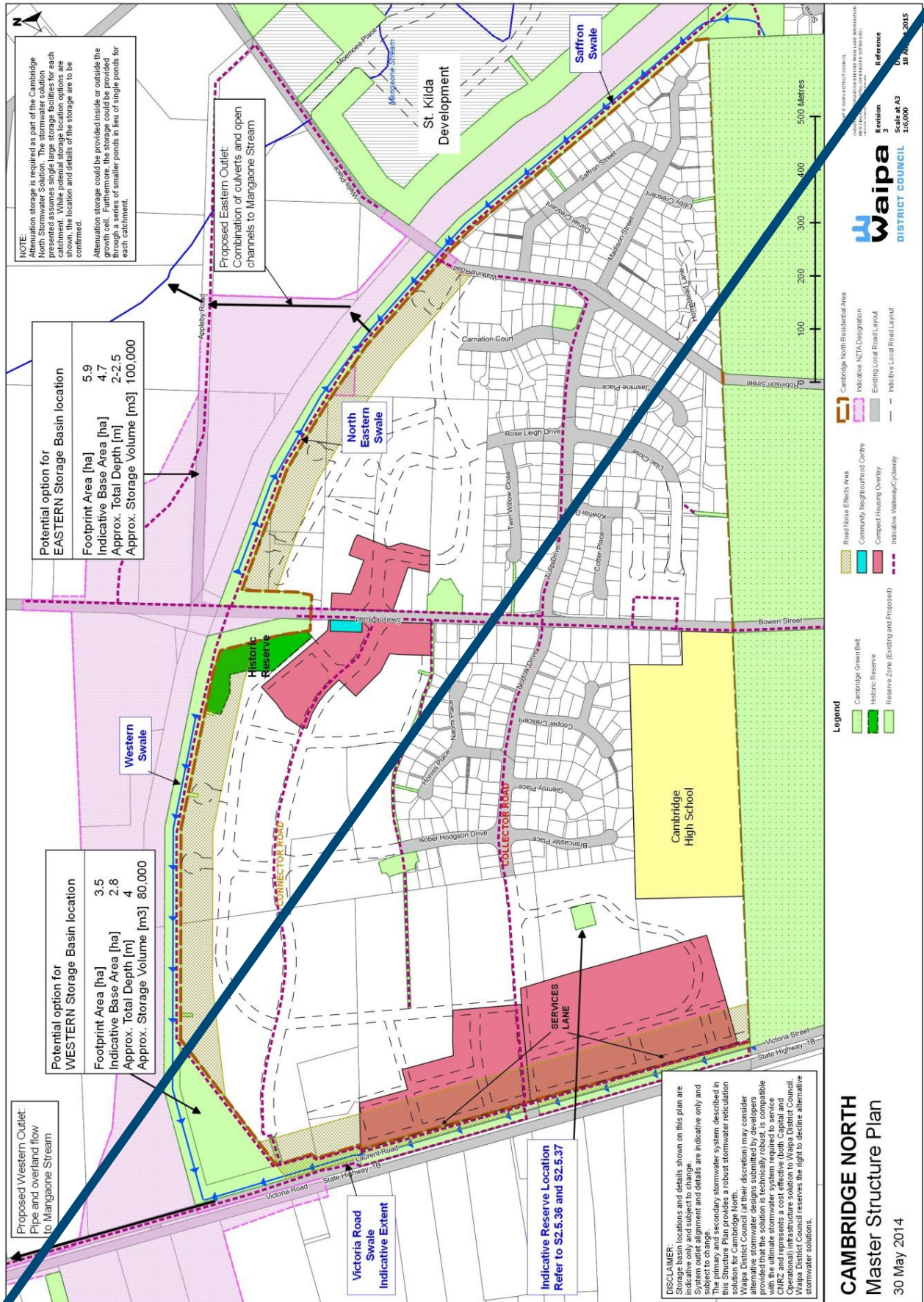


Appendix S2 - Cambridge North Structure Plan and Design Guidelines



S2.1 Cambridge North Design Guidelines

S2.1.1 The Cambridge North Design Guidelines, along with the Cambridge North Structure Plan, have been developed to assist the assessment of development and subdivision applications in this area. The guidelines outline key design outcomes that individual subdivision and development applications are expected to achieve. (Please note - applicants should also refer to the Cambridge Town Concept Plan, June 2010).

S2.2 Background description

S2.2.1 The Cambridge North Area is an area of flat land with existing discrete residential subdivisions. The area is bounded by Victoria Road to the west, the town belt to the south and the proposed new State Highway alignment contains the northern boundary. Within the town belt, Cambridge has a grid street pattern with street tree planting forming strong vistas to the countryside beyond the town itself. Ideally these attributes will be translated into the Cambridge North residential area so that there is linkage to this existing context.

Key elements that link Cambridge and Cambridge North

S2.2.2 The attributes that contribute to the character of the residential area within the Cambridge Town Belt relevant to Cambridge North are:

- (a) A grid layout providing for clearly understandable routes for pedestrians and vehicles and increased choices in route, reducing travel distances, particularly for pedestrians and cyclists.
- (b) Open spaces in highly visible locations bounded by streets with dwellings fronting them providing for informal surveillance.
- (c) Consistent street tree planting framing distant vistas and providing a unifying element to streets with a range of residential styles.
- (d) Wide streets with narrow carriageways and generous grassed berms, many of which integrate swale drains within them.
- (e) Significant dwellings on corner sites usually single storied villas which have been designed to address the corner. These buildings add to the aesthetic value of these streets.

S2.3 Desired future character of Cambridge North

S2.3.1 The future character of Cambridge North will reflect many of the attributes found within the Cambridge Town Belt (and listed above). Cambridge North will be a walkable and well-connected community showcasing significant streetscape amenity and high quality, sustainable built form. Public spaces will be celebrated and activated by surrounding uses and views will be retained and enhanced to areas beyond Cambridge North.

S2.3.2 The main point of difference for future development of this area, compared with Cambridge proper, is the inclusion of compact residential. It is anticipated that approximately 12-15 dwellings per hectare can be achieved in Cambridge North through the inclusion of compact residential housing. This is compared to nine dwellings per hectare generated by existing development in Cambridge North. It is proposed that this density will be achieved through providing a range of lot sizes (see Cambridge Town Concept Plan, pages 53-57). Compact residential will be focused in two key locations - around the main entrance to Cambridge North

(adjacent to Victoria Road) and around the local centre (west of Swayne Road). See the Cambridge North Structure Plan for proposed compact residential locations.

S2.4 Streetscape design

- S2.4.1 The future development of Cambridge North has an important role to play in defining the primary future entrance to Cambridge from the proposed State Highway 1 bypass. The resulting views from the elevated State Highway should be considered as this will become the first impression of Cambridge for highway users. Breaking down the urban form into a clearly delineated landscaped roading network will assist in breaking up views of residential roofs from the State Highway bypass.
- S2.4.2 Land use along Victoria Road should seek to enhance the identity of the town by remaining low scale and of an appropriate built form. The design of the road corridor should seek to minimise the conflict between pedestrians, cyclists and vehicles while remaining attractive and functional. Provision for pedestrian and cycle ways should be made along-side the road corridor (in a north-south direction). Safe crossing points also needs to be provided over the road corridor (in an east-west direction) to ensure people seeking to visit the future neighbourhood and local centres either side of Victoria Road can do so safely.
- S2.4.3 Over time, it is Council's vision that the regular avenue planting of Victoria Street (London Planes and Golden Elms) will be continued along Victoria Road to the north to the proposed State Highway Bypass. It is considered that an appropriate backdrop to the entrance, particularly at the northern end and in close proximity to the future bypass junction, will be equine and associated land use adding strongly to the image of Cambridge as an equine centre.
- S2.4.4 Large format retail and large scale commercial uses should be avoided within the character area, as should residential (and associated fences) 'backing onto' Victoria Road. Large format retail and large scale commercial uses are better provided for within the town centre area and will not add positively to amenity values within the area. However, a small commercial node will be present within Cambridge North, located to the west of Swayne Road servicing the community. This node may contain a range of community supporting activities such as a playground, daycare facility, café or hairdresser.
- S2.4.5 It is anticipated that land alongside the Victoria Road corridor will be used for large scale swales, providing for stormwater collection from future residential development (Figure 1). The potential exists for this area to form a high amenity green space that contributes to community well-being and biodiversity values, as well as forming part of a north-south pedestrian and cycle route between Cambridge town centre and Hautapu. Other reserve areas will also be located within Cambridge North, a potential stormwater treatment pond at the north western corner of Cambridge North and a cultural heritage site at the northern end of Swayne Road (see the Cambridge North Structure Plan). Further stormwater collection areas may be required which has the potential to add further green space within this area. These reserve areas will be connected along the northern edge of Cambridge North where a wide setback swale is to be located for screening, passive recreation and amenity.



Figure 1: Cross section through Victoria Road showing the swale separating this main road from residential development to the East.

S2.5 Objectives

S2.5.1 The following objectives support the structure plan for Cambridge North and provide specific guidance for future development in Cambridge North.

Objective 1 – Role and identity

S2.5.2 Continue to build and enhance Cambridge’s distinctive heritage character.

S2.5.3 Connect Cambridge North to the existing residential area within the Town Belt by considering the use of pitched roofs and horizontal weatherboards to reflect the historic single level villas. Extend the street tree species and spacing’s within the Town Belt (where considered successful in terms of maintenance and outcome by Council) into Cambridge North streets.

S2.5.4 Reinforce character through the planting of street trees that will over time add to and reinforce the character of Cambridge. This outcome can be reinforced by providing for separate and distinct areas for street tree planting and services (see indicative street cross sections, Figures 2 and 3).

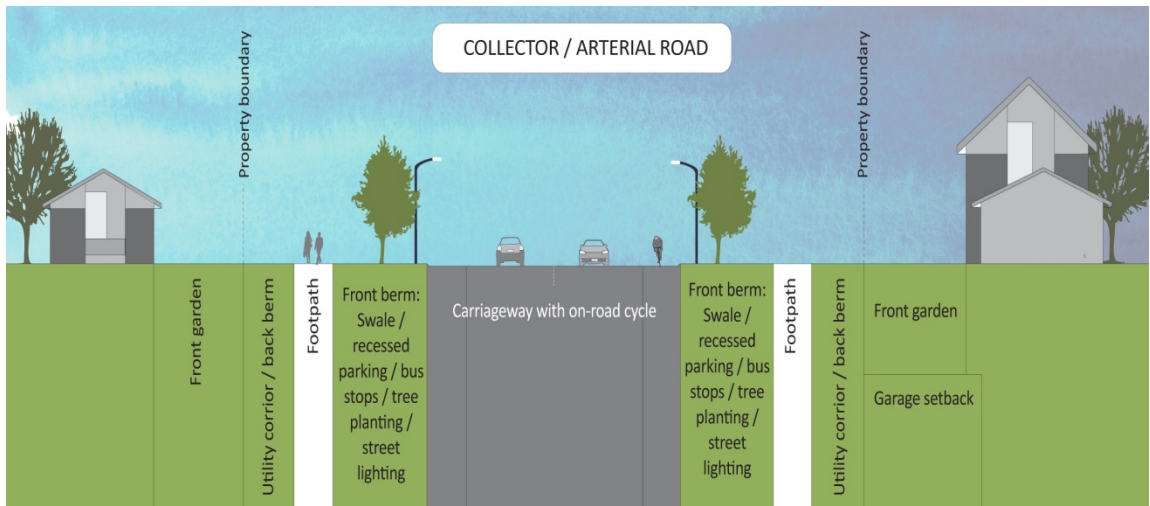


Figure 2: Collector/arterial road cross section showing separation of services and street planting zones.

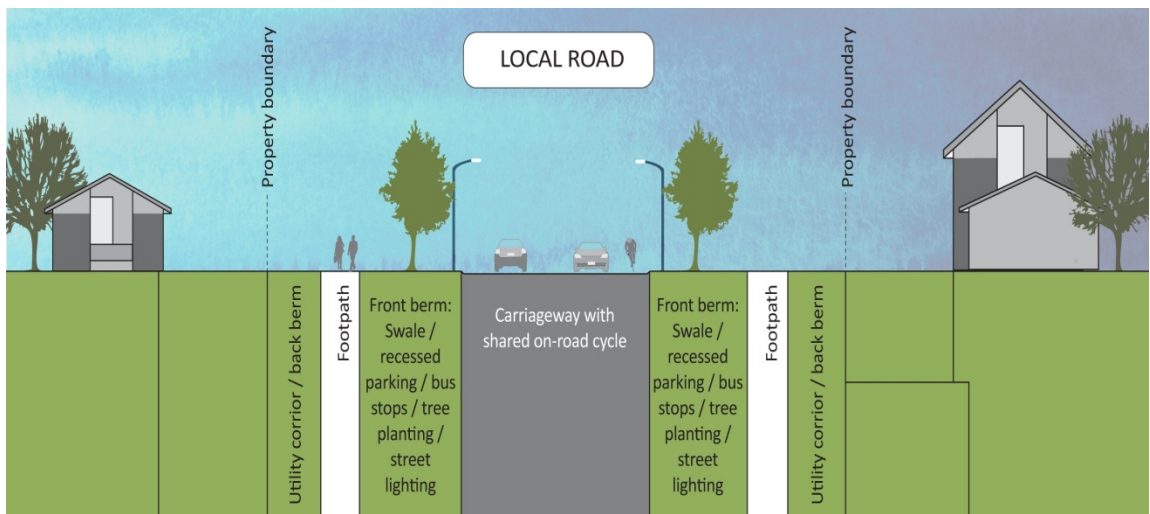


Figure 3: Local road cross section showing separation of services and street planting zones.

- S2.5.5 Retain historical and the natural wherever possible (such as the historic house and identified cultural heritage sites).
- S2.5.6 Elements of local built heritage should be incorporated into the development - compact residential development should be sympathetic to the existing character of Cambridge reflecting pitched roof form and including permanent building materials (such as concrete substrates).
- S2.5.7 Development along Victoria Road and the entry to Cambridge North must provide a gateway function with a wide landscaped strip and proposed new local road located between Victoria Road and any new housing development as indicated in the structure plan. The first row of development within Cambridge North along this boundary should be designed to face west towards Victoria Road to provide an active street frontage.
- S2.5.8 Development within the Cambridge North Area should reinforce a high level of visibility at street corners by considering the size and shape of the corner sites, the scale of future housing for the site and the design low and/or permeable fencing to enable visibility from the dwelling onto the street. These distinctive sites should be consistent with the existing character of Cambridge proper being the pitched roof horizontal weatherboard villas located on corner sites, addressing the street corner and adding aesthetic value to these streets.

Objective 2 – Land use

- S2.5.9 Provide for appropriate land uses that enhance the economic well-being of Cambridge and contribute to the town’s cultural and social well-being.
- S2.5.10 Provide a mixture of lot sizes and housing types - including compact residential (see Cambridge North Structure Plan for locations of compact residential). This will help to create a diverse community, rather than only catering for one residential market.
- S2.5.11 Locate dense housing forms (compact residential) around places of interest/activity including parks and local centres as shown on the Cambridge North Structure Plan.
- S2.5.12 Parks are required to have street frontage and where adjoined by housing are required to face and interact with the park. Fencing adjoining parks and public spaces is required to be low and/or permeable.
- S2.5.13 Stormwater management and design is required to be integrated into subdivision design, both from a low impact design perspective and to help ‘green’ the precinct through provision of swales, retention basins and other on-site retention measures.

Objective 3 – Buildings (Built Form)

- S2.5.14 Provide built form that incorporates sensitive, high quality, integrated urban, landscape and architectural design
- S2.5.15 Through the design of the lot layout for terrace housing or other multiple housing developments consider the relationship between lot size/orientation, the housing type that will be built and the resulting outdoor space provided for the unit. By doing this, higher standards of privacy, safety, security of the residential lot and the location of private open space in relationship to the street can be achieved. See Figure 4.
- S2.5.16 Streets should be oriented north-south, where possible, to maximize solar potential of buildings and to provide for passive surveillance from dwellings on both sides of the street. See Figure 5.
- S2.5.17 Where this is not possible then the block design should incorporate responses to maximize solar potential. This can be achieved by providing south facing lots with north facing yards for outdoor living. See Figure 6.

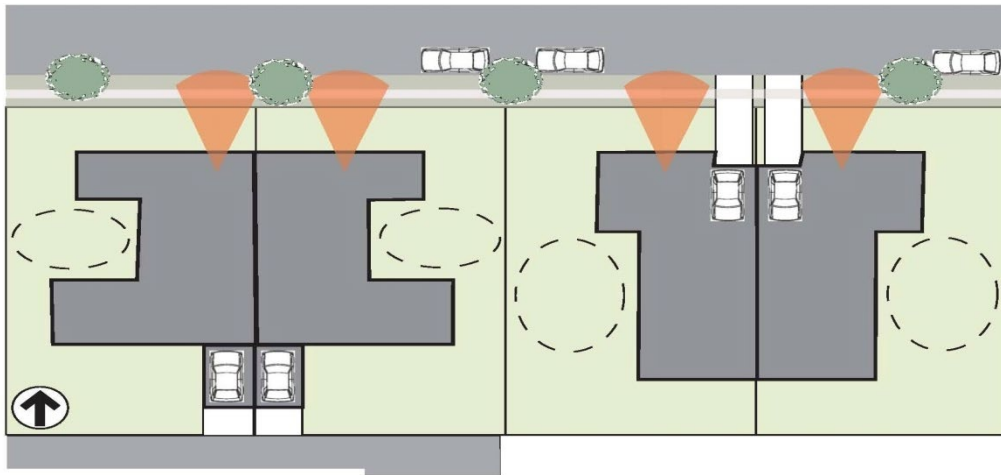


Figure 4: Two options, the left option shows rear lane access to single garages. The right option shows a single garage with on-street parking. This diagram illustrates two typologies able to be generated on the same sized lot maintaining private open space and passive surveillance of the street (demonstrated by the orange cones).

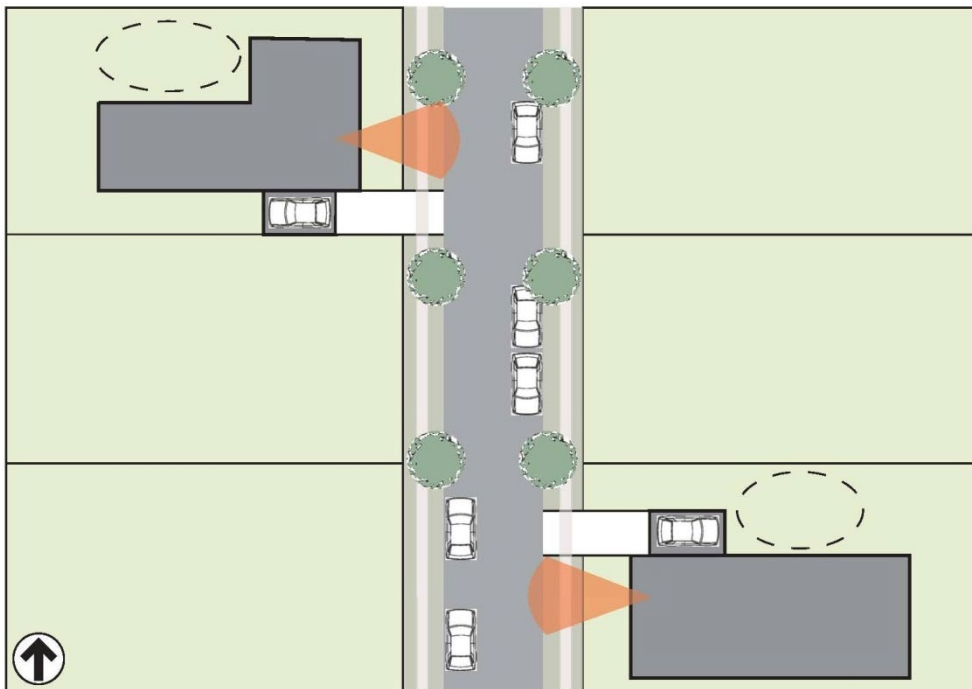


Figure 5: North-south street orientation with the solar potential of buildings maximized and passive surveillance of the street provided (demonstrated by the orange cones).

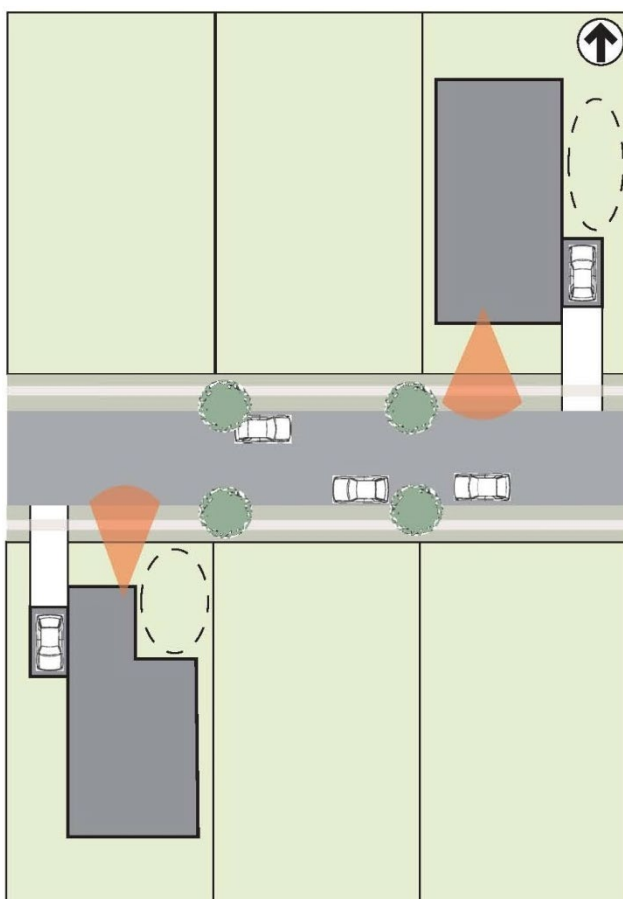


Figure 6: East-west street orientation with solar potential of private outdoor spaces maximised and passive surveillance of the street retained (demonstrated by the orange cones).

- S2.5.18 Activate street edges with development facing the street. Blank walls and areas of limited activity should be avoided.
- S2.5.19 Where terrace or other multiple housing developments occur consider variations in height, roof form, front yard setback, material and colours to create diversity in building response and appeal from the street.
- S2.5.20 Setbacks and front yards can be reduced in terrace or other multiple housing developments where there is an ability to offset this reduction through a close proximity to public open space.
- S2.5.21 Maximise passive surveillance by requiring low front walls/fences/landscaping along the street frontage. A height of 1200mm high allows for passive observation of the street when standing within dwellings. Fence materials should be sympathetic to surrounding built form but retain a level of transparency so as not to provide a blank façade adjacent to the street edge.
- S2.5.22 Use recycled and/or energy efficient materials, wherever possible, to minimize the ecological footprint of buildings.
- S2.5.23 Create development blocks that enable backs of buildings to face backs of neighbouring buildings and fronts to face the street/public open space.

Objective 4 – Pedestrian and cycle network

- S2.5.24 Enhance and extend connectivity throughout Cambridge by providing improved opportunities for pedestrians and cyclists to move safely and comfortably within and around the town.
- S2.5.25 Encourage people to walk by creating an environment that is safe, interesting and easy to walk around. Key elements to achieve this can include – street trees planted at consistent spacing, consistent material selection, design of footpaths and verges that give priority to pedestrian use, levels of street lighting that consider areas of consistent pedestrian use and on-street parking reinforcing separation between the vehicle lane and footpath.
- S2.5.26 Connections should be retained, enhanced or provided enabling a pedestrian and cycle network between areas of interest such as the local centre, the reserve adjacent to the Town Belt, the Cambridge Bypass and Victoria Road buffer swales, walking and cycling networks and other open space.
- S2.5.27 Provide for on-road cycleways on both local and collector streets.

Objective 5 – Traffic and parking

- S2.5.28 Continue to enhance pedestrian, cycle and other sustainable movement modes to minimize vehicle movement and parking requirements.
- S2.5.29 Design a well-connected street pattern to reduce travel distances for cars and pedestrians, providing reasonably direct routes.
- S2.5.30 On street parking is supported in Cambridge North, limiting the presence of private garages at the front of sections which also reduces the opportunity for passive surveillance.

Objective 6 – Public space, streets and reserves

- S2.5.31 Maintain and enhance public spaces, streets and reserves, including the qualities that reinforce Cambridge's tree lined streetscape character and high amenity, safe, secure open spaces.
- S2.5.32 Design a street block system that optimises movement choices for all transport modes and supports walking and cycling between facilities, shops and open spaces.
- S2.5.33 Local street widths will allow for on-road cycling.
- S2.5.34 Provide for high quality landscape planting along street edges (while maintaining views between residential properties and the street), improving the visual character of the area.
- S2.5.35 Provide a hierarchy of streets with varying street widths and berm treatments so that local streets can be distinguished from collector streets.
- S2.5.36 Provide local neighbourhood reserves within walking distance of all residential development in accordance with the Waipa District Council's Open Space Strategy.
- S2.5.37 The local neighbourhood reserve shown on the Master Structure Plan for Cambridge North dated 30 May 2014 south of Norfolk Drive is to be approximately, but not more than, 1,600m² in area. The location of the reserve shown on the Master Structure Plan is indicative only and its final location shall respond to the development around it.

Objective 7 – Views and landmarks

- S2.5.38 Protect and enhance vistas and street views that celebrate significant buildings and features and reinforce visual connections to wider rural and natural landscape features.
- S2.5.39 Enhance views through the precinct, framing them with surrounding built form and street tree planting. These views will contribute to the areas unique identity/sense of place. Significant views will be those north-south on Swayne Road and the view west on the extension to Norfolk Drive.

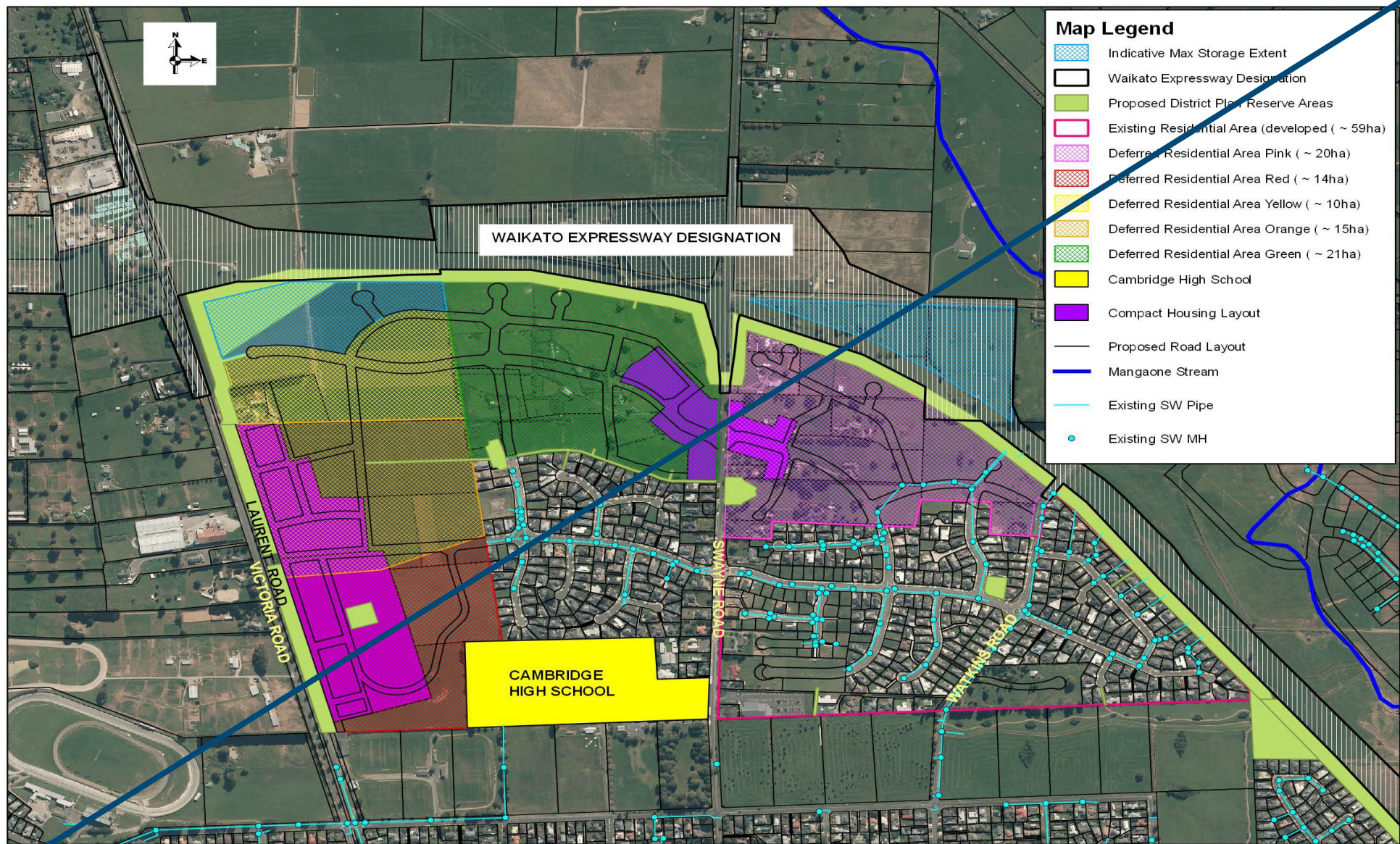
S2.6 Overview of infrastructure requirements & triggers

- S2.6.1 The staging and release of land within Cambridge North will differ from previous approaches and versions of the Structure Plan. The intention is to provide a level of flexibility to the market. This is to be achieved through the identification of a number of future development areas. These have been determined through a combination of:
- (a) The land holdings; and
 - (b) The identification of infrastructure required to service that area.
- S2.6.2 The intention is that the stages do not necessarily have to follow a strict sequence or order. For that reason they have not been numbered but rather they have a colour description – refer to Figure 1 below. ~~In order for an area to be released for development a Development Agreement will need to be entered into with Council and the land rezoned through a Council resolution (as per the provisions of the Proposed Waipa District Plan). [PC13]~~
- S2.6.3 ~~In order for an area to be re-zoned and released for residential development, a Development Agreement will need to be entered into with Council and the land rezoned through a Council resolution (as per the provisions of the Proposed Waipa District Plan). The Development Agreement will be entered into by Council and the developer which clearly outlines the nature and timing of any necessary infrastructure, and how this infrastructure is to be developed and funded. The agreement will need to be clear as to whether the infrastructure is implemented prior to development or part of the development process. Funding and timing of all infrastructure required to service further development within Cambridge North will be specified in the Developers Agreement. [PC13]~~ The individual growth area and development capacity of each stage is outlined in the Table that follows Figure 1, along with the infrastructure required to service that growth area. The stormwater infrastructure described represents the requirements of a comprehensive, technically robust stormwater management solution for CNRA. The solution is not necessarily the only technically viable solution and it is possible that alternative solutions that achieve the required levels of service described in the technical assessments and investigations undertaken to support the updated Structure Plan are available.
- S2.6.4 The stormwater infrastructure associated with upgrading the Eastern catchment outlet will be constructed by Waipa District Council and New Zealand Transport Agency in 2013/14. The nature, timing and funding of all other infrastructure required to service further development within Cambridge North will be determined through individual development agreements, Councils funding policy and the Long Term Plan (LTP).
- S2.6.5 Waipa District Council may consider alternative stormwater solutions that achieve the required levels of service (both interim and ultimate) from that described in this structure plan at their discretion. The onus rests with the developer to demonstrate the technical adequacy

of the proposed alternative both as part of a local solution and the ultimate system requirements to service the Cambridge North Residential Area.

S2.6.6 Waipa District Council is under no obligation to accept alternatives even if the adequacy of the proposal can be demonstrated. Waipa District Council will consider the following matters in assessing alternative stormwater solutions:

- (a) Technical adequacy of the proposed system to achieve the minimum levels of service described in this structure plan and to service contributing catchment areas, either immediately or in the future.
- (b) Compatibility of alternative solution with and impact on the overall stormwater system required to service the ultimate full development of the Cambridge North Residential Area.
- (c) Financial implications of the alternative solution to Waipa District Council including capital, operating and maintenance requirements.
- (d) Compatibility of the alternative solution with other infrastructure i.e. water, roading.
- (e) Compatibility of the alternative solution with the other intended outcomes of the Cambridge North Structure Plan, including lot yield, layout and urban design outcomes.



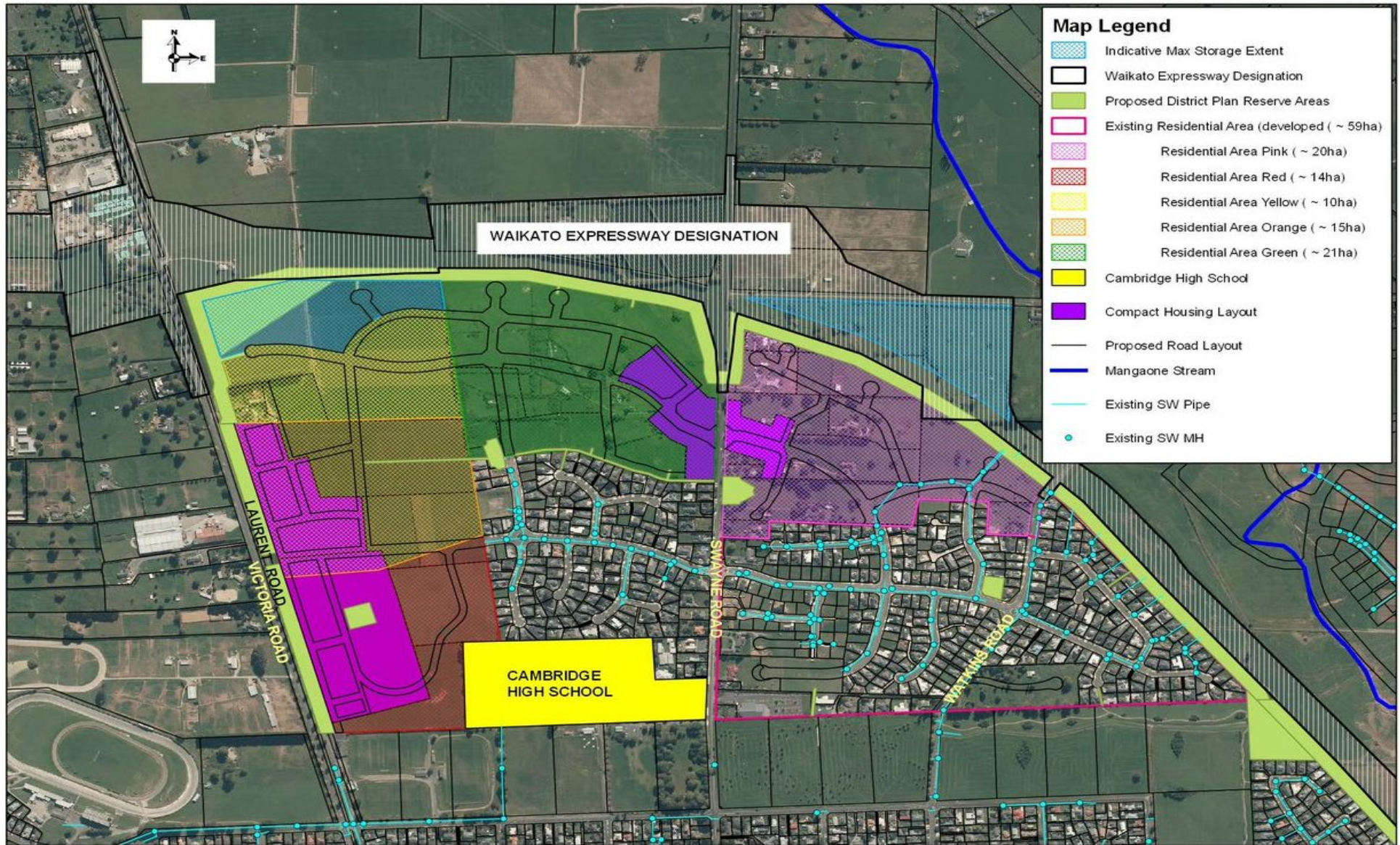


Figure 1 – Cambridge North Residential Zone – Existing and Future Development Area [PC13: CI16]

Stage	Capacity	Infrastructure	Year Provided For (in LTP or funded by NZTA) if any
Existing and Infill Residential Area East of Swayne Road		<p>Stormwater</p> <ul style="list-style-type: none"> ▪ Extending the Saffron Swale to connect to the existing North Eastern Swale (and isolating existing discharge to Watkins Rd). ▪ Upgrading the existing Carnation Court swale to drain to the culvert under the planned Waikato Expressway. ▪ Constructing unimpeded secondary overland flow paths to the North Eastern Swale. ▪ Building a 3 x 1.5 m box culvert under the planned Waikato Expressway. ▪ Constructing an open channel from the Waikato Expressway box culvert to the Appleby Rd box culvert. ▪ Building a 3m x 1.5 m box culvert under Appleby Road. ▪ Constructing an open channel from Appleby Road to the Mangaone Stream. ▪ Terminating the existing north eastern and Saffron Swale outlets. ▪ Providing attenuation storage for the existing development within the Cambridge North Eastern Catchment. ▪ Constructing remaining trunk reticulation. ▪ Providing attenuation for further development within the Cambridge North Eastern catchment. ▪ Appropriate outlet control structures will be constructed as part of any storage facility and likely involve throttled outlets and a high level over-flow weir. A low flow channel will be created within the basin to route all base flows from the catchment to the Mangaone Stream. 	<ul style="list-style-type: none"> ▪ 2013/14 ▪ 2013/14 ▪ 2013/14 ▪ 2013/14 ▪ 2013/14 ▪ 2013/14 ▪ 2013/14 ▪ 2013/14
Pink – East of Swayne Road	Approx. 20ha	<p>Transportation</p> <ul style="list-style-type: none"> ▪ Completing the Connector Road from Rose Leigh Drive to Swayne Road. ▪ Constructing pedestrian and cycleway access along the buffer reserve from Watkins to Swayne Road. ▪ Alternative intersection controls on Taylor Street if the area is developed prior to Norfolk Drive being extended to Victoria Road. <p>Stormwater</p> <ul style="list-style-type: none"> ▪ Trunk Reticulation. ▪ Extending the North Eastern Swale to Swayne Road. ▪ Constructing unimpeded secondary overland flow paths to North Eastern Swale. ▪ Expanding the large storage basin (from approx. 3ha to between 5ha – 6ha) on land north of the Waikato Expressway or within the growth cell to attenuate peak stormwater flows. <p>Wastewater</p> <ul style="list-style-type: none"> ▪ Trunk Reticulation. ▪ Constructing Pump Station E and associated rising main to existing wastewater reticulation.*** <p>Water****</p> <ul style="list-style-type: none"> ▪ Constructing DN150/DN200 water main and connecting to existing water reticulation network on Swayne Road. 	

Stage	Capacity	Infrastructure	Year Provided For (in LTP or funded by NZTA) if any
Red*	Approx. 15ha	<p>Transportation</p> <ul style="list-style-type: none"> ▪ Completing the Norfolk Drive extension. ** <p>Stormwater*</p> <ul style="list-style-type: none"> ▪ Trunk Reticulation along Norfolk Drive. ▪ Constructing unimpeded secondary overland flow paths to Victoria Rd Swale. ▪ <i>Depending on timing of development relative to other stages, the following stormwater system components may also need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ Construction (or completion) of Victoria Rd Swale to Victoria Rd interchange. ○ Construction of or expansion of Western Storage Basin. ○ Construction of emergency outlet or construction of 750mm diameter piped outlet to Mangaone Stream. <p>Wastewater*****</p> <ul style="list-style-type: none"> ▪ <i>Depending on timing of development relative to other stages the following wastewater system components may need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ Constructing Pump Station G. ○ Constructing the rising main from Pump station G to a new gravity main on Victoria Rd. ○ Constructing a new gravity main to Taylor Street booster pump station. <p>Water</p> <ul style="list-style-type: none"> ▪ Construction of DN150mm water main and connection to existing water supply at Victoria Road and water main on Norfolk Drive. 	
Orange*	Approx. 15ha	<p>Transportation</p> <ul style="list-style-type: none"> ▪ Constructing the Connector Road from Norfolk Drive to stage boundary. ▪ Norfolk Drive extension if developed ahead of RED stage. ▪ Service Lane construction. <p>Stormwater*</p> <ul style="list-style-type: none"> ▪ Trunk reticulation within stage boundary. ▪ Constructing unimpeded secondary overland flow paths to Victoria Rd Swale. ▪ <i>Depending on timing of development relative to other stages, the following stormwater system components may also need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ Victoria Rd Swale from Norfolk Drive to Victoria Road Interchange. ○ Construction of or expansion of Western Storage Basin. ○ Construction of emergency outlet or construction of 750mm diameter piped outlet to Mangaone Stream. <p>Wastewater*****</p> <ul style="list-style-type: none"> ▪ <i>Depending on timing of development relative to other stages the following wastewater system components may need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ Construction of Pump Station G. ○ Construction of the rising main from Pump station G. ○ Construction of a new gravity main to the Taylor Street booster pump station. <p>Water</p> <ul style="list-style-type: none"> ▪ Construction of DN150mm water main from Victoria Road to 	

Stage	Capacity	Infrastructure	Year Provided For (in LTP or funded by NZTA) if any
		<p>Norfolk Drive as part of the Norfolk Road extension if developed ahead of the RED area.</p> <ul style="list-style-type: none"> ▪ Construction of DN150mm diameter water mains within Stage boundary and connection to Norfolk Road water mains within adjacent development areas (i.e. YELLOW and/or RED areas). 	
Yellow*	Approx. 10ha	<p>Transportation</p> <ul style="list-style-type: none"> ▪ Completion of Connector Road within stage boundary if developed after RED and ORANGE stages. ▪ Completion of Connector Road within stage boundary and appropriate temporary access provisions if developed ahead of RED and ORANGE stages. ▪ Pedestrian and Cycleway network development within Western Buffer Zone (from Swayne through to Victoria Rd). <p>Stormwater*</p> <ul style="list-style-type: none"> ▪ Trunk Reticulation. ▪ Constructing unimpeded secondary overland flow paths to Victoria Rd and Western Swales. ▪ <i>Depending on timing of development relative to other stages, the following stormwater system components may also need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ Construction of Victoria Rd Swale from southern boundary of this yellow area stage to Victoria Rd Interchange. ○ Construction of Western Swale from eastern boundary of this yellow area stage to Victoria Rd. ○ Construction or expansion of Western Storage Basin. ○ Construction of emergency outlet or construction of 750mm diameter piped outlet to Mangaone Stream. <p>Wastewater*****</p> <ul style="list-style-type: none"> ▪ Construction of Pump Station I and rising main to connection to Pump Station G shared rising main. ▪ <i>Depending on timing of development relative to other stages the following wastewater system components may also need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ Construction of Pump Station G. ○ Construction of the rising main from Pump station G. ○ Construction of a new gravity main to the Taylor Street booster pump station. <p>Water</p> <ul style="list-style-type: none"> ▪ Construction of DN150mm diameter water mains within Stage boundary and connection to existing water supply network at Victoria Road. ▪ Connections to DN150mm water mains (if developed after GREEN and/or ORANGE STAGE). 	
Green	Approx. 21ha	<p>Transportation</p> <ul style="list-style-type: none"> ▪ Completion of Connector Road within stage boundary. ▪ Appropriate temporary access provisions if developed ahead of RED, ORANGE and/or YELLOW stages. ▪ Pedestrian and Cycleway network development within Western Buffer Zone (from Swayne through to Victoria Rd). <p>Stormwater*</p> <ul style="list-style-type: none"> ▪ Trunk Reticulation within stage boundary. ▪ <i>Depending on timing of development relative to other areas,</i> 	

Stage	Capacity	Infrastructure	Year Provided For (in LTP or funded by NZTA) if any
		<p><i>the following stormwater system components may also need to be completed to support this stage:</i></p> <ul style="list-style-type: none"> ○ Construction Western Swale from Swayne Rd to Victoria Rd (if developed ahead of yellow area stage) or completion of Western Swale from Swayne Road to constructed section of Western Swale (if developed after yellow area stage). ○ Construction of trunk stormwater discharge (temporary or permanent) to the Western Swale (if this area is developed ahead of Yellow area and the associated trunk stormwater line to Victoria Road Swale). ○ Construction or expansion of Western Storage Basin. ○ Construction of emergency outlet or construction of 750mm diameter piped outlet to Mangaone Stream. <p>Wastewater</p> <ul style="list-style-type: none"> ▪ Construction of Pump Station H and associated rising main to existing wastewater reticulation along Swayne Road.*** ▪ <i>Depending on timing of development relative to other stages the following wastewater system components may also need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ Construction of shared rising main along Swayne Road. ○ Construction of the rising main from Pump station G. ○ Construction of a new gravity main to the Taylor Street booster pump station. <p>Water****</p> <ul style="list-style-type: none"> ▪ Construction of DN150/DN200 water main and connection to existing water reticulation network at Swayne Road. ▪ <i>Depending on timing of development relative to other stages the following water system components may also need to be developed to support this stage:</i> <ul style="list-style-type: none"> ○ An extension of the existing DN200mm water main on Swayne Road. 	

* The timing of construction of the western storage facility and western piped outlet will depend on the sequence of development that actually occurs. Release of any new areas for development will trigger the need for stormwater infrastructure, which will likely include expanded storage, trunk reticulation and construction of swales adjacent to the area of interest to the emergency outlet/piped outlet at the Victoria Road Interchange. Timing of construction of the piped outlet from the Western Basin to the Mangaone Stream will be triggered by development and actual ground conditions (i.e. infiltration rates).

** Construction of the Norfolk Road extension will be triggered primarily by the Victoria Road Interchange not by development within the Cambridge North Residential Area (CNRA). Construction of the Norfolk Road extension would naturally trigger the installation of trunk infrastructure within the road corridor/road reserve. Constructing trunk infrastructure (stormwater, wastewater and water reticulation) at the time of road construction would be more cost effective and less disruption (i.e. Greenfields construction) than installing the underground services after constructing the road. Construction of trunk stormwater reticulation would also service the Norfolk road corridor, without which an alternative solution would be required or a lower level of service accepted for road drainage and surface flooding adopted in the intervening period.

*** A new shared DN160mm wastewater rising main is required along Swayne Road to service the proposed GREEN and PINK stages. The DN160mm shared rising main shall be installed as part of the

development that occurs first. This will enable the development area to be adequately serviced as well as provide a solution compatible with the overall infrastructure needed to service a fully developed CNRA.

**** An extension of the existing DN200mm water main on Swayne Road is required service the proposed GREEN and PINK Stages. The DN200mm water main extension shall be installed as part of the development that occurs first. This will enable the development area to be adequately serviced as well as provide a solution compatible with the overall infrastructure needed to service a fully developed CNRA.

***** The shared rising main proposed to service the RED, ORANGE and YELLOW areas will discharge to a new DN300mm gravity sewer to be installed immediately upstream of the Taylor Stream Wastewater pumping station. The DN300mm gravity sewer and the shared rising main to service the areas shall be installed by the development that occurs first. This will enable the development area to be adequately serviced as well as provide a solution compatible with the overall infrastructure needed to service a fully developed

S2.7 Roles and responsibility

The following outlines the respective roles and responsibilities of the various parties involved in the development process in the Cambridge North Area. There are primarily two, those being the property owners/developer and the Waipa District Council.

S2.7.1 Property owners/developers

S2.7.1.1 It is the role of the property owners to make the first move and to have an initial desire to develop their land for urban purposes. Following on from this, it is the role of the developer (whether that is the property owner or otherwise) to:

- (a) Undertake due diligence and feasibility on the intended development.
- (b) Understand the infrastructure requirements both those required at a high level as part of this structure plan and the detailed requirements for the subdivision.
- (c) Understand the market conditions and the demand for residential development.
- (d) Work collaboratively with Council staff and enter into a developer agreement.
- (e) Work collaboratively with Council to seek a resolution that the associated land can be rezoned.
- (f) Undertake detailed design and assessments as per the requirements of a subdivision consent application with those being consistent with the requirements of this Structure Plan or an alternative that may have been agreed with Council.
- (g) Develop and fund the required infrastructure as part of the subdivision process and obtain all necessary approvals.
- (h) Provide the necessary land for any stormwater management and/or reserves.

S2.7.2 Waipa District Council

S2.7.2.1 It is the responsibility of Council to:

- (a) Establish the framework for development through this Structure Plan.
- (b) Designate any land for roading and stormwater purposes where a designation is considered the most appropriate form of protection.

- (c) Accept and maintain land for reserves, access and stormwater purposes where having these in public ownership is required.
- (d) Obtain the necessary approvals from the Regional Council with respect to comprehensive stormwater discharge approvals from the CNRA catchment.
- (e) Work collaboratively with property owners and developers to enter into developer agreements where the provisions of this Structure Plan can be met i.e. the infrastructure provisions can be adequately established and funded by the developer.
- ~~(f) Facilitate Council resolution that the land can be rezoned to residential purposes once the threshold tests have been passed. [PC13]~~
- (g) Have a District Plan that enables development to occur within the CNRA consistent with the Structure Plan.
- (h) Work collaboratively with the developers through the subdivision and approvals processes.