater controls and water conservation measures. In all cases, pressure on the council to undertake works to replace old infrastructure will remain, but the council will be better able to manage the financial implications of these pressures.

8.2 Impacts on housing supply and capacity

Council has prepared detailed modelling of the housing capacity provided by the application of MDRS and implementation of Policy 3[11].

Modelling indicates that the implementation of an unqualified MDRS (within relevant residential zones) and Policy 3 of the NPS-UD (central city walkable catchment) increases Hamilton's plan enabled capacity to an additional 330,600 dwellings, which is between 2 and 2.5 times the plan enabled capacity under the current ODP provisions. Most (86%; 284,000 additional dwellings) of the capacity occurs within the existing urban environment.

Total modelled plan enabled capacity with an infrastructure overlay in place (and associated density controls in the general residential and medium density zones) is for an additional 233,800 dwellings. Four-fifths (80%; 187,800 additional dwellings) of this would occur within the existing urban area, and the remaining fifth (20%; 46,000 dwellings) within the greenfield area. Most of the increase in the existing urban area would occur within the central parts of Hamilton's urban area that fall outside of the infrastructure constraints overlay.

The reduced capacity with the overlay in place (compared to an unfettered application of Policy 3 and MDRS) still sees housing capacity greater than under current OHDP settings. In addition, the overlay approach does not preclude high density from being assessed as an Restricted Discretionary activity.

An overlay with stringent tests over infrastructure capacity will likely affect rates of housing building in the areas covered by the overlay. Alternative methods, like zone or consent-based approaches to managing infrastructure demands will also affect levels of development.

Fewer houses in brownfields areas in the short to medium term suggests greater pressure on greenfields areas and possibly some displacement of growth to places like

[11] See Appendix 3.4 of the Section 32 report

Cambridge and Te Awamutu. This dispersal of growth may not reduce housing supply overall, but will impose additional costs on household, such as travel costs.

Slower brownfields redevelopment may also lessen the benefits of increased housing supply for house prices and the agglomeration benefits from a more intensely developed urban area. In the longer term, there may be a risk that the current duplex format remains the norm in terms of infill and redevelopment and the city does not see the level of intensification sought by the MDRS/Policy 3. This would reduce the benefits identified by the HSAA cost-benefit study.

These impacts can be mitigated to an extent with the overlay controls being triggered above a minimum floor of development, for example more than 3 units on each residential site, where the density is less than 1 unit per 200m^2 of net site area.

This floor effectively represents an extension of the current policy, allowing for a greater range of housing options (a duplex plus approach). This will mean that in the short term at least, the overlay will not have a significant impact on housing development patterns. The amended density standard applying in the overlay should allow for a wider range of housing products to be developed than current policy, while exclusion of the walkable catchment of the central city from the overlay also widens housing opportunities and choices.

While the housing opportunities provided by the city centre exclusion may be longer term – given that demand for apartment living is not strong – the exclusion does ensure that that there is a range of housing products possible and the overlay does not narrow choices excessively.

A case-by-case assessment approach of development density above the "floor" leaves open the potential for additional housing supply to come forward as demand occurs. However, in reality the ability to service this demand will be limited to a few areas due to the constraints present.

8.3 Well-functioning urban environments

An important component of the NPS-UD is enabling competitive housing markets – housing development is possible across a wide range of suburbs, types of housing and price points; while there are limited barriers to that redevelopment occurring. This should increase competition between land owners and developers to reduce prices so as to gain market share.

Policy 1 of the NPS-UD describes well-functioning urban environments as urban environments that, as a minimum: have or enable a variety of homes that:

- Meet the needs, in terms of type, price, and location, of different households; and
- Enable Māori to express their cultural traditions and norms; and

- Have or enable a variety of sites that are suitable for different business sectors in terms of location and site size; and
- Have good accessibility for all people between housing, jobs, community services, natural spaces, and open spaces, including by way of public or active transport; and
- Support, and limit as much as possible adverse impacts on, the competitive operation of land and development markets; and
- Support reductions in greenhouse gas emissions; and
- Are resilient to the likely current and future effects of climate change.

An overlay approach is necessarily restrictive of the areas where growth can occur without significant scrutiny. In the short to medium term this will limit the enablement of well-functioning urban environments as set out in Policy 1 of the NPS-UD, particularly as it relates to competitive land markets.

Implementing an overlay approach can take into account the other dimensions listed in Policy 1. That is, the areas selected to be exempt from the overlay (likely greenfields areas and one or two brownfields areas) can still provide housing choices and in the context of Hamilton, still be reasonably proximate to services, jobs and activities and help reduce greenhouse gas emissions through more local services and employment options as density increases.

For brownfields areas, a key parameter is transport outcomes from intensification. The NPS-UD (and more recent announcements from government over climate change) highlight the need for a mode shift to walking, cycling and public transport. Proximity to jobs and services is an important factor in the attractiveness of these modes.

8.4 Wider environmental, social and economic effects

Wider benefits and costs of overlay-based and/or development-by-development assessments of infrastructure constraints cover a range of tangible and intangible factors relating to the liveability of the Hamilton urban area.

The city derives much of its identity from the Waikato River and careful management of the River resource has a wide range of social, economic and cultural benefits associated with it.

The Operative District Plan lists the following values associated with the River:

- The natural character of the Waikato River, gully system and its margins
- The cultural, heritage and amenity values of the Waikato River
- Physical and visual connections to the Waikato River
- The relationship of Waikato-Tainui with the Waikato River
- The wider communities' intangible relationships with the Waikato River, including their economic, social, cultural and spiritual dimensions.

At the same time, the city has advantages in terms of relative affordability of urban living compared to larger centres. This advantage should not be lost through high rate takes to fund large scale infrastructure upgrades, or dispersal of development to outer lying areas creating congestion and increasing travel costs.

The overlay approach that integrates land use intensification with infrastructure upgrades helps to retain the values associated with the River, while providing an affordable pathway for infrastructure renewal in brownfields areas.

9 Evaluation of options (S77J(3)(c))

Section 32 of the RMA requires the assessment of options as to their effectiveness and efficiency in implementing higher order objectives, considering costs and benefits. Risks of acting and not acting must also be identified.

The RMA does not define efficiency or effectiveness. Efficiency is generally taken to mean the option that best meets the stated objectives with the least cost. Effectiveness is taken to mean certainty of outcome (will the problem be addressed?).

The preferred option is the option that best meets the objectives of implementing the MDRS /Policy 3 while helping to protect and restore the health and wellbeing of the Waikato River.

The two most likely options to address infrastructure capacity constraints are:

- An overlay with associated assessment matters when subject to the overlay, and when not subject to the overlay; or
- A more general site-by-site assessment of individual applications.

These options need to be considered alongside the 'status quo'. In the context of the mandatory requirements of the HSAA, the status quo is effectively the implementation of MRDS and Policy 3 without further qualification (that is, the current provisions in the HODP are relied upon to address infrastructure issues).

Taking into account the above discussion as to the consequences of these methods, the following overall evaluation can be made.

Table 8: Summary analysis of main options

This table provides a summary analysis of the three main options.

Criteria	**MDRS/Policy 3 without additional qualification (current district plan policies and methods)**	**Overlay approach to infrastructure assessments plus enhanced site controls**	**Site by site assessment**
Benefits	Greater housing capacity More responsive housing market	Housing choices provided – greenfields, infill and inner city Greater financial affordability for the community	More flexibility at a site level for development MDRS more likely to implemented across the city
Costs	Increased impacts on health and wellbeing of the River	Reduced additional housing capacity in short to medium term.	Greater uncertainty and possible delay of development proposals due to uncertainty over infrastructure upgrades. More impacts on the River on an incremental basis
Efficiency	This option has low efficiency- the extra housing capacity (and associated	This option has moderate efficiency in that it does impose	There is a high degree of uncertainty as to the efficiency of this option. It is

Criteria	MDRS/Policy 3 without additional qualification (current district plan policies and methods)	Overlay approach to infrastructure assessments plus enhanced site controls	Site by site assessment
	benefits) come at a high cost in terms of impacts on the River.	restrictions on intensification in order to manage infrastructure issues. While not all current adverse effects on the River are avoided, the intent is that impacts are not exacerbated, and overtime they should reduce.	possible that the option will lead to either considerable growth putting pressure on the River, or alternatively, a significant reduction in development due to the costs and uncertainty of the assessment process.
Effectiveness	While effective in providing more flexibility for housing supply, the method is ineffective in protecting the health and wellbeing of the River	The overlay should be able to restrain intensive development in areas subject to infrastructure capacity constraints helping to implement the vision and strategy.	This option may provide more flexibility at a site-by-site level but is likely to be less effective at managing infrastructure constraints on a cumulative basis.
Risks	Risks to the health and wellbeing of the River are high.	Risks relate to the uncertainty as to the rate at which Council (or new 3 waters entity) will be able to progress upgrading and replacement of infrastructure. In the long term, the intention would be for the overlay to be removed. Risks are comparatively lower for	There is a high risk of cumulative impacts.

Criteria	MDRS/Policy 3 without additional qualification (current district plan policies and methods)	Overlay approach to infrastructure assessments plus enhanced site controls	Site by site assessment
		the health and wellbeing of the River.	

9.1 Extent of Overlay

Having determined that an overlay is the more effective and efficient tool the next issue is the extent of the overlay.

Greenfields areas are excluded from the overlay, as the current subdivision and development process enables capacity issues to be addressed through consent processes. For example, most greenfields developments trigger the need for an Integrated Catchment Management Plan.

The main choice facing the Council is whether to signal exclusion of the central city walkable catchment and land to the north from the overlay, or to focus short to medium term brownfield growth to the east of the River.

Table 9: Brownfields area options

Criteria	Central City and North	East of the River
Benefits	Greater housing capacity Larger transport benefits Good accessibility to employment / services	Range of housing choices provided – infill and suburban apartments More responsive to short term housing market preferences Potential for partnerships
Costs	Slower take up of housing options May be less affordable in terms of infrastructure upgrade costs if development is slow to respond (limited DCs/FCs)	Transport costs / congestion (limited river crossings)
Efficiency	This option has moderate efficiency in the short term in achieving the twin goals of increasing housing capacity and choices while protecting the River, and greater efficiency in the long term.	This option has moderate efficiency in the short term with growth expected to be able to help pay for upgrades of infrastructure
Effectiveness	The option is like to be effective in the medium to long term	Potential to be more effective in the short term, depending

Criteria	Central City and North	East of the River
		upon up take of housing options unlocked
Risks	The main risk is that the housing options unlocked (such as 6 storey apartment development in the walkable catchment) are not taken up in the short to medium term, limiting the benefit of investment in infrastructure	Risks relate to the uncertainty as to the rate at which Council (or new 3 waters entity) will be able to progress upgrading and replacement of infrastructure in the area.

Council's preference is to proceed with the central city and north as 'Stage1'of the upgrade of brownfields infrastructure due to the co-benefits for transport and city centre economic performance.

9.2 Local versus wider network capacity

The proposed overlay will signal the framework within which infrastructure assessments need to occur.

The infrastructure capacity assessments triggered by the overlay are similar to the current Water Impact Assessment requirement that is part of the Operative District Plan, but the overlay will have a stronger policy framework and more comprehensive set of assessment matters, especially for development proposals of residential land subject to the overlay. As the infrastructure capacity assessments will replace the current Water Impact Assessment in residential zones, they do not represent a new application cost. However, a greater level of detail and assessment will likely be required for sites that are subject to the overlay and therefore preparation costs may be higher.

Development of residential land subject to the overlay will be required to take into account local and wider network capacity issues. The Policy approach is to restrict development densities unless capacity can be provided by the developer or is part of Council's Long Term Plan.

Development of residential land not subject to the overlay will not be required to consider wider network effects, with the focus being on local capacity. This is on the basis that the Council is committing to upgrade trunk capacity in the brownfields areas that are excluded from the overlay, while in the greenfields areas, there is the ability to design new infrastructure to cope with greater densities. However, a local capacity check is still required due to the variability of local capacity across the city.

A definition of 'local network' will need to be developed. For example, Watercare Services define local as follows:

> ***Local networks*** *- Reticulated distribution piping that is downstream connected from a transmission water main or upstream for wastewater.*
>
> *The wastewater local network covers the collection system to carry wastewater from each property to the wastewater transmission system. The peak dry weather flow is generally less than 78 litres per second. These standards are for pipelines typically less than 300mm nominal diameter.*
>
> *The local water network covers the reticulated distribution system from the transmission system to each property. These standards are for pipelines typically less than 250mm nominal diameter.*
>
> ***Transmission main*** *High volume supply (water) or collection (wastewater) for the purpose of transmitting liquid in bulk over long distances. Transmission mains do not supply service connections to customers. Interceptor [wastewater] Sewer pipe that receives flow from a number of other, typically smaller, sewers or outlets to convey the flow for downstream pumping or treatment.*

9.3 Water conservation

The options under consideration to promote water conservation include:

- Status Quo three waters chapter district plan provisions for water conservation
- Enhanced district plan provisions for water conservation
- Provision of education and/or incentives for retrofitting water conservation measures.

It is noted that domestic water supply within the City is not currently metered and is not charged to domestic users on a volumetric basis. While volumetric charging would encourage better water conservation, a Local Government Act process is required to implement universal water metering. This is outside the scope of a district plan process.

Rain tanks that are connected to household facilities like laundry and toilets are expensive to install, perhaps $10,000. Regular maintenance is required, including checks on back flow preventors. There is no direct pay back from reduced water consumption, as water is not metered. However, there are long term benefits to the community over timing of future water supply options, while capture of roof water substantially reduces stormwater runoff, creating environmental benefits.

Table 10: Water conservation options

Criteria	Status quo	Enhanced district plan requirements for water conservation	Education / Incentives for retrofitting water conservation measures (rain tanks)
Benefits	Low flow fixtures are required, defined as 3 star rated toilets, showers and taps Space for metering is to be provided, enabling this to be implemented in future.	Rain tanks would reduce the requirement for municipal supply and have cumulative environmental benefits. 4 or 5 star rated toilets and taps would save more water than 3 star rated fixtures. Space for metering is to be provided for, should this be implemented in future.	Every rain tank installed has a small cumulative environmental benefit Rain tanks installed by the owner's choice are likely to have better maintenance and upkeep.
Costs	Financial cost of 3 star fixtures, which at the budget end of the scale can be more expensive than 0-2 star fixtures (e.g. $20 for showers, similar for taps)	Financial cost of installing and maintaining rainwater reuse tank (up to $10,000). 4- 5 star fixtures can cost more than 3 star (e.g. $45 for taps), depending on design preference, and reduce design options	Cost to council of education campaigns and possible subsidy of rain tanks. The remainder of costs for design, installation and maintenance of devices fall to the landowner.

Criteria	Status quo	Enhanced district plan requirements for water conservation	Education / Incentives for retrofitting water conservation measures (rain tanks)
Efficiency	Efficient - as a permitted standard, no consenting costs are incurred if the standard is met.	Efficient - as a permitted standard, no consenting costs are incurred if the standard is met.	As an opt-in measure, incentives cannot be relied upon to achieve any large scale improvements to water conservation.
Effectiveness	While 3 stars is the highest efficiency rating for most showers available in NZ, higher than 3 star water efficiency can be achieved for taps (up to 6 stars) and toilets (generally 4 stars). Therefore, the requirement for low flow fixtures is not as effective at conserving water as it could be.	Effective as it would apply to all new developments and redevelopments containing plumbing fixtures and achieve greater water efficiency and conservation.	Due to existing use rights, this is the most effective option to encourage retrofitting of existing properties. However, scale of take up not likely to be high.
Risks	Risk that Hamilton will exceed its consented allocation of water before its consent expires	Owners may not adequately maintain rain tanks	No risks identified from acting.

10 Proposed Approach (S77J(4)(b))

The above discussion has determined that an overlay-based approach, backed up by site-based standards relating to water conservation and onsite stormwater management, is more effective and efficient in implementing the infrastructure capacity objective than a site-by-site assessment approach.

For an overlay to be implemented:

- A new suite of policies would be added
- Infrastructure constrained areas would need to be mapped to property boundaries
- Triggers for infrastructure assessment need to be set
- Matters of assessment need to be determined.

10.1 Proposed policies

Based on the above discussion, the following policies are proposed to be inserted into the plan:

Policy 25.13.2.3e

Identify areas of the city, by way of an Overlay, where existing three waters infrastructure has insufficient capacity to accommodate planned additional subdivision or development with consequent adverse effects on the health and wellbeing of the Waikato River from one or more of the following:

- *increased wastewater overflows*
- *increased discharges of untreated stormwater*
- *increased stormwater runoff volumes and peak flows*
- *unsustainable potable water use.*

Policy 25.13.2.3f

In areas of constrained three waters infrastructure capacity, require subdivision or developments of a medium to high density in all residential zones to prepare a three waters infrastructure capacity assessment.

Policy 25.13.2.3g
Enable development that can be adequately serviced by existing infrastructure or can be provided with sufficient infrastructure prior to or at the same time as the intensification occurs.

Policy 25.13.2.3h

Ensure that additional infrastructure demand generated does not necessitate additional unplanned public investment in, or expansion of, the three waters

infrastructure network or compromise its ability to service other activities enabled within the relevant network.

Policy 25.13.2.3i

Where there is inadequate three waters infrastructure for the planned built environment, and necessary upgrades and improvements are not feasible in the short to long term, then avoid further intensification until constraints are resolved.

Policy 25.13.2.3j

In areas where there is inadequate infrastructure to support the planned built environment, but necessary upgrades or improvements are programmed in the Long Term Plan to be provided within a 10 year time frame, then identify and implement interim actions including staging new development to the availability of infrastructure capacity.

Policy 25.13.2.3k

Progressively amend the extent of the Infrastructure Capacity Overlay as three waters infrastructure is upgraded and replaced with sufficient capacity to accommodate anticipated housing densities.

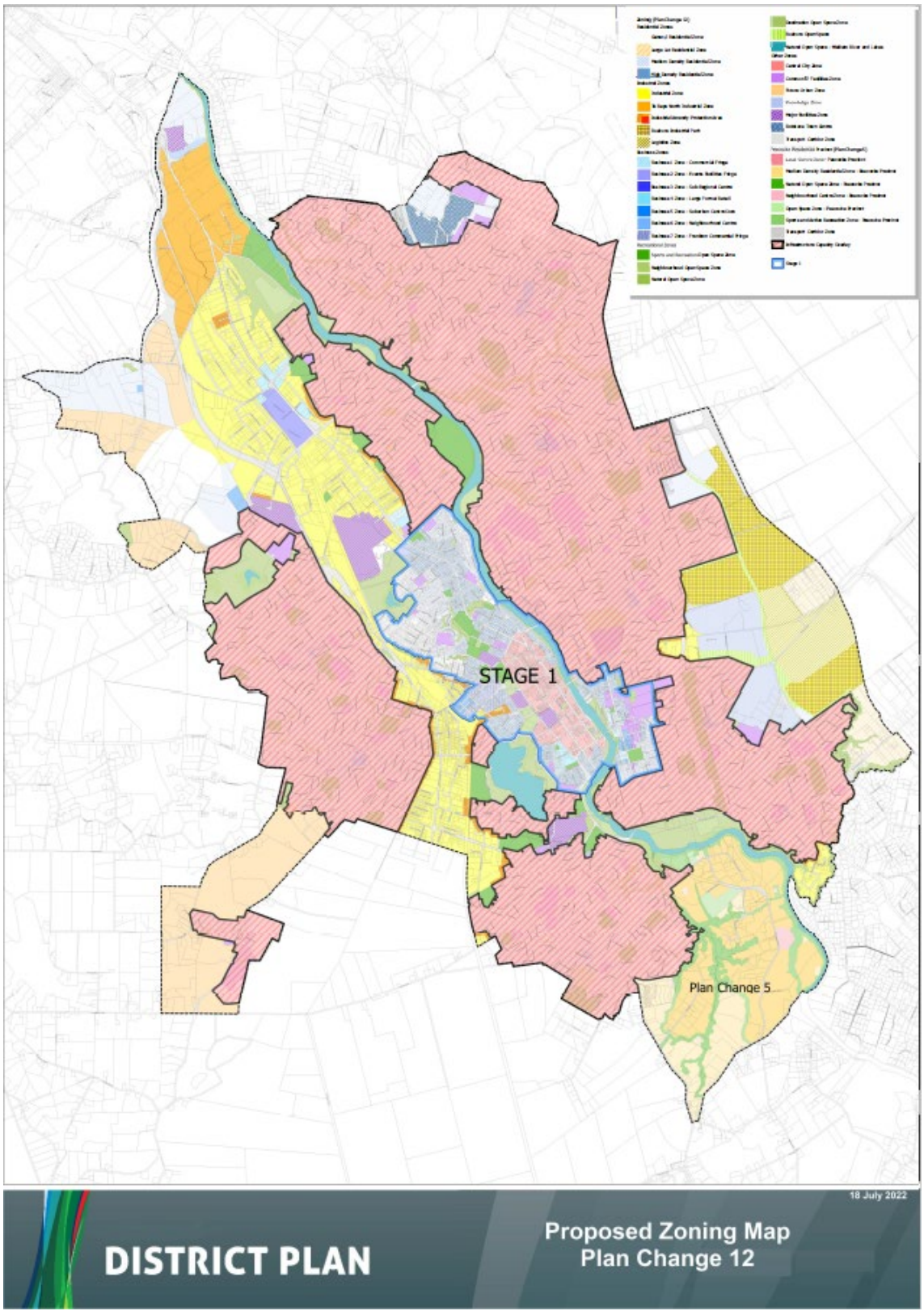
Policy 25.13.2.3l

In accordance with Chapter 24, require a financial contribution when off-site infrastructure upgrade works are needed in a network to avoid, remedy or mitigate, the adverse effects of development or to restore and protect the health and wellbeing of the Waikato River.

In addition, the water efficiency policy is proposed to be amended to focus on water conservation only rather than its current reference to water sensitive techniques, which overlaps with other policies.

> *25.13.2.3a Water conservation techniques are incorporated into new subdivision and development to reduce demand on reticulated water supplies, wastewater disposal and to manage stormwater discharged to the environment*

10.2 Infrastructure overlay



10.3 Assessment triggers

The following activity statuses are proposed for Residential zones.

Not subject to the Overlay (Priority areas/unconstrained by overlay)	**Subject to the Overlay (constrained by overlay)**
General Residential Zone (MDRS standards)) Up to 3 units Permitted activity – no density control / standard 4 or more units triggers Restricted Discretionary Activity (design, layout, local infrastructure etc) RDA status introduces the infrastructure capacity assessment **General Residential Zone in Greenfield Development Areas** Subdivision provisions address changes arising from MDRS and triggers infrastructure analysis and development agreements prior to subdivision approvals. **Medium Density Residential Zone (around commercial centres)** Up to 3 units Permitted activity. No limit on density – subject to compliance with standards Restricted Discretionary Activity when 4 units or more – urban design assessment and local infrastructure capacity assessment (less onerous than inside overlay)	**General Residential Zone (MDRS standards)** Up to 3 units Permitted activity 4 or more units triggers Restricted Discretionary Activity (design, layout, wider infrastructure, etc) Less than 200m^2 net site area per unit also triggers a Restricted Discretionary Activity. RDA status introduces the infrastructure capacity assessment **Medium Density Residential Zone (around commercial centres)** Up to 3 units Permitted activity Restricted Discretionary Activity when 4 units or more – urban design and wider network capacity infrastructure assessments apply Also Restricted Discretionary Activity when less than net site area of 150m² per unit (as per current Res Intensification Zone) RDA status = infrastructure capacity assessment (more onerous than outside overlay)

<u>Not subject</u> to the Overlay (Priority areas/unconstrained by overlay)	**<u>Subject</u> to the Overlay (constrained by overlay)**
High Density Residential Zone (Policy 3, 6-storeys around central city zone) No limit on number of units / density All subject to standards and all subject to RDA Similar to Medium Density Zone an urban design assessment and local network capacity infrastructure assessments apply **Residential in Business Zones** New buildings are RDA in this zone Refer to Medium Density Residential Zone	**High Density Residential Zone (Policy 3, 6-storeys around central city zone)** No limit on number of units / density – subject to compliance with standards and all subject to RDA Restricted Discretionary Activity when 4 units or more –wider network infrastructure capacity assessments apply **Residential in Business Zones** New buildings are RDA in this zone Refer to Medium Density Residential Zone

In terms of water conservation, Rule 25.13.4.5 is proposed to be amended so that rainwater reuse tanks of minimum 3,000L size are required for all new residential units or other new buildings in a residential zone containing a kitchen, laundry, toilet or bathroom. It is noted that in the majority of such circumstances, rainwater reuse tanks are required anyway through the proposed onsite stormwater management provisions (the subject of a separate s32 contributing report).

Low flow fixtures are already required for development in the residential zones, but the definition of low flow fixtures is proposed to be amended to the equivalent of a 4 or 5 star water efficiency rating rather than 3 stars.

10.4 Assessment matters

In terms of the assessment required, the following assessment criteria are proposed:

J9	Three Waters Infrastructure Capacity		Local network (sites not subject to the Three Waters Infrastructure Capacity Overlay)	Local and strategic networks infrastructure capacity (sites subject to the Three Waters Infrastructure Capacity Overlay)
Note Information requirements relating to **Three Waters Infrastructure Capacity Assessment** applications are outlined in Volume 2, Appendix 1.2.				
J9.1	The extent to which the proposal can be adequately serviced by capacity within the existing local Three Waters infrastructure network, including:		✓	✓
	a.	Access to and use of an appropriate and sustainable water source.	✓	✓
	b.	Treatment and management of stormwater without adversely affecting the Waikato River environment.	✓	✓
	c.	not increasing wastewater overflow events and associated	✓	✓

J9	Three Waters Infrastructure Capacity		Local network (sites not subject to the Three Waters Infrastructure Capacity Overlay)	Local and strategic networks infrastructure capacity (sites subject to the Three Waters Infrastructure Capacity Overlay)
		contamination of receiving waters		
J9.2	Where there is insufficient capacity, whether works to provide adequate capacity can and will be undertaken by the development or are included as part of Council's current Long Term Plan.		✓	✓
J9.3	The extent to which trunk Three Waters Infrastructure has sufficient capacity to manage wastewater and water demands of the development.			✓
J9.4	Whether the servicing needs of the proposal would necessitate additional public investment in Three Waters infrastructure, services or amenities that does not form part of Council's current Long Term Plan.			✓
J9.5	Whether the additional demand generated compromises three waters infrastructure ability to service other activities permitted within the zone.			✓
J9.6	The extent to which the proposal is consistent with the provisions of		✓	✓

J9	Three Waters Infrastructure Capacity		Local network (sites not subject to the Three Waters Infrastructure Capacity Overlay)	Local and strategic networks infrastructure capacity (sites subject to the Three Waters Infrastructure Capacity Overlay)
	any Integrated Catchment Management Plan (ICMP) and/or Structure Plan relevant to the site.			
J9.7	Where three waters infrastructure capacity is limited, the extent to which the proposal can incorporates sustainable management techniques and controls to:			✓
	a.	Protect water quality and limit generation of stormwater.		✓
	b.	Limit potable water wastage and usage.		✓
	c.	Limit the generation of wastewater.		✓
J9.8	Recommendations, proposed mitigation measures and conditions of the Three Waters Infrastructure Capacity Assessment and any further information provided through the consent process.		✓	✓

J9	Three Waters Infrastructure Capacity	Local network (sites not subject to the Three Waters Infrastructure Capacity Overlay)	Local and strategic networks infrastructure capacity (sites subject to the Three Waters Infrastructure Capacity Overlay)
J9.9	Whether the proposal can address any adverse effects of the development on water supply capacity, wastewater systems, and the stormwater network capacity, taking into account • Mitigation measures within the development area or site, • Upgrades to the relevant network surrounding the development site or area that can be undertaken by the development, • Financial contributions towards local and network wide upgrades.		✓

11 Conclusion

Hamilton City Council must amend its Operative District Plan in accordance with the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2022 (HSAA).

The HSAA requires significant increases in permitted heights and densities of residential development across the city, as set out in the National Policy Statement on Urban Development (NPS-UD) and the mandatory Medium Density Residential Standards (MDRS) contained in the HSAA. This increased density raises issues with the capacity of three waters infrastructure to accommodate such growth and the associated likelihood of additional pressures on the natural environment where existing capacity is constrained (such as increased wastewater overflows).

Council's Infrastructure team have reviewed available information on three waters infrastructure capacity within the city, providing a "traffic light'' assessment. This assessment highlights that there is insufficient capacity across much of the city to meet current demands, let alone additional demands that may be generated by the required NPS-UD or MDRS amendments. There is the potential for significant adverse effects on the health and wellbeing of the Waikato River.

Te Ture Whaimana o Te Awa o Waikato/the Vision and Strategy for the Waikato River is the primary direction setting document for the Waikato River. The restoration and protection of the health and wellbeing of the Waikato River must be achieved. Section 12 of the enabling Te Ture Whaimana Act clarifies that, in the event of any inconsistency, the Vision and Strategy for the Waikato River prevails over any national policy statement or New Zealand coastal policy statement.

The HSAA provides for qualifying matters to moderate the intensification sought by the NPS-UD and MDRS, with one of those qualifying matters being Te Ture Whaimana. A number of planning approaches have been considered as to how to best co-ordinate on-going city growth with the necessary upgrade and replacement of existing infrastructure in a way that avoids as best as possible adverse effects on the River.

This report has evaluated these options within the framework set by Sections 32 and 77J of the RMA.

An ''up-zone now and upgrade and replace infrastructure over time'' approach is not the more effective or efficient method given the nature of the potential effects and the primary importance of the health and wellbeing of the River.

Case-by-case assessment of infrastructure capacity constraints is likely to generate substantial uncertainty for developers and council as how to appropriately manage capacity issues.

A 'three waters infrastructure capacity overlay' is identified as the preferred method. The overlay would apply across much of the existing, urbanised area of the city and require infrastructure capacity assessments for housing developments of a medium to

high density. Local and trunk network capacity would need to be considered, along with planned Council upgrades and whether any actions could be taken by the development to limit infrastructure demands.

Over time, the overlay should be progressively reduced in extent as infrastructure is upgraded.

The overlay would not be applied to greenfields areas yet to be subdivided, as well as the central city, its walkable catchment and land to the immediate north. In the areas not subject to overlay, the MDRS or Policy 3 will not be modified to accommodate the qualifying matter. However, a local infrastructure capacity check would still be required for development of a medium intensity, and/or which exceeded 3 units per lot.

In addition to infrastructure capacity assessments, Council is also proposing to strengthen management of stormwater generation from sites through new on-site stormwater rules. Water conservation techniques are also to be enhanced.

In terms of housing capacity, the infrastructure capacity provisions will still provide housing capacity well in excess of expected demand over the short to medium term. Greenfields areas are not subject to the Overlay, while the Central City, its walkable catchment and land to the north has been excluded from the Overlay to provide options for brownfields redevelopment in a mix of densities and housing types. For residential land subject to the Overlay, development of up to three units on a site does not trigger the infrastructure assessment process, provided net density remains at 1 unit per 200m^2 net site area (reflecting current Operative Plan provisions).