Landscape and Visual Assessment Report

SH1 Rolleston Access Improvements | Package 1 - Roundabout

Prepared for Waka Kotahi NZ Transport Agency - National
Prepared by Beca Limited

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Contents

Appendices

Revision History

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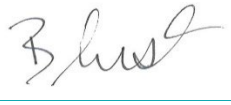
Prepared by	Ben Frost		18/09/24
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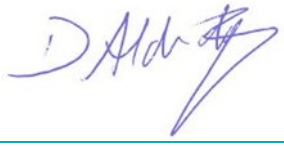
Approved by	David Aldridge		11/10/24
on behalf of	Beca Limited		

1 Executive Summary

NZ Transport Agency Waka Kotahi (NZTA) is submitting a Notice of Requirement (NOR) to designate land for State Highway 1 (SH1) roading upgrades necessary for the SH1 Rolleston Access Improvements Project. This report provides a technical assessment of the potential Landscape and Visual Effects of Package 1 the SH1/Dunns Crossing / Walkers Roundabout (the Project) as part of the Assessment of Effects on the Environment (AEE) report.

The assessment methodology is based on, and consistent with, the **Te Tangi A Te Manu Aotearoa New Zealand Landscape Assessment Guidelines**, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

The key issues this landscape and visual assessment focuses on are potential effects on peri-urban character and amenity, while also addressing the nature of the rural/urban interface at the western edge of Rolleston.

The site sits at the northwestern edge of Rolleston with Dunns Crossing Road forming a 4km lineal boundary between the rural landscape to the west and existing medium density single storey detached residential housing to the east. Lineal infrastructure including SH1 and South Island Main Trunk (SIMT) rail line, which form part of the site, demarcate land use activities within the area and serve as prominent elements within the landscape. A mix of activities and land uses surround the site including the Rolleston Prison, Pines Wastewater Treatment Plant, Pines Resource Recovery Park, together with large lot residential zone west of the site. Industrial land is zoned to the east of the site to the north of SH1. While the existing cross-roads of SH1 with Walkers Road and Dunns Crossing Road and the SIMT is largely clear of vegetation providing a sense of openness, views are often compartmentalised by adjacent amenity planting, shelterbelts / hedge row, earth bunds and fencing along SH1, Dunns Crossing Road, and Walkers Road.

In terms of effects, the scale of the Project is consistent with other roading upgrades which are localised within the context of Rolleston. The proposal will have **no effect** on physical landscape values. The location and nature of the roundabout and connecting roads will help to organise the range of activities and land uses within the area and build a more coherent urban to rural transition the north-west corner of Rolleston. The offset from the existing urban edge provides opportunities to visually integrate the proposal into its surrounds and reduce the presence of traffic. Overall, effects on perceptual values are considered **positive**.

For the majority of viewing audiences including residents along Dunns Crossing Road, occupants and users of Rolleston Prison, Rolleston West Primary School, future properties in the Industrial Zone, and road users the proposal will result in **negligible** or **positive visual effects.** Visual effects on future LLRZ properties directly adjacent the roundabout will be **Low-Moderate**. While recommended planting will demarcate the western edge and help to soften and reduce the prominence of the roundabout, the visual presence of traffic may be something that new property owners may choose to screen further through additional planting (noting that the Project, if the designation is confirmed, will be a known factor when future residents build).

On balance, provided the recommended conditions in Section 6.3 are volunteered as part of the NOR, and with regard to the provisions listed in Section 5 it is considered that the Project is appropriate from a landscape and visual standpoint in relation to its function, form and scale in the context of the surrounding area. This determination is based on the successful establishment and long-term success of the landscape design and outcomes described in the Urban and Landscape Design Framework (ULDF). Achieving the intended landscape planting outcomes relies on the creation of a Landscape Management Plan to provide a design response for land adjacent to the proposed roads along with other design opportunities within the carriageway in accordance with the ULDF.

2 Introduction

2.1 Purpose

NZ Transport Agency Waka Kotahi (NZTA) is submitting a Notice of Requirement (NOR) to designate land for State Highway 1 roading upgrades necessary for the SH1 Rolleston Access Improvements Project.

An Assessment of Effects on the Environment (AEE) report has been prepared by Beca Limited to support an NOR for the SH1/Dunns Crossing / Walkers Roundabout. This report provides a technical assessment of the potential Landscape and Visual Effects of the SH1/Dunns Crossing / Walkers Roundabout as part of the AEE and should be read in conjunction with the Landscape Assessment Graphic Appendices.

The SH1 Rolleston Access Improvements is one of the transport networks to have been recognised through New Zealand's Upgrade Programme (NZUP) and is intended to respond to both existing transport deficiencies as well as provide for the forecasted future growth pressures in the area. The project includes a number of safety improvements to intersections along SH1 through Rolleston to reduce deaths and serious injuries and better manage the forecast future growth in traffic volumes.

In recent years the expansion of Rolleston has seen the population grow from 16,000 residents in 2018 to now having a population of 28,000, and by 2043 is the population is expected to be 39,000. The northern side of Rolleston started being developed for industrial use around 2004, this can be seen through the historical aerial imagery of the area – see Appendix 2. The area is anticipated to continue its significant growth over the next 35 years, with a long-term capacity of up to 50,000[1].

2.2 Methodology

The assessment methodology is based on, and consistent with, the **Te Tangi A Te Manu Aotearoa New Zealand Landscape Assessment Guidelines** (the Guidelines), Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022. The Guidelines emphasise the need for the scope and method of assessment be tailored to three key aspects:

- The relevant landscape setting,
- The nature of the proposal and associated degree of change in the landscape, and
- Associated policy framework.

Refer to Appendix 6 for the full Landscape and Visual Assessment methodology and terms used when assessing the potential landscape and visual effects of the proposal. The relevant landscape setting is outlined in Section 3, Existing Environment. The Project is summarised in Section 4 and details the components likely to influence the effects assessment. The relevant statutory framework is described in full in the AEE with policy relating to landscape character and visual amenity outlined in Section 5 of this report.

2.3 Scope of the Assessment

The relevant landscape context has been identified by analysing the receiving environment and defining the physical extents of the proposal. The analysis of the landscape includes a description of the existing environment, setting out the physical, perceptual and associative attributes that exist across the site and relevant landscape context. These attributes are summarised in a statement of the overarching character and landscape values in **Section 3.** The proposed designation includes existing road corridors and areas of land zoned for residential use. Accordingly, the assessment is made with comparison to the reasonably

[1] Rolleston Structure Plan 2009

anticipated outcomes in these zones and is therefore largely limited to addressing effects for road users, businesses, and residential areas directly adjacent to the Project.

2.4 Preparation for this Report

In preparing this report and graphic appendices to be read in conjunction with the report, the following tasks have been undertaken to identify and assess the landscape values of the site context and the Project's potential effects on those values:

Background documentation and desktop analysis - The following material was reviewed and analysed to develop an understanding of the potential issues and matters to be addressed during the assessment process:

- Project description, concept layout and alignments provided by the project team
- Statutory setting as guided by the Resource Management Act 1991 (RMA), Canterbury Regional Policy Statement and Partially Operative Selwyn District Plan (POSDP)
- Relevant NZTA documentation including:
  - NZTA Landscape Guidelines, 2018
  - Bridging the Gap - NZTA Urban Design Guidelines, 2013
- Other data provided via the project GIS portal, such as land uses and zoning, topography, hydrology, vegetation patterns, natural resources and natural heritage layers and aerial photography
- Other technical reports, including:
  - Assessment of Environmental Effects (Beca Limited)
  - Ecological Assessment (Beca Limited)
  - Archaeological Assessment (Underground Overground Ltd)

Site Visits

A site visit was undertaken on 29th April 2024 to investigate the site and local landscape, assess the visual catchments in the area and to take viewpoint photos at local places of interest including:

- The SH1 route, travelling both north and south
- Rolleston township
- Rolleston Prison
- West Rolleston Primary School
- Walkers Road and Dunns Crossing Road

3 Existing Environment

3.1 Landscape Context

The proposed SH1/Dunns Crossing Road/Walkers Road roundabout (the roundabout) is located on the western edge of Rolleston which is approximately 22km southwest of Christchurch within the Canterbury Plains – see site context plan in Appendix 1.

The wider landscape surrounding Rolleston is characterised by the flat terrain of the Plains and is relatively devoid of other key landforms other than the Selwyn River / Waikirikiri some 7km further southwest. The Plains are overlaid by an extensive 'patchwork' of fields that are geometrically demarcated by shelter belts, the rail corridor, local roads and State Highway 1 (SH1) – the latter being a key driver of the pattern of development for Rolleston.

SH1 and the South Island main trunk railway run parallel together (separated by approximately 30m) in a south-westerly orientation. Both transport corridors traverse landscape in a lineal fashion remaining on the same alignment for some 30km from the outskirts of Christchurch, through Rolleston, and across the Waikirikiri River. Upgrades to SH1 in 2020 have introduced large scale roading and stormwater management infrastructure to the area east of Rolleston including grade-separated interchanges, roundabouts, four-laning, and dry attenuation basins which extend to just north of Rolleston. West of Rolleston the shelterbelts and clusters of vegetation flank SH1 and the rail corridor for much of their length, interspersed with patches of residual grassland appearing unmaintained in nature.

The site itself sits at the northwestern edge of Rolleston with Dunns Crossing Road forming a 4km lineal boundary between the rural landscape to the west and existing medium density single storey detached residential housing to the east. SH1 also forms the rural / urban interface at the north-west corner of Rolleston.

The interface between SH1 and the northern residential area of Rolleston is demarcated by a 2- 3m high earth bund covered in amenity plantings with a closed board and batten fence on its crest. This naturally creates a strong physical and visual separation along northern residential edge of Rolleston.

Pastoral land use together with centre pivot irrigation characterises the fields west of Dunns Crossing Road and south of SH1 which several industrial activities including the Pines Wastewater Treatment plant and the Pines Resource Recovery Park. West Rolleston Primary School is located on Dunns Crossing Road approximately 600m south of SH1. While currently rural, the land adjacent Dunns Crossing and Burnham School Roads is already zoned Large Lot Residential providing for sites averaging of 4,000m^2. Similarly, the land to east Walkers Road above SH1 is currently used for rural activities but is zoned General Industrial Zone which will form part of the broader expansion of the industrial area at the north end of Rolleston.

Rolleston Prison is located approximately 80m north of SH1, separated by the rail corridor and Runners Road. The Prison complex has a visually permeable security fence and a Leyland Cypress hedgerow surrounding the site. The main access for the prison is on Runners Road.

3.2 The Site

The Project site sits across fives zones of the Partially Operative Selwyn District Plan (POSDP) Appeals Version. Land use is generally reflective of the zoning and existing designations, except for the area of Large Lot Residential Zone (LLRZ) to the south-west side of the roundabout. While this land is currently rural, it is zoned for large lot residential development and is currently subject to an Appeal associated Proposed Plan Change 73 to rezone the site for higher density residential use. As such the assessment will consider any potential effects on the LLRZ. This is addressed further in section 5. The site and its immediate surrounds include the following attributes:

- Overall sense of openness with often compartmentalised views (largely depending on adjacent vegetation patterns) – these are primarily shaped by existing native amenity planting on the western side of Dunns Crossing Road, a pine shelterbelt on the southern side of SH1, earth bunds and associated planting and fencing along the northern residential edge of Rolleston and SH1.
- A combination of rectangular and circular land use/ paddock patterns within the current large lot zone.
- Lineal infrastructure including SH1 and SIMT rail line.
- The existing cross-roads of SH1 with Walkers Road and Dunns Crossing Road and the SIMT. This area is largely clear of vegetation, enabling more open views of the wider landscape.

3.3 Landscape Values Summary

The peri-urban nature of the local landscape context and existing use of the site (including as provided for by existing designations) impacts the relevance of the landscape values typically identified for the Canterbury Plains, including a patchwork pattering, linear corridors and broad views.

In the context of the urbanisation around Rolleston, the wider landscape retains a 'working' rural character characterised by arable/pastoral land use and overall sense of both openness and enclosure that is typical of the Canterbury Plains. These characteristics are the result of flat topography, geometric field patterns; linear boundary lines and shelter belts; variation between open and closed views; scattering of structures such as milking sheds, irrigators, houses and ancillary buildings; SH1 and Railway corridor; unformed (i.e. metalled) roads and access tracks; and exposure to the elements.

The overarching character of the site is underpinned by its function as a movement corridor (SH1). Specific landscape values which are the key focus for the assessment include:

- The rural / urban interface together with the road and rail corridors create a visually open, but physically demarcated transition between rural and residential land use. The transitional function of the site is driven by the importance of the SH1 road corridor and adjacent SIMT rail corridor. These elements are formative of the development of the township and are reinforced by edge and interface treatments with adjacent zones.
- Wayfinding, visual amenity and vegetation - the urban interface to Rolleston marks a shift in focus and character from the rural environment into areas of recent residential development. This interface is pre-empted by the increased amenity provided by the edge treatment to residential areas along the southern edge of SH1, consisting of earth bund with a closed board fence at the crest and integrated native vegetation. Dunns Crossing Road also reflects a higher amenity streetscape character with footpaths, manicured grassed frontages, and native amenity planting along the existing rural edge.
- Historic and associative values - The upgrade of roading infrastructure and subsequent residential growth in Rolleston has resulted in a stronger connection between Rolleston, Christchurch City and the Lyttelton Port. This connection is both physical and perceived, with the connectivity not only related to road infrastructure and business access, but the reduction of time spent travelling associated with making the township a more accessible and therefore, favourable place to live in and commute from.

4 Proposal

A full project description is provided within the Assessment of Environmental Effects (AEE) Report. Figure 1 below illustrates the proposed and existing designations together with the preliminary design of the roundabout and connecting roads – see Appendix 4 for an enlarged designation plan. The components of the proposal relevant to this LVA are summarised below:

- A roundabout offset approximately 90m west from the existing intersection of SH1 and Dunns Crossing Rd / Walkers Rd. The centre island of the roundabout will be approximately 1m above existing ground.
- The connecting SH1 road alignment bends south slightly by approximately 30m. The road starts to widen out to two lanes from approximately 180m either side of the Roundabout.
- A new connection from Dunns Crossing Road beginning some 310m south of SH1. The road bends out with an offset of approximately 80m. The northern end of Dunns Crossing Road with be a cul-de-sac with a local road connection at Newman Road.
- A new connection from Walkers Road beginning some 280m north of SH1. The road bends out with an offset of approximately 70m with a local connection to Runners Road.
- A pedestrian underpass for a safe crossing of the state highway at the Walkers Road / Dunns Crossing Road roundabout. The underpass connects the proposed Burnham Cycleway (along Runners Road) with the Rolleston residential area and a walking and cycling connection to the expanding industrial area and shared use paths along Walkers Road and Runner Road. The approach to the underpass will have 3:1 planted batters either side as the path slopes below ground level to pass through the subway under SH1. The subway and associated wingwalls will be up to 3.5m below existing ground.
- Associated signage on all legs approaching the roundabout.
- Retention of the existing earth bunds together with the existing board and batten fencing atop – some minor retaining is anticipated on the northern side of the earth bund to accommodate the eastern leg of the roundabout.
- Stormwater retention ponds between Walkers Road, Runners Road, and the northern leg of the roundabout.
- Stormwater retention ponds between Dunns Crossing Road and the southern leg of the roundabout.
- To enable site works the following areas of vegetation within the designation will be removed:
  - The pine shelter belt adjacent the proposal on SH1
  - The Leyland Cypress shelterbelt along the southern boundary of Rolleston Prison with the proposed designation.
  - The amenity planting along the western side of Dunns Crossing Road

There is currently no planting proposed as part of the proposal. All exposed surfaces and batter slopes are assumed to be grassed including around the stormwater ponds.

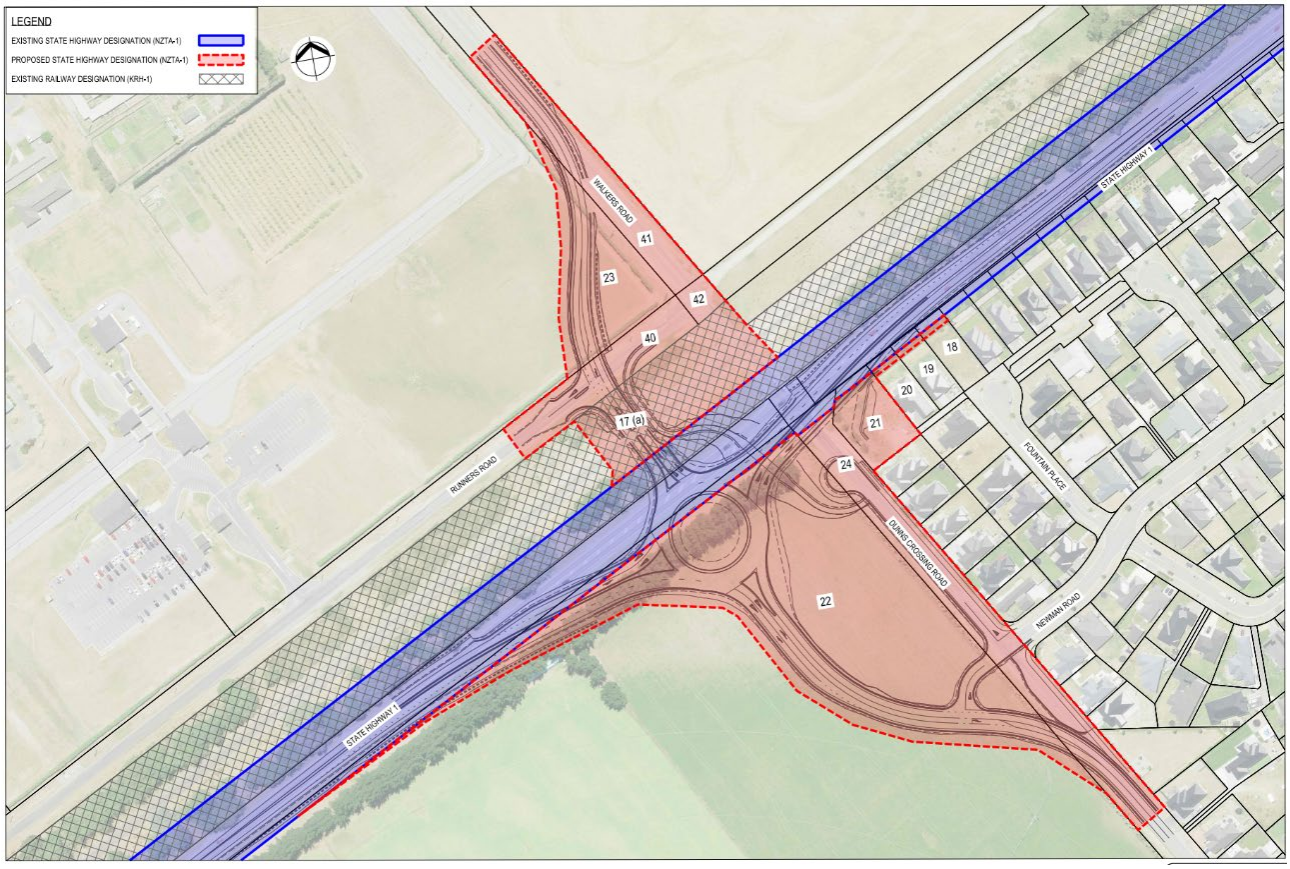


Figure 1: Proposed Designation boundary and roundabout design

5 Statutory Planning Context

Matters decision-makers consider when deciding a Notice of Requirement (NoR) are set out in RMA s171. The statutory framework is outlined in full in the AEE and relevant landscape provisions are outlined below.

The purpose of outlining the provisions is to identify the key matters against which the proposed development is to be assessed by decision makers. These matters allow a directed assessment of the proposal and provide the planning framework and reasoning for desired landscape outcomes at the site.

5.1 Selwyn District Plan

The Project site is located five zones within POSDP (see Appendix 3 illustrating the current zoning for the site):

- Large Lot Residential Zone (LLRZ)
- Medium Density Residential Zone (MRZ)
- General Rural Zone (GRUZ)
- General Industrial Zone (GIZ)
- Corrections Zone (CORZ)

In addition to the above, the Project area is located across three designations:

- NZTA-1 – New Zealand Transport Agency
- KRH-1 - Kiwirail Holdings Limited
- MCOR-1 – Minister of Corrections

5.1.1 Objectives and Policies

The purpose of reviewing the relevant POSDP zone objectives and policies is to help to frame the assessment. The following provisions are relevant to this landscape assessment:

GRUZ-O1 *Subdivision, use, and development in rural areas that:*

1. *supports, maintains, or enhances the function and form, character, and amenity value of rural areas;*
3. *allows primary production, those activities that directly support primary production and have a functional or operational need to locate with the General Rural Zone and important infrastructure, to operate without being compromised by incompatible sensitive activities and reverse sensitivity effects;*
4. *retains a contrast in character to urban areas; and*

GRUZ-P1 *Maintain or enhance rural character and amenity values of rural areas by:*

4. *retaining a clear delineation and contrast between the district's rural areas and urban areas; and*

LLRZ-O1 *The Large Lot Residential Zone provides for residential activity on large sites, in a manner compatible with the retention of an open and spacious peri-urban character at the rural interface.*

CORZ-O3	*Use and development unrelated to the operation, maintenance, upgrading, and expansion of Rolleston Prison occurs in a manner consistent with the General Rural Zone provisions.*
CORZ-P4	*Ensure activities located within the Corrections Zone maintain rural character and amenity beyond the Corrections Zone to the extent practicable.*
GIZ-02	*The amenity values of residential and rural areas adjoining the General Industrial Zone are maintained, while recognising the functional and operational requirements of industrial activities.*
GIZ-P3	*Avoid activities that are incompatible with the character and function of the industrial area*

While the designation covers the Medium Density Residential Zone there are no provisions that are directly relevant to the assessment. Note that potential effects on the residential interface along Dunns Crossing Road and Fountain Place are still covered in the assessment of effects.

5.1.2 Zoning

As mentioned above the Project site sits across five zones as illustrated in Figure 2 below:

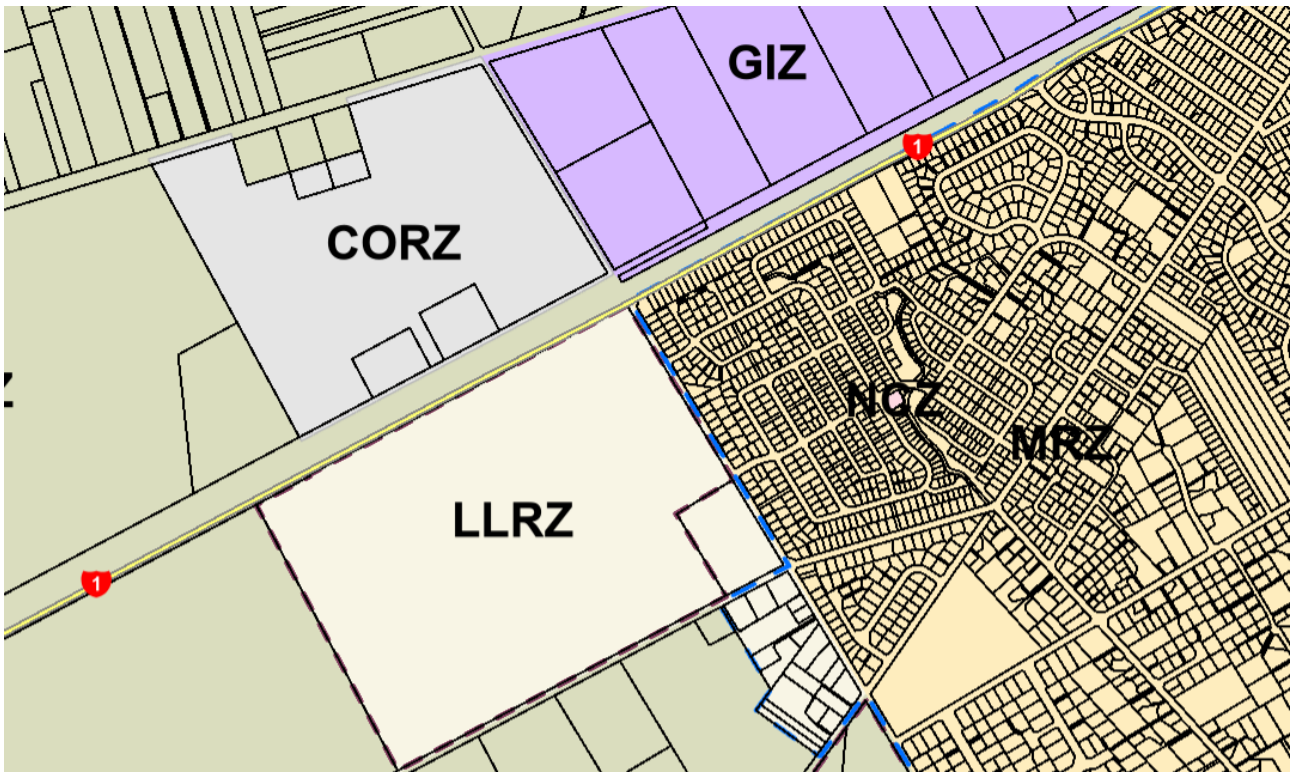


Figure 2: Excerpt from the POSDP.

The majority of the proposed designation sits within the Large Lot Residential zone, across Section 2 SO 480906. The corresponding development plan for this area provides for a low-density residential style of development with sites ranging from an average of 4,000m^2 adjacent Dunns Crossing and Burnham School Roads to a minimum of 4ha lots adjacent the General Rural Zone to the west. The proposed densities are set out to provide a transition between residential and rural densities. It is noted that there is current appeal

to change to the Operative Selwyn District Plan by rezoning approximately 160 hectares of the LLRZ land to General Residential Zone with some small Neighbourhood Centre Zones on Dunns Crossing Road, Rolleston. This would enable approximately 2100 residential sites and two commercial areas.

Therefore, the assessment will focus on and address potential effects on the likely outcomes and interface between the existing residential edge (MRZ) and the LLRZ.

6 Landscape and Visual Effects

As described previously the following assessment categorises the nature and degree of effects into landscape and visual, whereby:

1. Landscape effects are those that the project has on the **physical**, **perceptual/sensory** and **associative** aspects that comprise landscape character. Effects on amenity values are part of this evaluation; and

2. Visual effects are a subset of landscape (perceptual) effects that require the consideration of project visibility and assessing potential effects on specific 'viewing audiences'.

6.1 Landscape Effects

6.1.1 Physical Effects

The proposed roading infrastructure will be slightly elevated above existing flat terrain with the high point being the central part of the roundabout. The scale of the proposal is also consistent with other roading upgrades forming a continuation of interventions across the state highway network. Due to the scale of the plains surrounding the proposal, adjacent LLRZ zoning currently in rural production, the localised raising of the roundabout and connecting roads will have **no effect** on physical landscape values.

6.1.2 Perceptual Effects

While the designation will enable a new roundabout and connecting roads the roading infrastructure will appear as a natural extension or upgrade to the network. It will essentially be co-located with other utilitarian facilities/interventions at the rural/urban interface of Rolleston. The new roading infrastructure will provide a transition or demarcation point between the Rolleston Prison, Pines Wastewater Treatment Plant and associated distribution fields, Pines Resource Park and the western residential edge of Rolleston.

Within the LLRZ, the roundabout and connecting roads will further reinforce the transition between the residential edge of Rolleston, the larger lot residential zone and rural land beyond. The area between the roundabout and Dunns Crossing Road containing the proposed stormwater ponds will provide an area of open space adjacent to the built edge of the new road infrastructure and associated vehicle movements. However, the absence of any planting will result in a moderate to high level of dominance within the local context including nighttime lighting associated with the proposal. Opportunities exist within these residual areas for planting to soften and integrate the proposal to the local context.

The existing character of the rural / urban edge has an array of activities and land uses which are bisected by an array of lineal transport corridors. The location and layout of the proposal will help to compartmentalise these activities and build a more coherent urban to rural transition and change of character at the north-west corner of Rolleston.

Adjoining residents will likely experience positive effects due to the separation of the new roads, reducing the proximity of traffic along the frontage of the residential properties accessing SH1. The large area of stormwater retention between the southern leg of the roundabout and Dunns Crossing Road will provide an opportunity to enhance the outlook of those residents.

The proposal will also enhance the existing pedestrian and cyclist experience. The provision of a shared path underpass between Dunns Crossing Road and Walkers Road will increase the ground level legibility and sense of safety when moving along/across the SH1 corridor.

The proposed recommendations in Section 7 address the opportunities outlined above, to help integrate the project with the residential character. This includes planting of the stormwater basins, roundabout and

residual areas within the designation to support urban amenity and within the road corridor to further enhance the 'on the ground' experience for road users, pedestrians and cyclists.

Overall, the proposal will have **low adverse effect without the proposed recommendation in Section 7. With the recommendations the project will have positive effect** on perceptual values within the landscape.

6.1.3 Associative Effects

The co-location of infrastructure along existing lineal road corridors will have **no effect on associative values**. The proposal will not disrupt the flat topography and patchwork patterning of the Canterbury Plains. At the time of preparing this assessment the author is not aware of any cultural values that may influence the associative effects assessment – noting that engagement with mana whenua is ongoing.

6.2 Visual Effects Analysis

The visual catchment of the proposal is relatively constrained due to intervening shelterbelts and vegetation, earth bunds, built form, the flat terrain, and that the proposal itself is low lying. However, there are several key audiences relevant to the assessment of visual effects within the localised visual catchment. Appendix 5 contains a series of site photographs that are representative for the different viewing audiences together with a photograph location map. These photographs are used as a reference for the following analysis.

6.2.1 Adjoining residential property owners/ occupiers

a) Properties along Dunns Crossing Road (refer to Site Photographs 1 - 2)

   This includes views from the frontage of dwellings between Dunns Crossing Road Reserve to SH1. Given the presence of the existing road corridor and moderate volumes of traffic along Dunns Crossing Road the sequence of residential properties adjacent are likely to already have a degree of visual tolerance for passing traffic. While the scale of the new road and roundabout is substantially larger than the existing Dunns Crossing Road, the progressive offset of the road by approximately 80m reduces the presence of the proposal. However, the removal of roadside vegetation and creation of large open grassed areas surrounding the new roading serve to amplify the visibility of the new roading and creates a stark environment that contrasts against the residential interface. Opportunities exist for new planting between the new road corridor and Dunns Crossing Road to create a 'planted edge' to reduce effects along this residential interface. The proposed signage adjacent to the corridor on approach to the roundabout with new light poles will be visually apparent from residents along Dunns Crossing Road. At night vehicle headlights will briefly pass across the frontage of properties on Dunns Crossing Road as vehicles traverse the roundabout. Combined with the sequence of new light poles leading up to and surrounding the roundabout, the level of lighting within the designation area will be noticeably higher.

   Overall, the proposal will result in **low visual effects** for this viewing audience – primarily influenced by the prominence of new roading infrastructure, including at night.

b) Properties at 15, 17, 19 Fountain Place[2] (refer to Site Photograph 3)

   Figure 2 below illustrates the proposed designation boundary offset by 9.4m from the existing designation boundary adjacent properties at 15, 17, 19 Fountain Place. Figure 2 also shows that the proposed designation boundary aligns with the current closed board and batten fence atop of the

[2] Note that the vacant corner lot at 13 Fountain Place is owned by Waka Kotahi and therefore is not considered within this assessment.

existing earth bund between SH1 and residential properties at 15, 17, 19 Fountain Place. Although vegetation may be removed behind the fence in this area, there will be no tangible visual effect. Overall, the outlook from these properties is unlikely to change to any noticeable degree and any resulting **visual effects will be negligible.**

Figure 3: Aerial view of the existing properties on Fountain Lane, located south of SH1. (Source: GRIP)

c) Future dwellings within LLRZ (refer to Site Photographs 1 -2)

The nature of the LLRZ is able accommodate a range of interfaces and is typically used as a transition point at the urban edge. The larger scale of separation between dwellings allows for property owners/occupiers to orientate buildings or screen elements within the landscape to reduce effects of adjacent land uses. The roundabout connecting roads will present a slightly different interface with the removal of a portion of the pine shelterbelt and presence of a large-scale road corridor. The location and alignment of the roundabout will orientate vehicle headlights across future development in the LLRZ. The space between the proposed roundabout and designation boundary is relatively narrow, consisting of a grassed swale. As such, the movement of traffic will be prominent, particularly at night. However, property owners may choose to screen further through additional planting (noting that the Project, if the designation is confirmed, will be a known factor when future residents build). Overall, the visual effects on future LLRZ properties directly adjacent the roundabout will be **Low-Moderate**.

6.2.2 Other adjacent properties or businesses

Rolleston Prison – visibility of SH1 and Walkers Road is currently screened by Leyland Cypress hedgerow paired with deer fencing. While the designation encroaches into the grassed open space at the south-eastern corner of the prison the northern leg of the roundabout will remain peripheral in the context of the

prison facility. Even so a Leyland Cypress hedgerow and deer fencing will be reinstated along the new designation boundary fully screening the new road. As such visual effects on the Prison will be **negligible**.

West Rolleston Primary School – the southern edge of the proposal is located some 300m from the nearest classroom buildings. Views toward the roundabout will likely be entirely screened by dwellings, ancillary structures and vegetation established within the LLRZ. As such visual effects on the school will be **negligible**.

6.2.3 Road users

Four types of view are relevant in this regard:

a) **Views of Dunns Crossing Road** – the scale of new planting along the southern leg of the roundabout and no exit portion of Dunns Crossing Road will improve the landuse transition and quality of views for road users. The provision of a shared path connection under SH1 between Dunns Crossing Road and Walkers Road together with adjacent amenity planting will substantially improve the quality and user experience for people walking and cycling.

b) **Views from the SH1 corridor** – these views are typically experienced by road users as they travel along SH1. These existing views are significantly constrained by vegetation on both sides of the corridor together with earth bunds adjacent the residential edge of Rolleston. Views are generally constrained/ funneled within and along the carriageway itself although there are views available of the Southern Alps at the current cross-roads albeit brief. The proposal will serve to amplify the openness and enable views to the wider landscape while additional planting along its approaches will soften its edges. This will increase the overall quality of the viewing experience for road users on SH1.

c) **Views** from **Walkers Road** – similar to SH1 views along this corridor are influenced by adjacent land uses – in this case the corridor is flanked by the Leyland Cypress shelterbelt along the eastern boundary of Rolleston Prison while the future industrial zone east of Walkers Road (currently in pasture) will significantly change the future outlook and experience for road users. Overall, the realignment and widening of the carriageway together with the scale of new planting will enhance the overall road user experience.

7 Recommendations

To provide for successful integration of the Project in the landscape context, the following measures are recommended to reduce or mitigate the degree of potential adverse effects.

7.1 Landscape Management Plan

A Landscape Management Plan (LMP) shall be prepared in accordance with the NZTA Landscape Guidelines[3] and "Bridging the gap - NZTA Urban Design Guidelines"[4] as part of the Detailed Design Phase by a suitably qualified Landscape Architect. The plan shall provide a design response for residual areas within the designation boundary and connecting roads along with other design opportunities within the carriageway.

It is noted that an Urban and Landscape Design Framework (ULDF) is being prepared for the broader SH1 Rolleston Access Improvements Project and will be finalised post lodgement. The LMP shall be developed in general accordance with principles and outcomes set out in the ULDF.

General design outcomes to be addressed in the LMP may include:

a. Mahi toi - opportunity for cultural narrative expression on the pedestrian underpass.

b. Opportunity for new Rolleston gateway / entrance signage on southern approach to the roundabout.

c. Low planting on any new embankments.

d. Reinstatement of grassed verges and trees where road infrastructure is widened.

Further specific considerations should also be addressed as follows:

a. Planting around the Stormwater retention ponds and the residual land between Dunns Crossing Road and the southern leg of the roundabout including between SH1 and the new Dunns Crossing Road turning head and south of Newman Road.

b. Low planting on embankments adjacent the new underpass.

c. Grass swale with low planting along the south edge of the roundabout.

d. Replacement of deer fencing and Leyland Cypress hedgerow along the Rolleston Prison boundary.

Proposed planting – detailed planting plans and specification shall be prepared by a suitably qualified Landscape Architect in accordance with the outcomes and consideration set out above (including the ULDF once completed). A landscape establishment, maintenance (including replacement) and monitoring plan is prepared by a suitably qualified Landscape Architect, to enable long term success of proposed planting. The plan shall establish a minimum three (3) year maintenance and monitoring requirement.

[3] NZ Transport Agency Landscape Guidelines - Final, March 2018 (nzta.govt.nz)

[4] bridging-the-gap.pdf (nzta.govt.nz)

8 Conclusions

On balance, provided the recommended conditions in Section 7 are volunteered and subsequently adhered to, and with regard to the provisions listed in Section 5 it is considered that the proposed Package 1 - Roundabout of the SH1 Rolleston Access Improvements fits with the identified landscape context and is likely to be compatible with the peri-urban setting.

This conclusion has been reached taking into account the following factors:

- **Physical Effects** – the scale of the proposal is also consistent with other roading upgrades forming a continuation of interventions across the state highway network which appear localised within the context of the plains. Consequently, the roundabout and connecting roads will have **no effect** on physical landscape values.
- **Perceptual effects** – the location and nature of the roundabout and connecting roads will help to organise the range of activities and land uses within the area and build a more coherent urban to rural transition the north-west corner of Rolleston. This is primarily influenced by the offset and separation of the new roads as well as with the extent and scale of planting adjacent to the roundabout. Together these attributes serve to visually integrate the proposal into its surrounds and reduce the presence and pervasiveness of traffic along the frontage of the existing residential edge of Rolleston. Overall, effects on perceptual values are considered positive.
- **Associative effects** – the co-location of infrastructure along existing lineal road corridors will have **no effect on associative values**. The proposal will not disrupt the flat topography and patchwork patterning of the Canterbury Plains.
- **Visual Effects** – for the majority of viewing audiences the proposal will result in **negligible** and **positive effects.** For residents on Dunns Crossing Road this is primarily influenced by the scale of additional planting and offset of vehicular traffic. Visual effects on future LLRZ properties directly adjacent the roundabout have the potential to be **Low-Moderate**. While proposed planting will demarcate the western edge and help to soften and reduce the prominence of the roundabout the visual presence of traffic will appear pervasive for adjacent LLRZ properties. However property owners may choose to screen further through additional planting (noting that the Project, if the designation is confirmed, will be a known factor when future residents build). For all road users the proposal improves the overall quality of the viewing experience – resulting in **positive effects**. In particular, the proposed will serve to amplify the openness and enable views to the wider landscape while the proposed planting will soften its edges.

SH1 ROLLESTON ACCESS IMPROVEMENTS | PACKAGE 1 - ROUNDABOUT | LANDSCAPE ASSESSMENT APPENDICES

11.10.2024 Project Number: 3338703 Revision B

Beca

Revision History

Project Number: 3338703

Revision	Prepared By	Description	Date
A	Ryan Aranyi and Ben Frost	Draft For Internal Review	30/07/2024
B	Ryan Aranyi and Ben Frost	Final	11/10/2024

Document Acceptance

Action	Name	Signed	Date
Prepared by	Ryan Aranyi and Ben Frost		11/10/2024
Reviewed by	Sophie Strachan		11/10/2024
Approved by			11/10/2024

on behalf of Beca Ltd.

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APPENDIX 1

SITE CONTEXT

LEGEND

ROLLESTON PACKAGE 1 WORKS

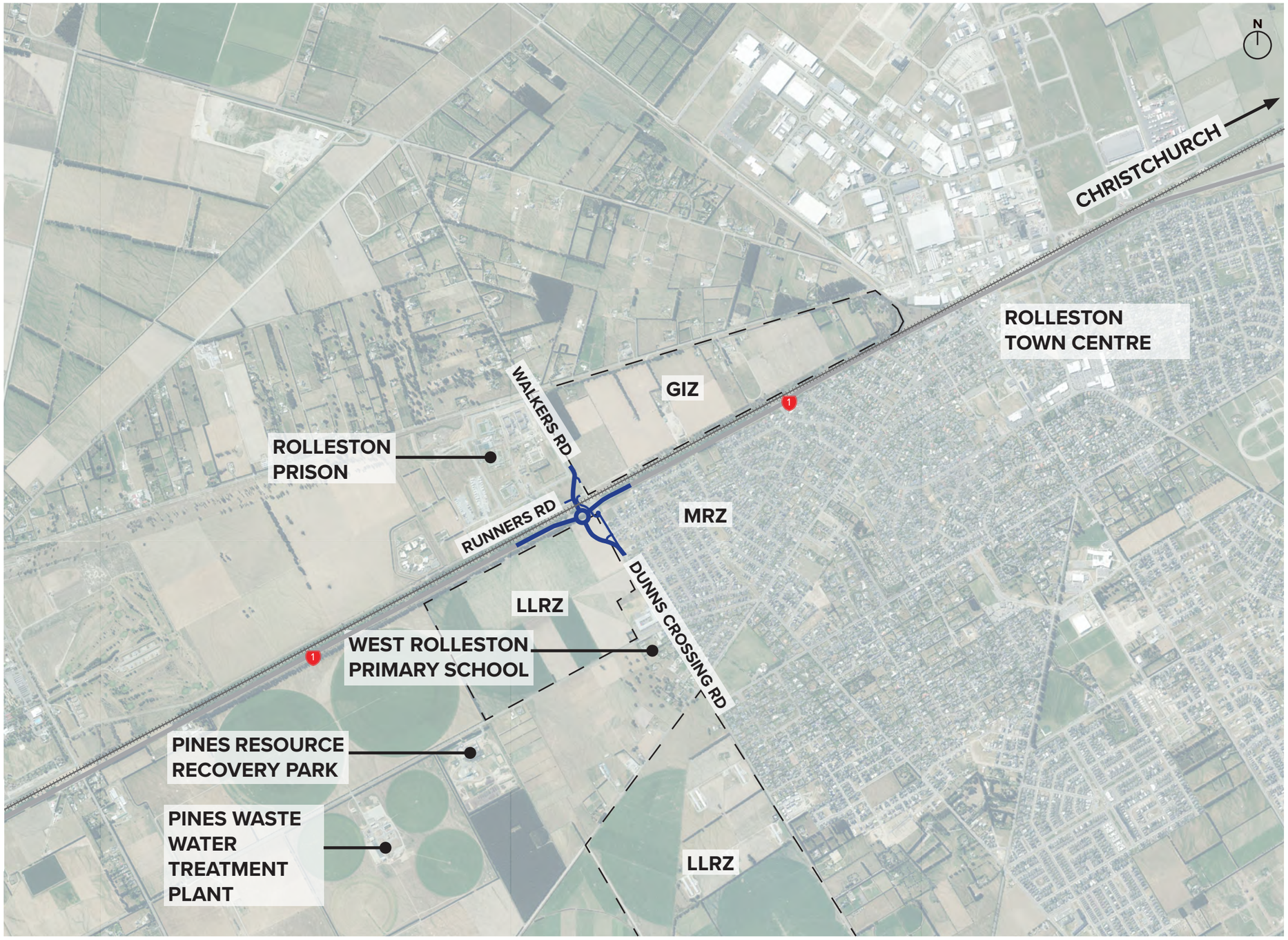
STATE HIGHWAY 1

RAILWAY

LARGE LOT RESIDENTIAL ZONE (LLRZ)

GENERAL INDUSTRIAL ZONE (GIZ)

MEDIUM DENSITY RESIDENTIAL ZONE (MRZ)

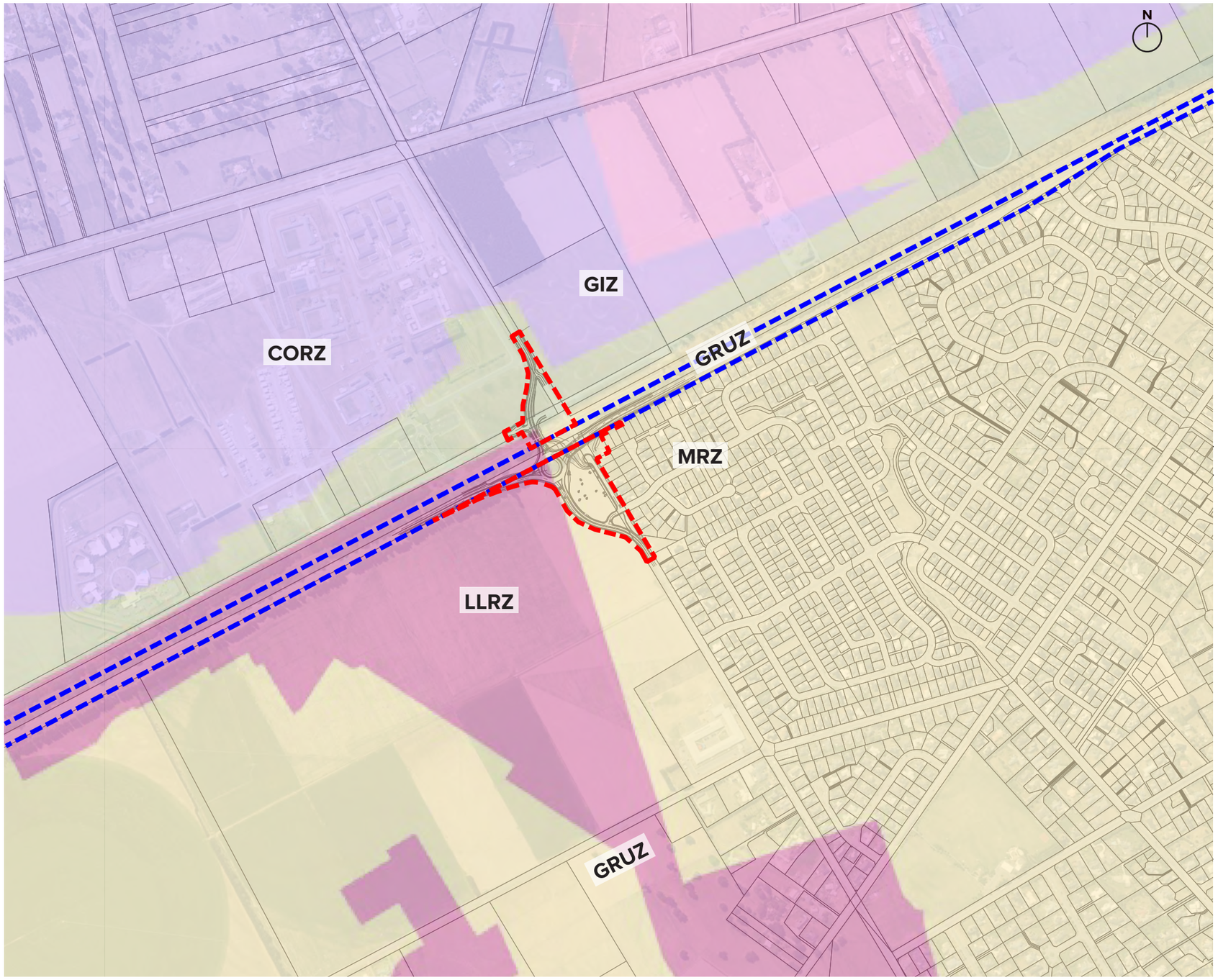


APPENDIX 2

HISTORIC IMAGERY

APPENDIX 3

District Plan Map



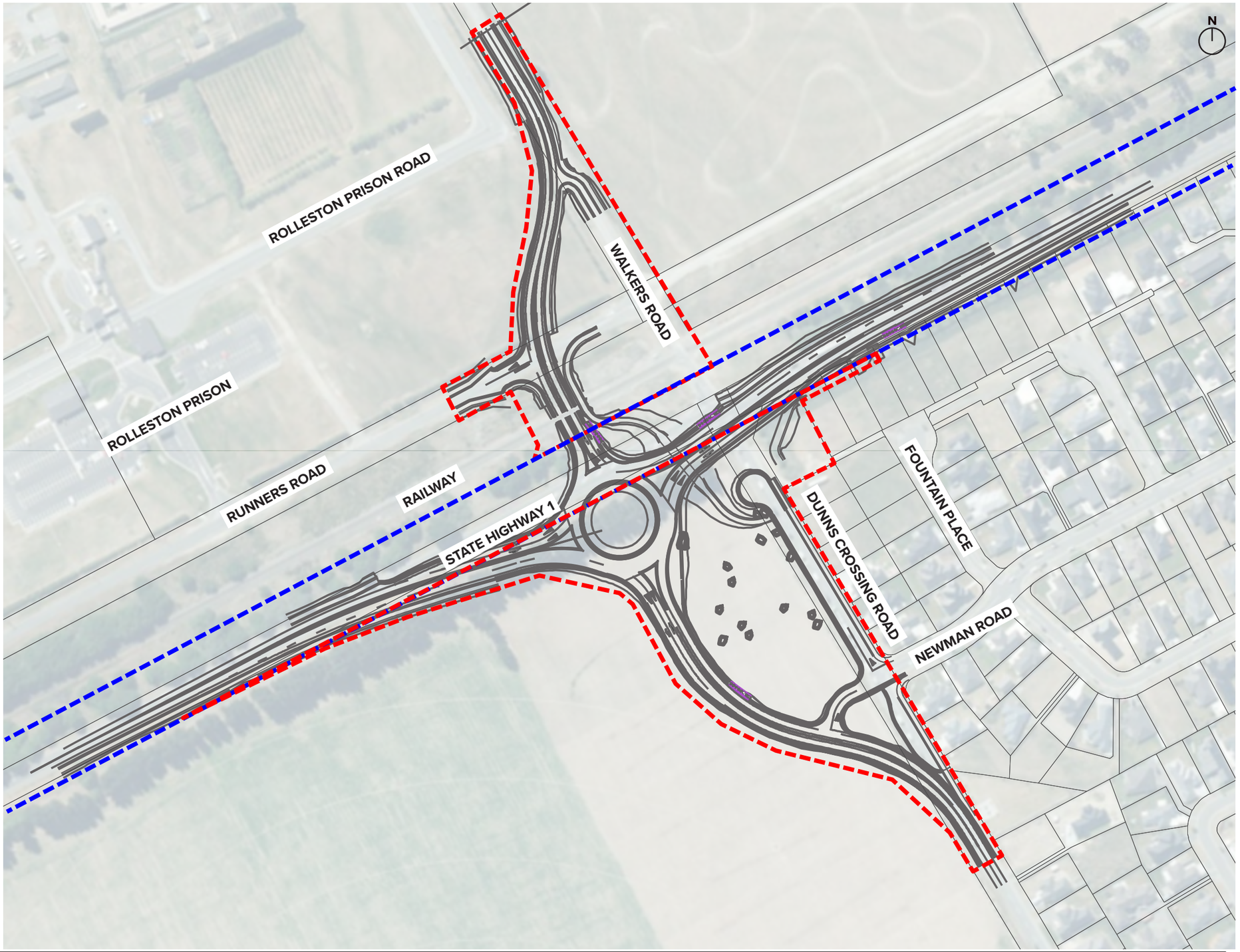
LEGEND

- EXISTING DESIGNATION
- PROPOSED DESIGNATION
- LARGE LOT RESIDENTIAL ZONE (LLRZ)
- CORRECTIONS ZONE (CORZ)
- GENERAL INDUSTRIAL ZONE (GIZ)
- MEDIUM DENSITY RESIDENTIAL ZONE (MRZ)
- NEIGHBOURHOOD CENTRE ZONE (CRZ)
- GENERAL RURAL URBAN ZONE (GRUZ)

District Plan Map **Not To Scale**

APPENDIX 4

Proposed Designation Plan



LEGEND

EXISTING DESIGNATION

PROPOSED DESIGNATION

APPENDIX 5

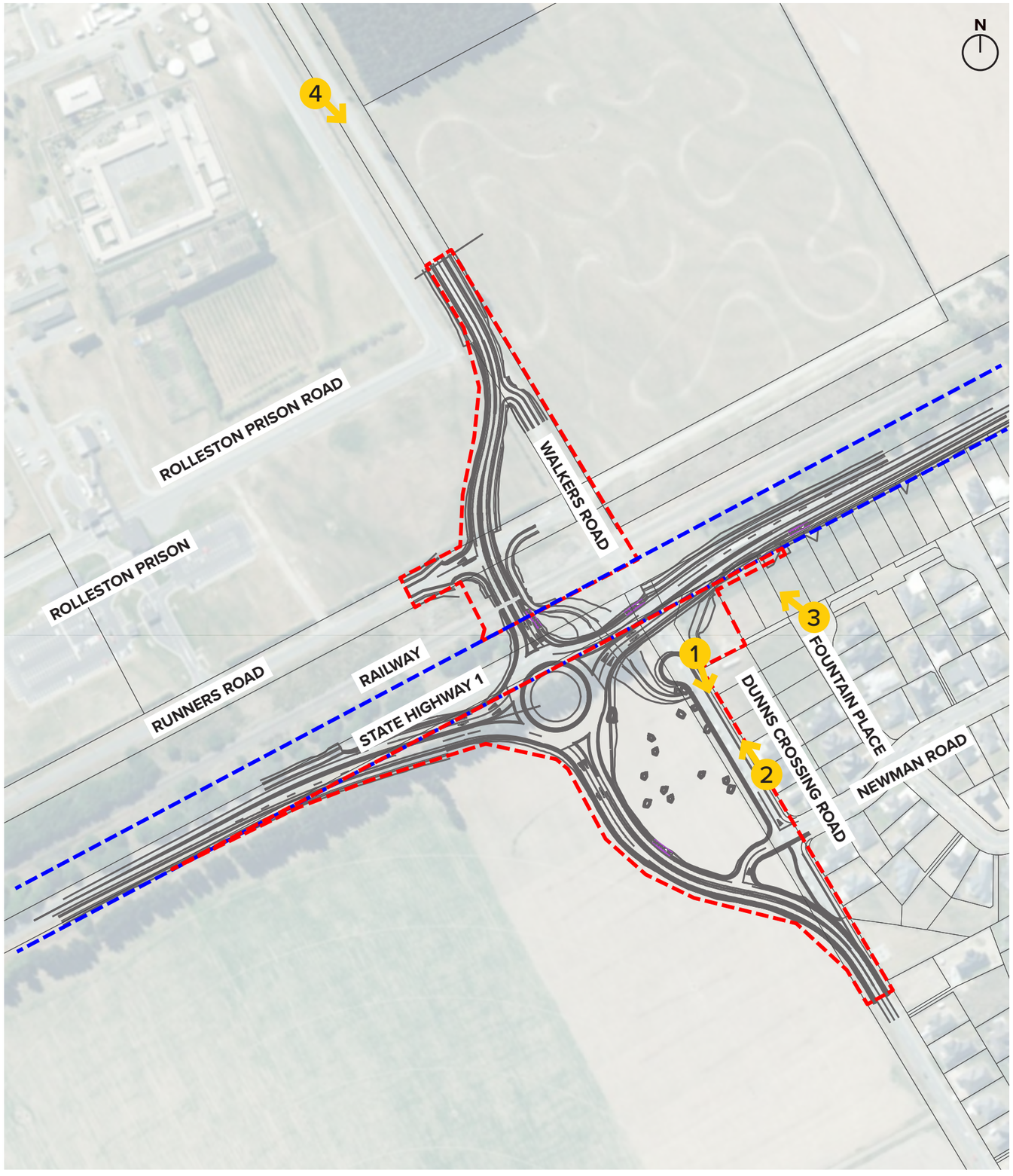
SITE PHOTOGRAPHS AND LOCATION PLAN

LEGEND

EXISTING DESIGNATION

PROPOSED DESIGNATION

SITE PHOTOGRAPH LOCATIONS



Viewpoint Location Map **Not To Scale**

Site Photograph 1 from Dunns Crossing Road looking South

Site Photograph 2 from Dunns Crossing Road looking North

Site Photograph 3 from Fountain Place looking Northwest

Site Photograph 4 from Walkers Road looking South

6

Appendix 6 – Assessment Methodology

Assessment Methodology

Industry Guidance

The New Zealand Institute of Landscape Architects (NZILA), Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines (July 2022) provides the technical backdrop to this landscape assessment. The guidelines are recognised within the landscape architectural profession as providing good practice guidance in the assessment of landscape effects under the Resource Management Act 1991 (RMA).

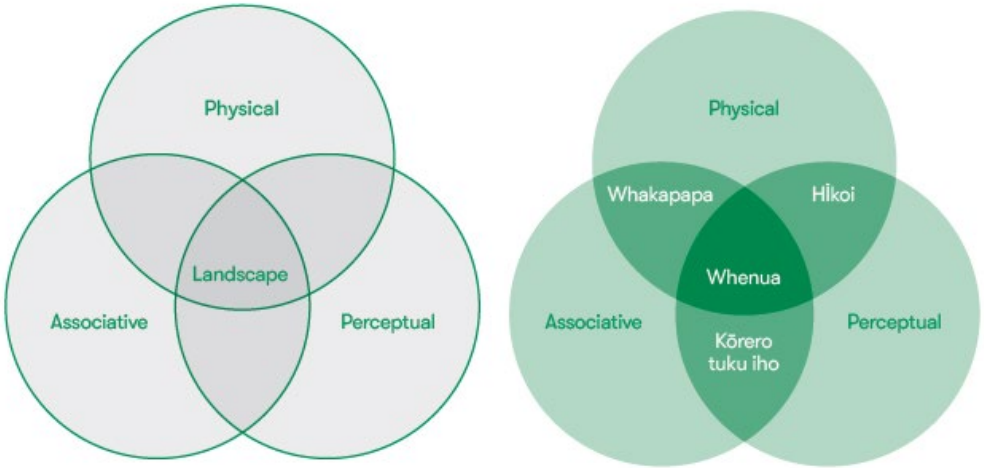
"The Guidelines adopt a principles-based approach to methodology that allows for assessment methods to be tailored to each situation. They emphasise transparency and reason, rather than adherence to prescriptive methods."[5]

The principles-based approach presented in the Guidelines, includes several key tenets to landscape assessment within New Zealand. Firstly, the Guidelines emphasises the need for the **scope and method of assessment be tailored** to:

- The nature of the proposal and associated degree of change in the landscape,
- The relevant landscape setting, and
- Associated policy framework.

Secondly, the guideline presents **three overlapping dimensions** shown below in the conceptualisation of the landscape[6], consisting of:

- **Physical:** the physical environment—its collective natural and built elements, patterns and processes
- **Associative:** the meanings and values we associate with places; and
- **Perceptual:** how we perceive and experience places, including views and visual qualities.



[5] Para 1.04, Page 22. The New Zealand Institute of Landscape Architects (NZILA), Te Tangi a te Manu Aotearoa New Zealand Landscape Assessment Guidelines. July, 2022.

[6] Para 4.10 and Figure 4, Page 72. Ibid.

‘Landscape’ is a term that describes an integrated whole. It is the combination of all attributes and phenomena that manifest in a particular place. In assessment terminology, ‘landscape’ encompasses or includes the likes of natural character, visual effects and amenity.

Thirdly, and central to the overall process of landscape assessment (in general and specific to this assessment) is the notion that *“to assess a landscape is to assess its **character and values**”.*[7] In summary:

“*While landscape assessment methods vary, they are all based on landscape character and values. **Character** is an expression of the landscape’s collective attributes. **Values** are the reasons a landscape is valued. Values, though, are embodied in attributes. **Effects** are consequences for a landscape’s values resulting from changes to attributes. The landscape’s values are managed through managing such attributes.”*[8]

Assessment Process

Analysis of existing landscape

Landscape is an expression of those natural and cultural features, patterns and processes that exist in an area. The analysis of the landscape includes a description of the existing environment, setting out the physical, perceptual and associative components that exist across the site and relevant wider landscape context (e.g. local and/or broader scale landscape). These components are synthesised into a description of the landscape values for the site and broader landscape context. The process of undertaking a site visit assists with informing or verifying these landscape values.

Assessing Effects

Effects fall into two categories: landscape and visual. Two ‘timeframes’ are also considered: temporary (during construction) and permanent (operational effects).

Landscape effects:

Landscape Effects are essentially those that the Project has on the physical, perceptual and associative aspects that comprise landscape character. These effects are considered separately, with a summary statement regarding effects on landscape character and values. Effects on amenity values are inherent within this context.

Visual Effects:

Visual effects are a subset of perceptual effects that require the consideration of project visibility and assessing the effects for specific viewing audiences. Factors that (generally) contribute to visual effects include:

- The nature and sensitivity of the viewing location (e.g. static or moving; orientation of view; public or private location)
- The nature and sensitivity of the viewing audience (e.g. homeowners, local road users, tourists etc)
- Overall bulk and scale of the proposal.
- Distance of the proposal from key viewpoints
- The complexity of the view and extent of intervening elements (e.g. topography, structure and vegetation)
- The nature of the existing view (e.g. heavily modified vs ‘natural’; fixed or moving structures)
- Transient values such as seasonal variation and weather patterns.

[7] Para 5.01, Page 105. Ibid.

[8] Para 5.02, Page 105. Ibid.

Temporary Effects (Construction Effects):

Describes the anticipated impacts on the bio-physical elements and features of the landscape resource resulting from the construction of the Project. It also includes visual amenity effects for both public and private viewing audiences from construction works.
The construction activities required to implement the Project are categorised under the following broad headings:

- **Site enabling works** - site establishment, demolition and vegetation clearance.
- **Project formation works** - bulk earthworks and formation of new road surface and batter slopes, culvert upgrades, stormwater wetlands, private driveway regrades and bridge construction.
- **Finishing works** - lighting, signage, footpath/cycleway details and line markings, streetscape elements and landscaping (including street trees, mitigation planting and riparian/wetland planting (to be determined by detailed design through future regional resource consents).

Permanent Effects (Operational Effects):

Describes the effects on the landscape of completed works (including integrated landscape mitigation measures), the significance of physical landscape change and ultimately the resulting effects of the Projects on landscape character and visual amenity for both public and private viewing audiences. This section summarises the potential effects and mitigation measures proposed.

Degree of Effect

The effects ratings below are based on a seven-point assessment scale which is outlined in Te Tangi a te Manu[9]. The scale ranges from very low to very high for assessing the degree of landscape character and visual effects that have been identified. The scale is used to determine negative effects of the proposal, whereas positive effects of the proposal are not scaled, they are simply described as positive effects.

To assist project planners and decision makers in understanding the degree of landscape and visual effects of the proposal in relation to the requirements under the RMA, those effects that are assessed as 'low moderate' are considered 'minor' in planning evaluation terms. Effects that are at the 'very low' end of the scale are less than minor, refer to Figure 2 below.

Figure 4: Effects rating scale[10]

[9] Te Tangi a te Manu, Aotearoa New Zealand Landscape Assessment Guidelines (NZILA, 2022)

[10] Ibid, 6.39