

40km/h High Pedestrian Activity Area Concepts - Bridge Street, Uralla NSW



For **Uralla Shire Council.**

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The project brief explains: Council seeks to develop Concept Plans for a '40km/h High Pedestrian Activity Area' for Uralla's Bridge Street (New England Highway) from John Street in the south to King Street in the north, incorporating four town blocks and five intersections.

The request for the Concept Plans stems from the Traffic Committee's concern that 15% of the traffic exceeds 44km/h and 4% of traffic exceeds 50km/h in this area, with Council seeking and obtaining funding from the Roads and Maritime Services (RMS) for their preparation.

The Concept Plan proposals are to respond to the eligibility processes, outlined in the '40km/h High Pedestrian Activity Area - guidelines' publication by RMS's Transport NSW. This publication details the criteria and required treatment options as guidelines for high-volume pedestrian areas.

The Project Methodology:

1. Examined how the Project Area streets meet the Selection Criteria and Treatments of the RMS publication.
2. Analysed the Site's streets and determine the most appropriate guidelines and develop them into Draft Streetscape Concepts that will practically reduce real 'On-street' traffic speeds and improve pedestrian safety.
3. Develop Final Concept Plans, applying the broad intent of the street functions and improvements from the analysis, incorporating responses to the Draft and developing further detail as needed.

1.1 OBJECTIVES

The Scope of Works include the practical resolution of the Project Objectives including:

- § Provision of a Streetscape that provides a setting for reduced (40km/h) speed and safety, as well as being functional and attractive: Rather than reliance on 'signage' and legislative controls.
- § Improve the landscape function, amenity, management, maintenance & attractiveness through sensitive coordinated planning of the Streetscape pedestrian facilities, required and 'as directed' vehicle movement, parking and activation.
- § Build upon and refurbish to optimal value, the earlier (circa 1990) Townscape improvements, rather than 'reinventing'/re-doing the streetscape and elements established.
- § Develop some priorities and potential staging for later detail design and implementation.

The Brief itself; later discussions, comments from submissions and the RMS/Council provided some additional guidance toward what the Traffic Committee, Council and the community required from the project, as originally 'Briefed'.

1.2 CONCEPT PLANNING PROCESS

Initial works involved the development of base-plans and review of background information, site attributes and street functions. Over this, the site's opportunities and constraints were analysed and then thoroughly considered and aligned with the needs of the site, from which a Concept Plan evolves.

Two stages were adopted in the preparation of the Concept Plans. First a Draft, for consideration, review and comment by key stake holders (Council and Traffic Committee and 'Community') before proceeding to finalisation of the Concept Plans and brief report.

This was later widened to include RMS requirements for intersections needing Semi/B Double turns.

The RMS document, with the full title "40 km/h speed limits in high volume pedestrian areas: A guide to identifying and implementing 40 km/h speed limits in high volume pedestrian areas", (40 km/h HPAA) was reviewed. It includes relevant sections of 'Criteria for Selection', required 'Treatment', 'Implementation process' and later 'Engineering works'.

A map of 'Uralla Town Crashes' (2011 - 2016) was provided with the brief, indicating some seven crashes have occurred in the 'Shopping Street' CBD area of the project site. Five of these involved moderate to serious injury, one minor injury and one non-casualty (tow away). The majority of these occurred in the general Pedestrian Crossing to Hill Street intersection area. Traffic type volumes and speed statistics for Bridge St near the Pedestrian crossing were later supplied as part of a report to the Traffic Committee.

It should be noted: No Survey or detailed site information was available to be provided as background information, as requested in the Response to The Brief with fee proposal. The Plans have been prepared largely over aerial imagery and electronically tracing .pdf information which is found to be diagrammatic only, and in some cases incomplete. This will impact on the feasibility of the Concepts developed when preparing the detailed designs to follow these Concept Plans.

2. Analysis - Constraints and Opportunities.

2.1 40 KM/H HPAA SELECTION /TREATMENT CRITERIA

From an initial site analysis, the project site broadly comprises two main street types/functions:

1. 'Traffic Street' - from John Street to Salisbury Street and
2. 'Shopping (Commercial) Street' - from Salisbury Street to King Street.

The Selection Criteria in the RMS 40 km/h HPAA guidelines, on page 4 of the document and included as Appendix 1, clearly identifies what can be selected as a 'legislative' high-volume pedestrian activity area. Without repeating the criteria here, there are parts of the Project site that meet the selection criteria, namely: The CBD area generally between Salisbury Street and King Street. However, it is highly unlikely the southern section, between John Street and Salisbury Street would meet the RMS Selection Criteria for a 40 km/h HPAA.

Should an area qualify for 40 km/h HPPA status, the document also identifies treatments. As the project site of Bridge Street is part of the New England Highway, it is a State Road and a Principal Travel Route, thus Treatment 4 (Appendix 2) requires "Measures to maintain vehicle / pedestrian separation", with a preferred option of 'full separation' of pedestrian / vehicle conflict points' including:

- § Spatial separation: with fences, overbridges barrier kerbs or increased distances and
- § Time separation: with phased pedestrian or traffic control signals.
- § Signage and other 'legislative' infrastructure.

2.2 BROAD SITE ANALYSIS

Uralla has a population of approximately 2400 people (ABS) which comprises some of the traffic and pedestrian movements in the town centre. Traffic volumes on Bridge Street/New England Highway are reported as 6885 vehicle movements per day, which statistically confirms observations that vehicle traffic is predominantly Highway generated. Traffic data for north of Tamworth, indicates some 18% of Highway traffic consists of Heavy Vehicles. Data from Bridge St, analysed below, indicates a 13% are Heavy Vehicles, this likely boosted by Uralla CBD light vehicle traffic numbers. Also noted; many 'locals' use the parallel Maitland Street to by-pass the Bridge Street CBD and Highway traffic.

Data of traffic volumes and types in Bridge St, near the Pedestrian Crossing indicate approximately:

- Ø 87% are cars and cars with trailers,
- Ø 9% are Rigid trucks with varied axle numbers,
- Ø 1% are Articulated Trucks with varied axle numbers and almost
- Ø 3% are B Doubles and Road Trains with two or three trailers.

This approximately equates with data from the RMS web-site for North Tamworth, cited above, given the higher numbers of CBD local traffic affecting the percentage.

Traffic speed data for the CBD Shopping Street, taken near the Pedestrian Crossing in Bridge Street confirms, in Council's report to the Traffic Committee, that: 85% of vehicles travel slower than 44km/h. This is below the existing 50km/h speed restriction and 10% above a proposed 40km/h HPAA speed restriction. The Speed Histogram indicates that approximately 10% of vehicles travel more than 45km/h but less than the 50km/h speed restriction, with approximately 3% between 50 and 60km/h. Only 1% approximately travel more than 60km/h. Therefore, it is arguable that there is any significant benefit to be gained from a 'legislative' HPAA speed restriction.

A significant element for the CBD is the Salisbury and Hill Streets intersections service Thunderbolt's Way traffic. These streets are significant rural area service and east-west through roads. Traffic using these east-west road connections either access the CBD from them or for through-travel use via the main CBD block with the Pedestrian Crossing - unless they know about the Maitland St CBD by-pass.

The 'Shopping Street', from Salisbury to King Streets, is greatly calmed by the fact that there is no designated 'manoeuvring lane' for the rear to kerb parking. This requires vehicles to slow down or stop to facilitate parking. Even though this might be frustrating for through traffic and heavy vehicles, it reduces speeds and calms the traffic very effectively and is strongly recommended to be retained unchanged.

In this 'Shopping Street' area, observations indicate a significant amount of through traffic stop to enjoy the town's shops and cafes etc. This attributed to the town's historic character, quality of facilities and eateries. This makes it highly important to retain the town's historic charm, small scale, relatively open, traffic calmed and comfortable-to-get-around qualities, un-compromised by proposals.



Fig 1. Shopping Street: Typical Uralla character: Small scale, open and historic.

The 'Traffic Street' section of Bridge Street, from John Street to Salisbury Street, is the New England Highway's southern entry to Uralla's business district. Over the two blocks, it consists of a northbound, southbound and turning lane, owned and managed by the NSW RMS; who would likely be reluctant to change the scenario. There is a wide parking lane to the west and a narrow parking lane to the east of these traffic lanes managed by Council, leaving opportunity for physical 'traffic calming'.

The southern block and a half, from John St to mid-way between Park and Salisbury St, is currently a 40km/h School Zone with a pedestrian refuge some 35m south of Park St. (This in spite of the School being some 350 metres west along Park St.) It is assumed this was installed to assist school children from the east to cross the highway and understood was installed prior to much of the New England Highway heavy vehicle traffic diverting to the upgraded Pacific Highway.



*Fig 2. Traffic Street:
Not a high pedestrian activity area. The three,
State traffic lanes make it wide and prone to
higher speeds.*

While the School Zone is arguably now less necessary, it does provide a periodic (during school days and times) legislative 40km/h speed restriction of this southern section of Bridge Street as well as puts drivers on-notice of speed reduction generally as they enter/leave the CBD 'Shopping Street' area. As it is unlikely this southern section complies with the RMS Selection Criteria for 40 km/h HPAA, it is analysed that retention of the periodic School Zone speed restriction will be the most beneficial option in achieving a 'legislative' speed limitation here.

Pedestrian crossings: There are two marked pedestrian crossings in the Project site: The main one, across Bridge Street, central between Salisbury and Hill Streets and one across Hill Street's eastern intersection.

There is significant debate about marked pedestrian crossings: On the one hand, there is the view that pedestrians should have a right and priority to be able to cross the road at these points, drivers must give way and that these facilities should remain. On the other hand, pedestrians can view the larger vehicles and stop more easily, as they are at 'walking pace' with minimal momentum. However, the fact remains that, pro-rata, more pedestrian vehicle accidents occur at marked pedestrian crossings than when only 'cross-over points' are provided; supporting the latter argument – especially with a refuge.

Key components in providing safe pedestrian crossing are reducing the distance pedestrians have to cross (reducing the time of exposure to danger) and the clarity of sight-lines between pedestrian and approaching vehicle.

The RMS, who control the carriageways of the Highway in Bridge Street, trend to favour the 'pedestrian priority' view. Therefore, it is understood that the mid-block marked crossing would not gain RMS approval to change to a refuge or vehicle priority cross-over. However, it is an option, with considerations to detail design, if the TAC and Council wish to pursue a refuge solution.

The Hill Street marked pedestrian crossing is in the Council controlled side-street, east of the Highway, therefore change to a refuge is feasible and recommended. Hill Street, east of Bridge Street, already has a central-median format, with a central covered motorcycle parking area immediately to the east and centre median and street trees more distant. This lends itself well to a centre median refuge to shorten

the crossing distances for pedestrians, greatly improving the safety. – Additionally, should a ‘no refuge’ with closed-in intersection be adopted, the existing motorcycle parking and median would require removal.



*Fig 3. East Hill Street:
Motorcycle parking and landscape median,
lends itself to pedestrian refuge. - With or
without a marked crossing.*

A more detailed area specific ‘Site Analysis Plan’ is provided in the plans accompanying this report.

2.3 STREETSCAPE

This section discusses the ‘legibility’ of physical elements of the streetscape and how drivers and pedestrians react to them, rather than the ‘regulatory’ and ‘legislative’ speed restriction infrastructure.

In the CBD ‘Shopping Street’ area, many of the components of the Townscape project improvements (circa 1990 and some more recently) work well in calming the traffic and reducing speeds: Proven by the relatively low traffic speeds, small accident rates and seriousness of them. - However, it can be improved.



The traffic islands especially adjacent Salisbury, Hill and King streets, and to a lesser priority the southern ‘Traffic Streets’ of Park and John Streets do not effectively calm (reduce speed of) the traffic. They are distant from the intersections and do not adequately enclose, define or ‘introduce’ the diver to the street ‘blocks’ and their driving/pedestrian conditions. Neither do they cater for pedestrian movements well. A key element lacking in the existent scenario and needed, is the ‘Closing-in’ and definition of the intersections and blocks between.

Fig 4. Insufficient definition/enclosure for entering a low-speed calmed ‘Shopping Street’.

All the Site’s intersections are currently based on the parking kerb-line, resulting in long distances for pedestrians to cross and large expanses of wide open bitumen, encouraging faster vehicle movement. It is proposed to rectify this, with ‘closed-in’ intersections for most intersections, in varied priority. – ‘Closed-

in' intersections involve: Projecting/extending the kerbs from the traffic movement lanes, rather than the 'parking lanes' at intersections. (Refer Overview and Detail 'Concept Plans' accompanying this report.)

Many of the existing streetscape elements, such as footpath paving, activated areas, street furniture (including interpretive rubbish bins and artistic laneways etc.) and detailing reflect the historic and eclectic, specific to Uralla Town Centre 'Shopping Street' area well. This providing good character, attraction and identity. - Retaining this is seen as integral to the success of Uralla's CBD attraction and businesses.

The large arched streetlights in the 'Shopping Street' areas of Bridge St, are one element that seems overly dominant. As seen in Fig 4 above, they are tall, prominent on the sky-line and their dominance should be reduced as a medium priority. While not specifically relevant to a RMS 40km/h HPAA, they add to the scale and detract from the small-scale charm of Uralla's CBD. If decided, less dominant poles and fittings could replace the existing using the existing footings and wiring etc. Lighting technology and style have improved dramatically in recent years.

2.4 TURNING MOVEMENTS

The Concept Plan needs to cater for general traffic movements, including large rigid truck, and regional (school-type) bus type vehicle turning paths to all intersection turns.

Thunderbolts Way turns (Salisbury St eastwards; and Hill St westwards) and the John St intersection westwards, to Council's Depot, need to cater for large vehicles including Semi-trailer and B Doubles. The kerb-lines should be the minimum necessary turning paths of Semis and B Doubles, because they significantly open up the intersections; compromising the benefits of Closed-in intersections.

3. Strategies and Concepts.

3.1 OVERVIEW

Concept Planning strategies and proposals recognise fundamental aspects from the above Analysis:

1. Selection Criteria for the southern two blocks of 'Traffic Street' (John to Salisbury Streets) are very likely not achievable as a 40km/h HPAA zone. Therefore likely, best to retain the periodic 'School Zone' restriction.
2. Selection Criteria for the northern two blocks (Salisbury to King Streets) are achievable as a 'legislative' 40km/h HPAA zone. However, the guideline requirements of 'Treatment 4' (i.e. Spatial separation with fencing etc. and phase separation with lights and signage) are detrimental to the existent high-quality function, viability and vibrancy of Uralla's CBD 'Shopping Street' areas.
3. The Traffic speeds, volumes and good function in the CBD 'Shopping Streets' indicate that there is minimal significant benefit to be gained from a 'legislative' 40km/h HPAA speed restriction.

Therefore, this Concept Plan, plans and report, adopt a strategy to achieve the goals of further traffic calming in the 'Traffic Street' blocks, and increasing the separation of pedestrians and vehicles without 'legislative requirements'; which would add to the restrictions 'Visual Clutter' and dysfunction to the CBD as a 'Shopping Street'.

3.2 STRATEGIES

The project site, spans the 'Traffic Street' and 'Shopping Street' areas of Bridge Street though Uralla. It is important to have consistent traffic calming elements throughout the town while recognising and addressing the two street functions with separate street treatments.

The RMS's recommended strategy for treatments of State roads, i.e. the Highway, in "40km/h High Pedestrian Activity Areas includes physical separation using fencing/barriers, overbridges, re-directive kerbs or creating greater distances between vehicles and pedestrians. Or by separation in time, with pedestrian signals, phasing vehicle and pedestrian movements. Along with this, comes restrictive signage at all entries and exits to the 40km/h HPAA and likely even more poles in the streetscape for pedestrian phasing, detracting from the town's low-key small relaxed town heritage character.

This will also have significant impacts on the freedom of movement of people in the CBD, impact on the businesses of the Shopping Street and alter the character open small scale relaxed townscape. It will become more restrictive for the CBD through this 'legislative' response. This Concept Plan recommends against adopting these 'legislative' strategies and treatments for Uralla's intimate, relaxed and characterful CBD Shopping Street. - This recommendation was accepted by the TAC at a 'direction' meeting.

It should be noted again here, that the streets function quite well as existing, with slow traffic speeds and relatively few accidents; and adoption of a 'legislative' 40km/h HPAA will not necessarily reduce speeds or eliminate accidents. - Many towns would envy these statistics.

This Concept Plan adopts a strategy, endorsed by the Traffic Advisory Committee, of further calming the traffic and creating low-key barriers and separation through streetscape improvements that improve safety while retaining the town's function, scale and character.

3.3 BROAD CONCEPTS

The main Concept of this plan is to 'Close in' all five intersections through the site. This will confine the carriageways reducing traffic speeds, define the street 'blocks', further separate pedestrian and vehicle areas at intersections and most importantly, reduce crossing distances for pedestrians throughout the Bridge Street project area. - The less distance pedestrians share with the traffic the safer it is.



Fig 5. Hill/Bridge St. 'Shopping Street' intersection: Expansive road areas, large distances for pedestrians to cross.



Fig 6. John/Bridge St. 'Traffic Street' intersection: Even with blister for the school Zone sign, there is little enclosure for traffic calming and long distances for pedestrians to cross the Highway.



Fig 7. Example of Closed-in Intersection with shorter pedestrian crossing distances, holding-lines moved forward, enclosing the traffic. – Even though this street needs trees.

In the Traffic Street area between John and Salisbury Streets, the Concept Plan proposes retention of the School Zone and the RMS Highway traffic carriageways and turning lanes between the intersections. New street tree planting is proposed in the off-centred parking lanes of these blocks, to enclose the streetscape and provide 'laterals' reducing the traffic speed. These trees are proposed to be in 'vaults' clear of and protecting the Highway pavements. Due to the off-centred carriageways, the parking lane on the west is wide and can accommodate larger vaults and street trees, while the parking lane on the east side is narrow restricting the vault size and scale of street trees.

In the Shopping Street areas between Salisbury and King Streets the Townscape improvements of circa 1990, generally work well, but are aging and the street trees appear to be struggling through limited root space and air and water supply. This Concept Plan proposes these tree planting islands be mostly retained structurally, though upgraded for improved safety, street function, amenity and accommodating the proposed 'Closed-in' intersection treatments.

These broad Concepts are illustrated on the accompanying Overview Concept Plan on Sheet 2.

3.4 AREA SPECIFIC CONCEPTS

Application of the broad Concepts are shown and described on the accompanying Concept Plans (Sheets 3 onwards).

i. Intersections:

'Closing-in' the intersections, involves aligning the intersection kerbs with the edge of vehicle lanes, rather than the outer kerb-line beyond the parking areas. As illustrated in Fig 7 above, except that these are 6m carriageways and 4.5 or 5.0m are proposed for better enclosure, generally with 9m radius kerbs in the turning area, with only the Thunderbolts Way turns and John St west to Council's Depot proposed to cater for Semis and B-doubles.

Closed-in intersections provide:

- § More space between the pedestrian areas and vehicles,
- § Shortens the distance for pedestrians to cross the street - a major safety factor,
- § Reduces the distance between vehicles and kerb at the edge of road – slowing the traffic,
- § Brings cars approaching from side streets to the edge of the carriageway - resulting in a better view of approaching traffic,
- § Allows increased vehicle holding area before pedestrian cross-over points,
- § Creates more landscape/streetscape area – less water run-off and softer streets in Traffic Streets, and space for 'activation' behind planting barriers in Shopping Streets.

In 'Shopping Street' areas the increased 'footpath' space is proposed to be paved the same as the existing footpath paving and with low planting (less than 500mm height) to form a barrier while retaining sightlines and allowing more space for 'Activation'.

In 'Traffic Street' areas, the increased footpath space is proposed to be grassed, similarly to the adjacent footpath areas, with north-south pedestrian access across the side streets only. This requires footpath access to the CBD for the full length both sides, to reduce the desire to cross the three highway lanes - except at the existing retained refuge crossing. It is important to remove the existing kerbs and not retain a double kerb for drainage, as done at the John St intersection School zone approach. Kerb removal brings the landscape close to the carriageway, slowing the traffic: Whereas 'double kerbs' carry the back-of-parking line through the intersection, not effectively enclosing the intersection to reduce traffic speeds.

Tree planting is proposed to be kept well clear of approaching/upstream traffic, to retain clear sightlines, however, they can be placed closer to the intersections on the downstream side to assist closing-in and softening the streetscape.



Fig 8. (duplicate of Fig 7) shows Closed in intersection, with no double kerb and landscaping. This visually encloses the intersection slowing traffic.



Fig 9. Example of partially closed intersection with double kerb and hard paved 'blister', which does not effectively read as landscape to Close-in the intersection to reduce traffic speed.

The Concept Plan allows for general traffic movements, including large rigid truck, and regional (school-type) bus type vehicle turning paths to all intersection turns. Generally accommodated with the proposed 9.0m kerb radius at intersections with a 4.5m or 5.0m carriageway widths.

Thunderbolts Way turns (Salisbury St eastwards; and Hill St westwards) and the John St intersection westwards, to Council's Depot, cater for large vehicles including Semi-trailer and B Doubles. The Concept Plans indicate a kerb and carriageway to accommodate these turning paths in these three turns.

The kerb-lines indicated on the Concept Plans for these three turns adopt the general AustRoads template (*the Standards Australia is similar*) which will require detail resolution in the later sketch and detail designs of these intersections. This due to the way they are determined/modelled and the need for detailed Survey information. In the detail design of these intersection turns, the kerb-lines should be the minimum necessary turning paths of Semis and B Doubles, because they significantly open up the intersections; compromising the benefits of Closed-in intersections, described in detail above.

Both turn-path templates are similar and believed generous, because even under existing conditions, Semis and B Doubles should not be able to turn left out of the Salisbury Street turn without encroachment into the oncoming traffic lanes or running up the inside kerb.

Should Closing-in the intersections be determined as not viable, Mid-block treatments become a priority to fulfil the objectives of the project Brief.

ii. Mid-block areas:

The main Concept for all the mid-block treatments is to achieve Street Tree Planting at 25 to 30 metre centres as close to the traffic lanes as safely possible. As said above: These to act as 'laterals', enclose and soften the streetscape of both the Traffic Streets and Shopping Streets. To a moderate extent this already exists in the CBD 'Shopping Streets' and it is intended to build upon the existing, by improving the quality and location of some street tree islands and use of more robust tree species.

The 'Traffic Street' tree plantings are proposed to be clear of and protect the retained RMS/Highway traffic lane pavements, retain sightlines to existing or relocated signage, vehicle and pedestrian activity points and intersections from the upstream, avoid driveways and not shade the street lighting.



Fig 10 & 11. Sketches of typical Traffic Street concepts, with street tree planting in vaults in parking lanes as laterals.

Concept proposals to demonstrate that these requirements can be achieved are shown on the Concept Plans. (Sheets 3 to 6 and detailed on Sheet 8)

In the 'Shopping Street' areas of the CBD the street tree planting islands of the Townscape Plan are; to a large extent well located, between Salisbury and Hill Streets. In the northern block between Hill and King Streets, street tree islands have not responded to changes in driveways etc. Several changes are proposed near the intersections to accommodate the Closed-in intersections, returning some to parking spaces.

Most of the tree plantings in these islands are; small, and struggling, with paved areas encroaching on water and air supply to the roots. (Refer Figs 12,16 & 17 below) They have shrub plantings and structures that are too high, reducing sightlines and adding to the 'visual-clutter' that makes it more difficult for drivers and pedestrians to see each other. (Refer Figs 12, 16 & 19 below)

The Concept Plan proposes to upgrade all retained existing planting islands with drainage, root barriers, new soils, shrubs below 500mm height and taller clear trunked Street Trees in mulched plant beds. - As for any new plantings in intersection 'blisters' and street tree islands.

In the 'Shopping Street' between Hill and King Streets, there have been several changes since the Townscape improvements, including: used driveway areas and the growth of CBD businesses in this section which has effectively moved the 'entry' or gateway to the CBD northward along Bridge Street to the King St intersection.



Fig 12. One of the larger planting islands where the driveway is seldom used, with no trees to act as laterals and rocks and tall shrub planting restricting sight-lines. Additionally, the island is bordered by excessive paving, which restricts water and air supply to root systems.

In response, the Concept Plan proposes more changes to the location of street tree planting islands in this block. - It is proposed to relocate some five tree planting islands that are poorly located for the 'Closed-in' intersections and now changed/disused driveways, returning them to parking. And depending upon pressure for parking, there are two that can optionally be removed or retained and upgraded.

Conceptual proposals and options for the Shopping Street mid-block treatments are shown on the Concept Plans (Sheets 4 to 6 and detailed on Sheet 8)

iii. Pedestrian Crossings:

There are two marked pedestrian crossings in to Project site: The main one, across Bridge Street, central between Salisbury and Hill Streets and one across Hill Street's eastern intersection.

From the above analysis the mid-block Bridge Street crossing, was suggested to be removed and/or replaced with a refuge cross-over, but the RMS advised this and an elevated threshold option would not be acceptable. The RMS acceptable option is an 'At Grade' marked pedestrian crossing. This retains the pedestrian 'pram ramps' down to the pedestrian crossing at road grade/level, much the same as existing.

There is option to provide a Signalised phased separation crossing: This involves the installation of traffic and pedestrian signals, which is independent of the selection of the 'At Grade' solution by the RMS. A Signalised crossing is not recommended, for reasons provided in the Analysis and especially as the 'legislative' 40m/h HPAA option has been rejected, by the Traffic Advisory Committee.

The Concept proposals recommend removal of all but the essential structures and visual clutter close to the traffic lanes in the footpath extensions to improve visibility and installation of tactile ground surface indicators. Concepts are shown to sketch-plan level design on Sheet 7 of the Concept Plans.



Fig 13 & 14. Southern and northern approaches to the Bridge Street Pedestrian Crossing. Southern approach has clear sightlines as driveway with no parking adjacent. Northern is concealed by parked cars protruding toward the traffic lanes, due to the 200mm high kerb at rear, proposed to be resolved.

The Hill Street pedestrian crossing, on Council-controlled side street, is proposed to be removed and replaced with a refuge. This because, a good crossing point is readily incorporated into the proposed

Closed-in intersection, with a two-car holding length and Hill Street east of the intersection is already a centre median format. – As more fully discussed in the analysis above.

The proposed Concept increases safety by reducing the distance for pedestrians to cross with a refuge half way which is believed to negate the need for a marked-crossing. However, should it be decided a marked crossing be retained, its line-marking can readily align with the proposed pram-ramp points between kerb-lines and refuge.

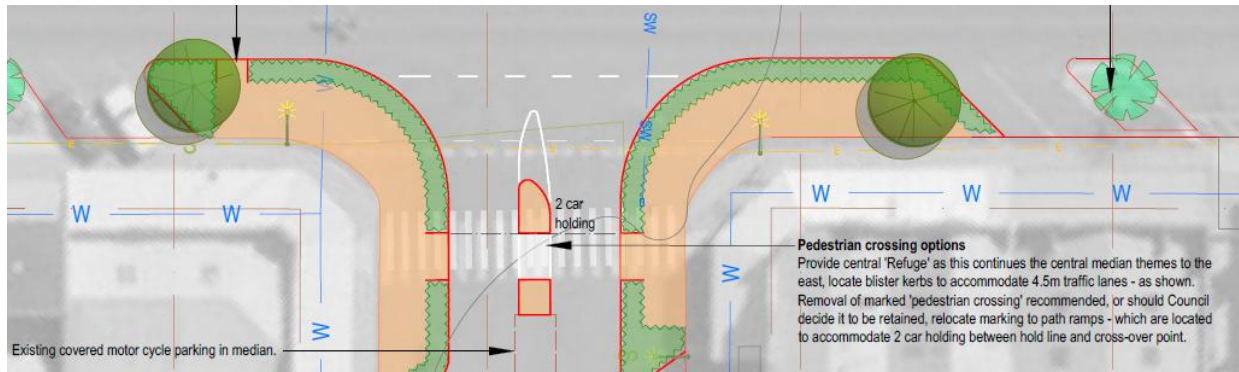


Fig 15. Hill Street Pedestrian refuge cross-over or crossing. Refer Concept Plans Sheet 5 and 9.

4. Streetscape and Landscape Treatments.

4.1 OVERVIEW

The Concept Plans and Section 2 above, essentially address the broad functional and 'structural' form of the road and street improvements: This section addresses the form, elements and character of the streetscape.

The general form of the existing streetscape reflects and provides Uralla with its historic character well, with the exception of a few elements. It is not proposed to change the footpath treatments, such as grassed verges and concrete footpaths in the Traffic Street areas; and clay pavers and much of the furniture in the Shopping Street areas. Elements such as the interpretive rubbish bin panels add to the Uralla CBD experience. The typical seating type, focal point special paving in areas such as at the end of the lane-way from the car park, generally add to the CBD's character.

Elements for change are seen as including:

- § Taller shrub plantings, structures and rocks in the tree planting islands which interrupt the sightlines and add to the 'visual clutter' in the street. (Refer Fig 12 above.)
- § The Street Tree and underplanting of the 'Townscape' project struggle and need refurbishment. This likely due to their soil conditions and water and air supply, which in some instances have been paved over and 'activated' with seats and tables.
- § The Lighting, both tall street and small footpath/planting island are aging. Tall street lights are overly dominant and detract from the historic buildings. The smaller lighting, while heritage themed, adds to the street's visual clutter.
- § Improvements to the kerb and gutter drainage at driveway and pedestrian crossing and cross-over points. While the 'metal plate' and gaps in the ramps in these areas are 'low cost' and 'easy', they detract from the setting as being an afterthought, rather than integrated into the streetscape.



Fig 16 & 17. Street Tree Planting islands encroached by paving and typical existing double kerb drainage with metal plate cover appears like an after thought or solution that does not integrate with the streetscape.

Ideally, an alternative form of drainage to the existing 'double kerbs' solution between the Street Tree planting islands and footpath kerb in the CBD should be provided. To integrate the islands to the footpath, solutions to achieve this should be further investigated and proposed at Detail Design stage. This Concept Plan proposes some 'in principle' solutions.



Fig 18 & 19. Gaps or channel left in driveways, while achieve vehicle crossing: They restrict flows and provide a risk to pedestrians. In detail design, consider using a porous 10mm aggregate no-fines concrete driveway ramps. – While not highly durable it can be easily repaired, unlike concrete.

The feasibility and level of design for treatments of the streetscape and landscape within this 'Concept Plan' are limited by the fact that there is no Detail Survey. (As advised in Section 1.3 Background information, above.) A Detail Survey will be required before going to any next step in the design process, so that the concepts of this Concept Plan can be designed and implemented, once approved 'In Principal'.

The proposed Closing-in of all intersections provides a consistency throughout the project area, to enclose the streetscape, define blocks and provide greater opportunity for activation on the enlarged landscape areas of the intersections in the Shopping Street areas. Only in the Thunderbolts Way intersection turns is this significantly reduced, due to the necessary large vehicle turn-paths required. While this compromises the consistency and advantages of the Closed-in intersection Concepts here, modifying these intersections to the Concept Plan proposals will permit necessary turn-paths, not all currently provided, and provide some additional space for activation.

It is important that the drainage in all the closed-in intersections be resolved and designed at the detail design stage to avoid the 'double kerb' solution; and clearly integrate these extended footpath areas with the pedestrian zone, rather than an add-on interruption to the road function. (*Illustrated in Figures 8 & 9.*)

Street treatments, proposed in the Concept Plans for both Traffic and Shopping street intersections and mid-block, rely heavily on the use of 'robust' street tree planting closer to the carriageways to enclose and provide laterals to calm the traffic and reduce traffic speeds. It is important that the Detail Design and implementation of these works be done to 'best practice' in providing good root growth area, growing medium and implementation; while still protecting and avoiding conflict with road pavements and services.

Activation (*provision of seating tables and chairs etc.*) of the 'footpath' areas of the main CBD Shopping Street, between Salisbury and Hill Streets, is provided to areas outside the foot-traffic areas adjacent the boundary and entry/exit to shops and cafes. - This format is good and should be retained.

The Closed-in intersections in the CBD Shopping Streets provide greater area and opportunity for properties on the corner of intersections to activate the streets new 'blisters', while keeping the foot traffic area clear. This relies on the proposed planting (and perhaps a physical low-impact temporary fence) to separate the vehicle and pedestrian 'activated' areas. Refer sheet 9 – Again, to be resolved at Detail Design stage.

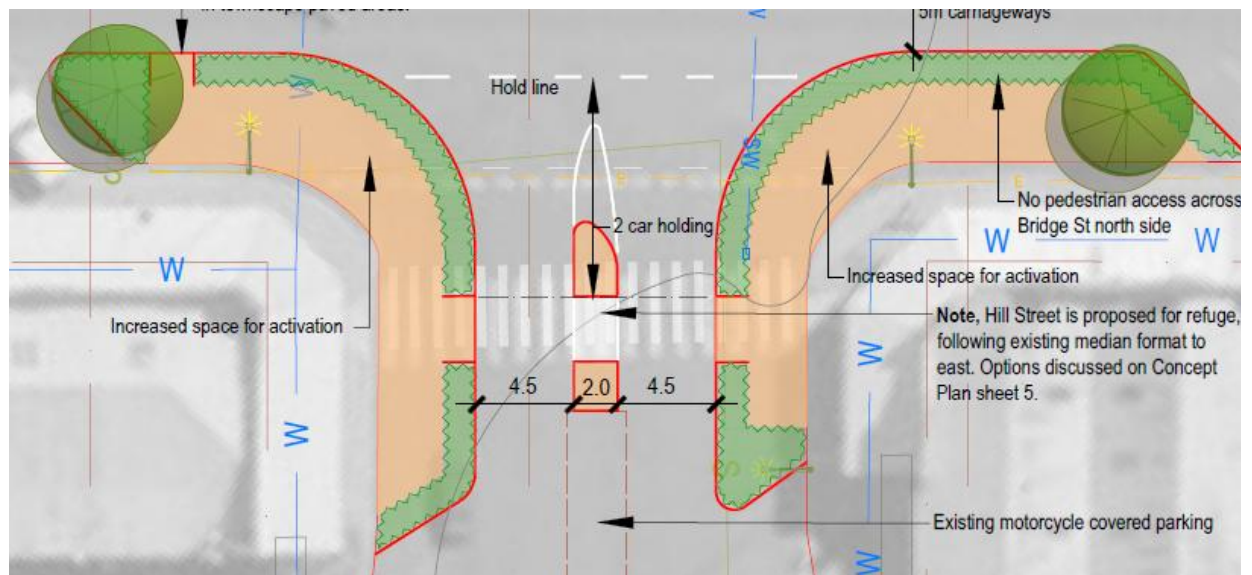


Fig 20. Hill Street Intersection, showing planted barrier protected spaces available for activation.

4.3 INFRASTRUCTURE FURNITURE AND SIGNAGE

Street Infrastructure is not proposed to be significantly altered, though some elements will need to be provided, relocated or adjusted as a consequence of the Concept Plans. These fundamentally include; pavement areas, kerbing, drainage and signage, with lighting an optional upgrade. Many of these changes will rely on the Detail Survey and subsequent Detail Design for good resolve.

Kerbing and pavement areas and drainage will naturally change with the closing-in of the intersections and Mid-block planting islands and 'vaults'. These Concepts are to be carried through to the Detail Design and Implementation stages. - It should be noted here that these Concept Plans do not propose any changes and minimises impacts to the RMS jurisdiction carriageways. Refer Concept Plans Sheet 8 & 9.

Signage will need to be adjusted to accommodate the proposed Closed-in intersections. This includes the street, directional and give-way type traffic signage, as well as the northbound flashing School Zone signage at Chainage 80 approx. The flashing School Zone signage at Chainage 400 approx. can remain.



Fig 21 & 22. Street and traffic signage needing relocation towards the traffic lanes, with the Closed-in intersection kerb lines

While beyond the scope of this project, it is recommended that in the Detail Design, these issues be addressed providing less dominant and more efficient lighting, which could likely use the same power reticulation and footings. The smaller footpath lighting, might be replaced with under-awning lighting through negotiation with property owners.

4.4 PLANTING AND SPECIES

Planting Concepts fundamentally and as an essential, include the provision of strong and robust Street Tree elements to provide the street enclosure and laterals that are needed to calm and reduce traffic speeds. As well as provide 'CEPTED' and an attractive streetscape in-keeping with the site's Traffic and Shopping street functions.

Lower stratum planting should be below 500mm in height to maintain clear sightlines for pedestrian/ vehicle reaction, as well as passive supervision. Existing planting and structures do not do this. They should also be highly hardy to frost and site conditions and maintenance that Council is willing to provide.

The below 'Palette of Species' conforms to these requirements and is an indication of what is proposed in these 'Concept Plans'. Local knowledge and horticultural experience may select or alter the species to be used at the Detail Design Stage, as long as the selected species uphold the principles of this Palette.

Palette of Species				Area recommended for use.			
<u>Note; Species to be selected from this list at Detail Design stage.</u>				1	2	3	4
Street Trees	Species	Common Name	Height M	Traffic Street, Larger Spaces.	Traffic Streets, Smaller Spaces.	Shopping Street areas in islands and footpaths.	Focal point areas, for accent and colour.
	Acer negundo 'Sensation' ®	Box Elder	9		Ⓟ		
	Acer rubrum 'Brandy Wine' ®	Red Maple Hybrid	9		Ⓟ		
	Acer rubrum 'Fairview Flame' ®	Red Maple Hybrid	11	Ⓟ		Ⓟ	
	Fraxinus americana 'Autumn Applause' ®	White Ash Hybrid	11	Ⓟ		Ⓟ	
	Fraxinus angustifolia 'Raywood'	Claret Ash	12	Ⓟ		Ⓟ	
	Fraxinus ornus 'Meczec' ®	Flowering Ash Hybrid	5		Ⓟ		
	Pyrus calleryan 'Chanticleer' ®	Ornamental Pear	11	Ⓟ			
	Quercus pallustris	Pin Oak	13	Ⓟ		Ⓟ	

Low Shrubs		Less than 500mm height					
	Agapanthus orientalis	Agapanthus – Baby Blue	0.5	Ⓟ	Ⓟ	Ⓟ	Ⓟ
	Dianella caerulea 'Lucia' ®	Dianella Hybrid	0.4			Ⓟ	Ⓟ
	Liriope muscari 'Amethyst' ®	Liriope Hybrid	0.4	Ⓟ	Ⓟ	Ⓟ	Ⓟ
	Liriope muscari 'Isabella' ®	Liriope Hybrid	0.4	Ⓟ	Ⓟ	Ⓟ	Ⓟ
	Lomandra longifolia var Tanika	Fine leaved Mat Rush	0.5	Ⓟ	Ⓟ		
	Westringia fruticosa 'Low Horizon' ®	Dwarf Coast Rosemary	0.4	Ⓟ	Ⓟ	Ⓟ	Ⓟ

Groundcovers -		Less than 500mm height					
	Carpobrotus glaucescens	Pig Face	0.2			Ⓟ	Ⓟ
	Gardenia augustifolia radicans	Groundcover Gardenia	0.3			Ⓟ	Ⓟ
	Gazania Sp (non-seeding hybrids)	Gazania	0.2	Ⓟ	Ⓟ	Ⓟ	Ⓟ
	Grevillea laurifolia	Laurel Leafed Grevillea	0.3	Ⓟ	Ⓟ		
	Myoporum parvifolium (Yareena) ®	Creeping Boobialla	0.2	Ⓟ	Ⓟ	Ⓟ	Ⓟ

NOTE: Images of these plants can be found by entering the species into a web browser.

It is Conceptually proposed that the tree selection at Detail Design stage, favour Quercus pallustris (Pin-Oak) for its proven robust nature, suitability to the climate, ready availability and growth reliability.

What species are selected for the lower stratum is less important to the Concepts, as long as they do not grow above 500mm in height, however, the plantings should be simple, massed and not 'bitty'.

5. Priorities and Staging.

5.1 RATIONALE FOR PRIORITISATION

Somewhat obviously, these works cannot be implemented in one or perhaps two stages due to cost, interruption to the CBD and traffic. It is considered imperative that the works be constructed to a high quality and standard and breaking it down to smaller stages of works is recommended rather than compromising the function and intent of the design concepts.

As the main aim of this Concept Plan is to reduce traffic speeds to promote safety and minimise accidents, priorities are determined from consideration of the accident report. Most of the accidents occur in the area of the Hill Street intersection through to the Bridge Street pedestrian crossing, thus it is proposed to give highest priority to this area.

Highest Priority is recommended to include: Closing-in of the Hill Street intersection and associated works, with Upgrade of the pedestrian crossing and streetscape works between Hill and Salisbury Streets. As a high priority, the closing-in of the Salisbury Street intersection is important because this intersection calms and prepares the north bound traffic entering the CBD. Additionally, both these intersections are rural service roads (Thunderbolt's Way) to Bundarra and Walcha.

It is then recommended to progressively work north and south from this high priority area. It is arguable whether the Shopping Street from King Street to Hill Street should have priority over the Salisbury to Park Street Traffic Street. Both sections assist the traffic calming on entering the main CBD Shopping Street and while more accidents occur north of Hill Street, the steep slope of the Park to Salisbury Streets is also an issue needing resolve.

As a last stage/priority, even though this contains a school zone crossing, the section of Traffic Street from John to Park Streets is proposed to complete the works.

The main element that will manage and reduce traffic speeds is considered to be the Closing-in of the intersections. However, this needs to be reinforced by the Street Tree planting 'laterals', and vehicles will be more likely maintain slower speeds between intersections.

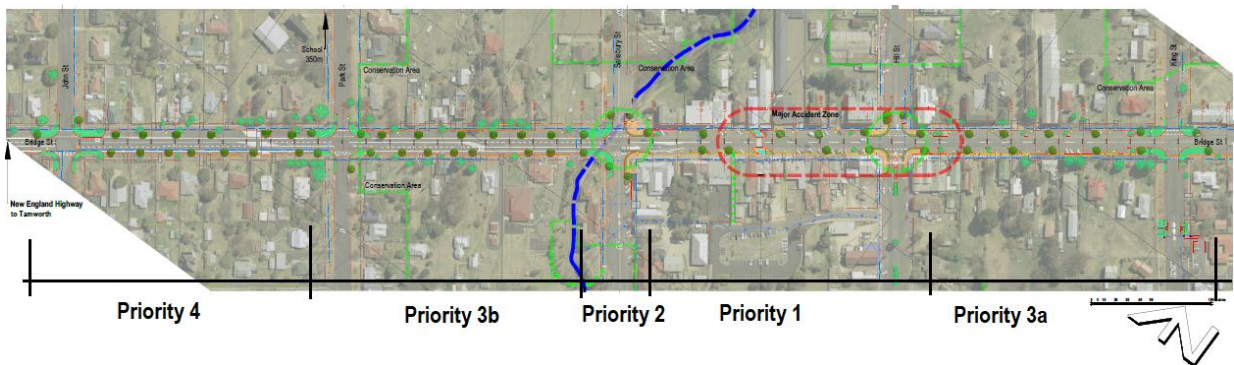


Fig 23. Proposed area priorities for Detail Design & implementation.

Prior to any works being implemented, there will need to be detailed survey of the existing site, not available for this Concept Plan project. Followed by sketch design, consultation, detail design and documentation of the works.

6.1 RMS 40km/h HPAA Selection Criteria

2. Criteria for selection

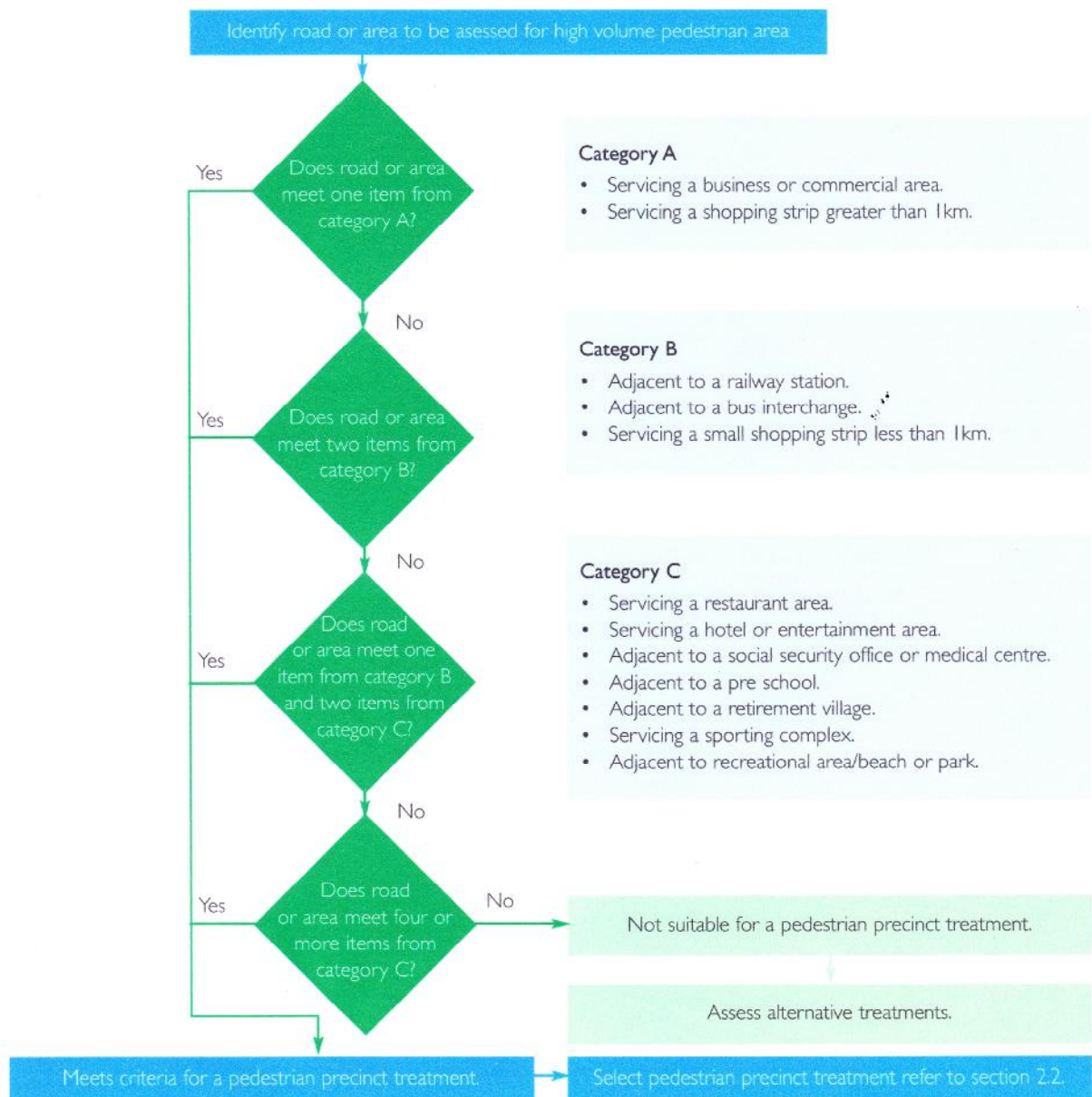
2.1 Step 1: Identification of a high volume pedestrian road/area

The 40 km/h speed limit is appropriate in areas with relatively high volumes of pedestrians. These areas are typically characterised by commercial and recreational land-uses. Criteria have been developed for assessment of the area as 'high pedestrian volume'.

The area under consideration must meet the criteria in Figure 1 below.

These areas typically generate pedestrian traffic in addition to vehicular traffic. Developments which generate a high volume of pedestrians should only be considered if access points deliver pedestrians directly onto the road. For instance, modern style suburban shopping centres with large car parks may not generate large numbers of pedestrian movements on the road.

Figure 1 Flowchart for identification of high volume pedestrian areas Criteria for identification of areas of high pedestrian activity



As Bridge Street is a State Road and Principal Route of Travel, Treatment 4 is required.
Copy of Treatment 4 requirements...

Treatment 4 - Separation of pedestrian and vehicular traffic on state roads

If the location forms part of an important state road it may not be possible to restrict vehicular movements. The preferred option is to fully separate pedestrian and vehicular conflict points.

This can be achieved either by separation in space:

- Pedestrian fencing.
- Overbridges.
- Redirective kerb (eg. trief - redirective kerb).
- Creating safer lateral distances to parked cars.

Or by creating a separation in time:

- Pedestrian signals.
- All pedestrian phase.

Any proposed treatments on state roads must be referred to the RTA's Regional Traffic Manager prior to conducting stakeholder consultation who will advise on the approach to be taken.

It should be noted that pedestrian fencing impacts on kerbside parking and may have implications for the local community. Accordingly, stakeholder consultation is particularly important.



Great Western Highway, Blaxland

Kerbside fencing adjacent to parking lanes separated from travel lane.

As provided to Council to Traffic Advisory Committee.

Daily Classes**DailyClass-103****Site:** 10915.0.0NS**Description:** BRIDGE STREET NEAR PEDESTRIAN CROSSING**Filter time:** 11:00 Wednesday, 2 September 2015 => 17:12 Wednesday, 9 September 2015**Scheme:** Vehicle classification (ARX)**Filter:** Cis(1 2 3 4 5 6 7 8 9 10 11 12) Dir(NESW) Sp(10,160) Headway(>0)

Monday, 31 August 2015

Vehicle classes, refer next page.

	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mon*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Tue*	0	0	0	0	0	0	0	0	0	0	0	0	0
(%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0
Wed*	35	3814	95	259	46	13	5	23	21	112	105	8	4536
(%)	0.8	84.1	2.1	5.7	1.0	0.3	0.1	0.5	0.5	2.5	2.3	0.2	4536
Thu	53	5858	182	466	96	22	11	31	18	157	151	11	7056
(%)	0.8	83.0	2.6	6.6	1.4	0.3	0.2	0.4	0.3	2.2	2.1	0.2	7056
Fri	73	6797	212	446	86	16	16	25	19	117	80	14	7901
(%)	0.9	86.0	2.7	5.6	1.1	0.2	0.2	0.3	0.2	1.5	1.0	0.2	7901
Sat	66	5539	222	255	36	16	8	21	7	51	70	4	6295
(%)	1.0	88.0	3.5	4.1	0.6	0.3	0.1	0.3	0.1	0.8	1.1	0.1	6295
Sun	86	5517	213	267	21	16	8	27	8	71	67	0	6301
(%)	1.4	87.6	3.4	4.2	0.3	0.3	0.1	0.4	0.1	1.1	1.1	0.0	6301

Average daily volume**Entire week**

	69	5927	206	357	59	17	10	25	12	98	91	7	6888
(%)	1.0	86.0	3.0	5.2	0.9	0.2	0.1	0.4	0.2	1.4	1.3	0.1	6888

Weekdays

	62	6327	196	455	91	19	13	28	18	136	115	12	7478
(%)	0.8	84.6	2.6	6.1	1.2	0.3	0.2	0.4	0.2	1.8	1.5	0.2	7478

Weekend

	75	5528	217	261	28	16	8	23	7	61	68	1	6297
(%)	1.2	87.8	3.4	4.1	0.4	0.3	0.1	0.4	0.1	1.0	1.1	0.0	6297


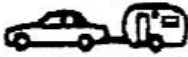









* - Incomplete

Note: Columns 1 to 12 are a break-down of vehicle types that make up the total in the right-hand column. Vehicle Types relating to classes 1 to 12 are shown on the following table from the RMS 'Traffic Count Operating and Reference Manual'.

Table of Vehicle Classes 1 to 12, in yellow framed column – from RMS 'Traffic Count Operating and Reference Manual'.

A-Z Classification Schemes

AustrRoads94 replaced NAASRA in Australia in 1994. It is an improved system using information from the spacing of the first three axles, the total number of axles and the number of axle groups. There are 13 classes.

Level 1	Level 2		Level 3	AustralRoads Classification			
Length (inclusive)	Axles and Groups		Vehicle Type	Class	Parameters	Dominant Vehicle	
Type	Axes	Groups	Description				
Short Up to 12m	Light Vehicles						
	2	1 or 2	Short Sedan, Wagon, 4WD Utility, Light Van, Bicyclist, Motorcyclist, etc.	SV	1	$d(1) < 3.0m$ and axles = 2	
Medium 5.5m to 14.5m	3, 4 or 5	3	Short - Towing Tractor, Caravan, Boat, etc.	SVT	2	groups = 2, $d(1) < 2.5m$, $d(2) < 3.0m$, $d(3) > 2.5m$ and axles = 2,4,5	
	Heavy Vehicles						
	2	2	Two Axle Truck or Bus	TB2	3	$d(1) > 3.0m$ and axles = 2	
	3	2	Three Axle Truck or Bus	TB3	4	axles = 3 and groups = 2	
Long 11.5m to 19.0m	> 3	2	Four Axle Truck	T4	5	axles > 3 and groups = 2	
	3	3	Three Axle Articulated Three axle articulated vehicle or Rigid vehicle and trailer	ART3	6	$d(1) > 3.0m$, axles = 3 and groups = 3	
	4	> 2	Four Axle Articulated Four axle articulated vehicle or Rigid vehicle and trailer	ART4	7	$d(2) < 2.5m$ or $d(1) < 2.5m$ or $d(3) > 3.0m$ axles = 4 and groups > 2	
	5	> 2	Five Axle Articulated Five axle articulated vehicle or Rigid vehicle and trailer	ART5	8	$d(2) < 2.5m$ or $d(1) < 2.5m$ or $d(3) > 3.0m$ axles = 5 and groups > 2	
Medium Combination 17.5m to 34.5m	> 6	4	B Double B Double or Heavy truck and trailer	BD	10	axles = 6 and groups > 2 or axles > 6 and groups = 3	
	> 6	5 or 6	Double Road Train Double road train or Heavy truck and two trailers	DRT	11	groups = 5 or 6 and axles > 6	
Long Combination Over 31.0m	> 6	> 6	Triple Road Train Triple road train or Heavy truck with three trailers	TRT	12	groups > 6 and axles > 6	
Ungrouped Classes							
			Unclassifiable Axle Event	N/A	0		
			Unclassifiable Vehicle	???	13		

Definitions

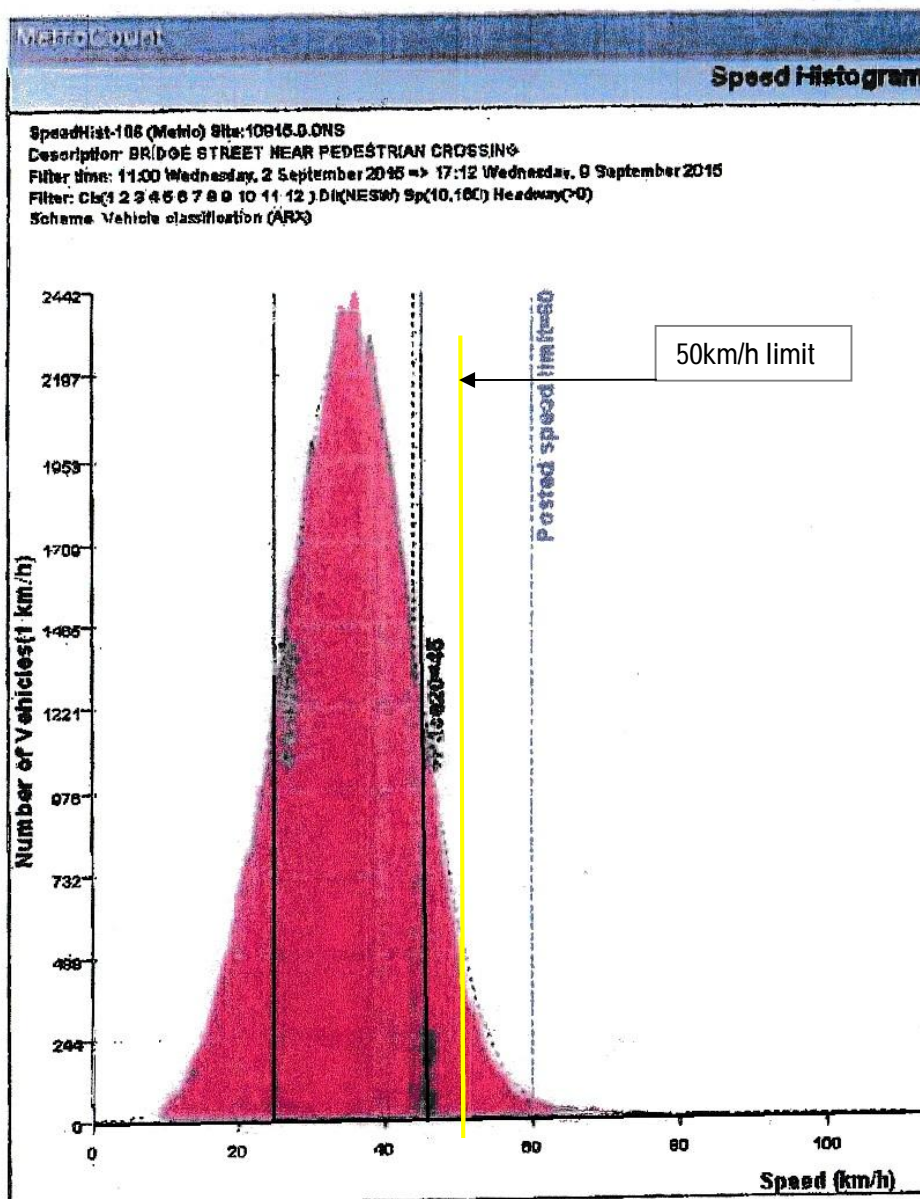
- Group: Axle group, where adjacent axles are less than 2.1 m apart
- Groups: Number of axle groups
- Axes: Number of axles (maximum axle spacing of 10.0m)
- d(1): Distance between first and second axle
- d(2): Distance between second and third axle

As provided to Council to Uralla's Traffic Advisory Committee by RMS.

Speed Bins (Partial days)

Speed	Bin	Below	Above	Energy	vMult	n * vMult
0 - 10	0 0.0%	0 0.0%	51469 100.0%	0.00	0.00	0.00
10 - 20	2339 4.5%	2339 4.5%	49130 95.5%	0.00	0.00	0.00
20 - 30	11876 23.1%	14215 27.6%	37254 72.4%	0.00	0.00	0.00
30 - 40	22147 43.0%	36362 70.6%	15107 29.4%	0.00	0.00	0.00
40 - 50	13052 25.4%	49414 96.0%	2055 4.0%	0.00	0.00	0.00
50 - 60	1845 3.6%	51259 99.6%	210 0.4%	0.00	0.00	0.00
60 - 70	175 0.3%	51434 99.9%	35 0.1%	0.00	0.00	0.00
70 - 80	25 0.0%	51459 100.0%	10 0.0%	0.00	0.00	0.00
80 - 90	4 0.0%	51463 100.0%	6 0.0%	0.00	0.00	0.00
90 - 100	1 0.0%	51464 100.0%	5 0.0%	0.00	0.00	0.00
100 - 110	1 0.0%	51465 100.0%	4 0.0%	0.00	0.00	0.00
110 - 120	0 0.0%	51465 100.0%	4 0.0%	0.00	0.00	0.00
120 - 130	4 0.0%	51469 100.0%	0 0.0%	0.00	0.00	0.00

Yellow line is 50km/h speed limit. - The very excessive speeds shown in red box are believed either mistaken readings, 'wild night drivers' or emergency vehicles.



Note: Information on this histogram of September 2015 advised the speed restriction in was 60km/h – At the time of this project, November 2017, it was noted as 50km/h represented by yellow line above.

Draft 2 Concept Plans and Report was presented at a meeting called by Uralla Shire Council on February 27th and placed on exhibition for community review and comment through written submissions by the end of March.

Submissions were received from:

1. Bob Crouch on behalf of Uralla Chamber of Commerce.
2. Chris Jones.
3. Christine Ball of Barking Dog Gallery.
4. Darron Phillips.
5. Kent Mayo.
6. Laura McLean.
7. Owen and Tina Ryan.
8. Noelene Porter.
9. Sonia Repin of Highland Living.
10. Teresa French, Thunder Graphics.
11. Tom & Marcella O'Connor - 3 submissions.

Consultant's Response to submissions:

The mostly strong negative and vocal nature of submissions is not surprising given the strength of feeling expressed (by a few) at the presentation meeting in February. It shows the level of passion and ownership some have for the town generally.

Bearing in mind that, several submitters were, and still are, involved with developing and maintaining the existing Creative Village Committee's 'Townscape' project works of the 1990s, it is understandable that the strength of feeling against the proposed Concepts, or any change, is strong. Additionally, by their nature, most submissions to projects exhibited for public comment feature negative comments - seldom are positive submissions made.

It is also apparent that several submissions repeat the comments of others and are likely coordinated. - Not that there's anything wrong with that; it merely renders the number of comments saying similar on elements less representative of the broader community when considering the submissions' comments.

Several submissions, mostly from individuals, are clearly independently considered and some with a positive and constructive input.

Few submissions and comments seemed to relay understanding of or follow (especially in the report) the connected project methodology of: Analysis of the existing scenario, Objectives, Strategies and then the Draft Concepts that evolve from the process. Many comments related to detail issues.

Some recurring issues that emerged from many of the submission comments are addressed below, which included:

'Keep it the way it is': To significant extent this is to be expected from passionate and invested interests. There are some arguments for this; but it is counter to the Project Brief direction provided following the rejection of the 'Legislative' 40km/h HPA path by the TAC/Council, instigators of the Brief. Further, there are a few submission comments requesting termination of the Project Brief at this current draft stage.

I believe these issues are for Council and the Traffic Advisory Committee, as my Client, to assess and direct, regarding the finalisation of the Concept Plan and Report, as currently Briefed.

Questions the need for further traffic calming: As said previously and in the report, the existing scenario is not too bad the way it is. This interpreted from the speed, traffic and crash data, understood to be taken in September 2015 in Bridge St close to the pedestrian crossing. It relayed, 4% of the traffic travelled above 50km/h (the 60km/h limit shown blue on the histogram is perhaps in error?) and crash statistics are few and mostly 'rear-enders'. Therefore, this comment is to some extent supported, however, following the meeting with Council's Traffic Advisory Committee it was instructed to pursue traffic management streetscape concept recommendations to further calm the traffic. – Which were made within the Draft Plans and Report.

Opposed Closing in of the intersections: This on several grounds, including:

- i. Denial of the ability for traffic to go around right turning vehicles or the ability for vehicles to turn left going around halted traffic on the highway. – This actually, further calms traffic in the same way as halting behind a parking vehicle as currently exists mid-blocks. Submission comments made no mention of the existing mid-block halting causing 'frustration and anger' but claim this would happen if intersections were closed in!
- ii. The inability for B doubles to negotiate the radii proposed. - It is agreed that where necessary i.e. Thunderbolts Way turns and John St to Council's depot should accommodate Semis and B doubles, however, all others could be 9.0-9.5m radius, with carriage-ways (centreline to Closed-in kerb) at 5m wide rather than some at 4.5m; but this is for detail design resolve after detail survey.
- iii. Drainage issues and costs. - There will need to be survey, drainage/hydraulic and detail design and works involved in developing the Closed-in intersections, which is why the staging/priorities were developed.

In the report, and here, it is strongly recommended that the works at Closed-in intersections and generally, be done to high standards and quality, divided into smaller stages as budgetarily required. - This rather than attempting a 'quick-cheap-fix' result, which would degrade the effectiveness of the Concepts, town streetscape, character and attraction and thus adversely impact on the businesses and residents. (That is, follow the adage: 'Do it once and do it right'.)

Street Tree planting as traffic calming Laterals: Some submissions relay fears of a 'Tunnel Effect' and refute the traffic calming impact of laterals with Street Tree planting, both in the Traffic and Shopping Street areas. - The enclosure and lateral effect of existing Street Trees in islands in Uralla's Shopping Street mid-block areas, already does this to some extent and is an integral part of the result of the Community Village works of the Mid 1990s. (Along with no parking manoeuvring lane and planting islands.) The proposed Concepts build upon and extend this. It is believed the Traffic Street areas, with 3 traffic lanes would be greatly calmed (speed reduced) with Street trees for enclosure and laterals as well as decreasing the existing wide 'run-way' appearance.

Street Tree planting with robust species: Some submissions questioned the frequency (distance apart), scale and species indicated in the Palette.

- i. The frequency/spacing is similar to existing planting islands in the Shopping Street block between Salisbury and Hill Streets and is conceptually proposed to extend this spacing to all mid-blocks, commencing at the (Closed-in) intersections. A key component of the Concept Plan is to clearly identify and improve the intersection 'calming' functions (activation and attractiveness) at each end of the mid-block Shopping and Traffic St areas. This spacing allows long vehicle parking in the Traffic Streets.
- ii. Some submissions criticised the robust scale and form of Street Tree proposed, for reasons of screening signage and the towns heritage buildings. - This is disagreed with on the grounds that; Tree species proposed have a tall canopy base, close to veranda awning height, are to be single clear trunk species (rather than low branching). Along with lower shrub and ground cover planting, it will in-fact open up the eye-height layer between driver, pedestrian, the mostly heritage buildings and shop-fronts with signage. That said, it will reduce visibility of the second story of buildings, which may be a benefit for residents above.

- iii. A number of submissions made comment on the species proposed and within Palette provided. - Species in the palette provided were examples to indicate the scale, form and function of Street Tree and lower stratum planting proposed. One submission suggested preference for a species within the Palette: *Acer rubrum* 'Fairview Flame', a Red Maple hybrid. This is a deciduous tree, with good autumn colour, robust and reliable. However, it may need lower branch pruning to send the canopy up and it does not favour dry soil conditions. - While a detail design issue, water supply points and deep watering pipes should be included in any Tree-planting detail design to ensure easy/low-cost maintenance.
- iv. Some submissions expressed that the palette of proposed low (< 500mm height) shrubs are to bland and urban for the towns 'heritage' character, relaying concerns of mass-plantings of single species. - Again, the palette merely provides the species which conform to the planting Concepts. Whether the plantings are masses of single species, or mixed up for colour, leaf-form interest is a later Detail Design issue. The intent of the proposed low shrub planting Concepts is to maintain clear sight-lines in the eye-height layer between driver, pedestrian, the heritage buildings and shop-fronts at street level.

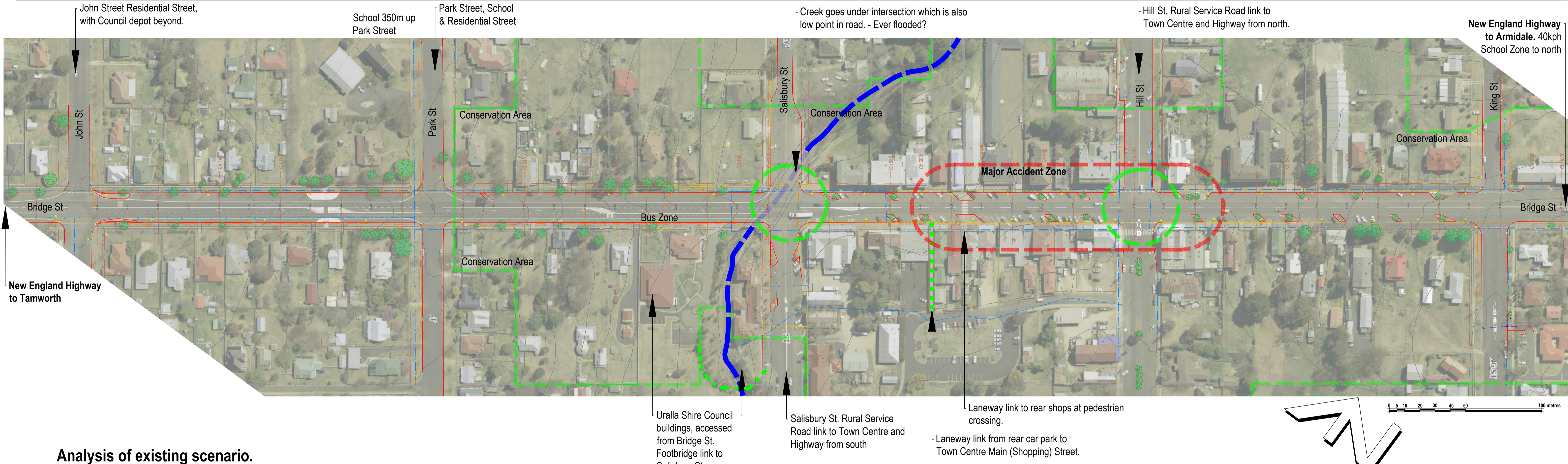
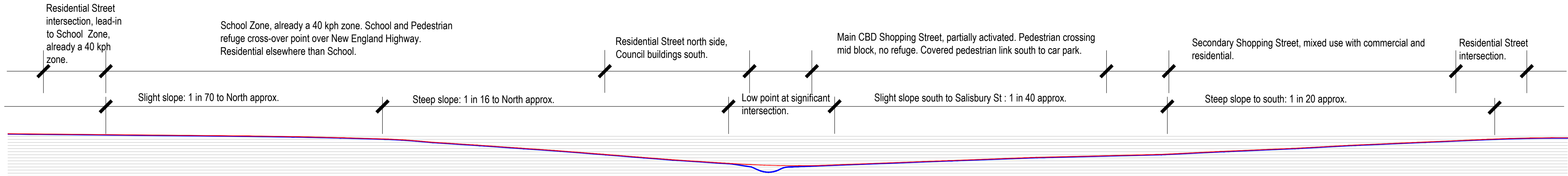
Street and footpath Lighting: A number of submission comments focused on this as being carefully selected for specific functions determined by the Community Village Committee project, mid-1990s. - The Concept report states that Lighting is 'not specifically relevant to the project, as briefed'. It makes suggestions for less dominant streetlights be considered, small footpath/planting island lights be re-assessed and those at the Bridge Street pedestrian crossing be removed (for sight-line visual clutter reasons) and that technologies have improved since then. - This is a suggestion for consideration, not specifically in response to the project, as Briefed.

Existing Planting Islands with paved/hard-surface areas: was refuted in some submissions. - Photographs of paved surfaces in planting islands of the Shopping Street areas included in the report show this to be incorrect.

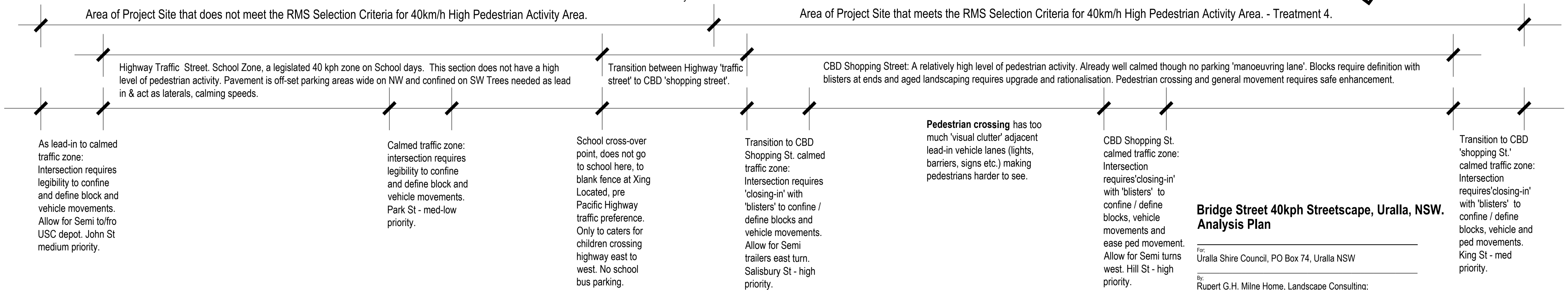
Two submissions stated that this was part of the CVC project intent to form a safe 'take-off point' for pedestrians to cross Bridge Street more easily. - This is arguable, as access to them requires traversing beside the street tree planting island and adjacent parking space to get to them, and the same protection can be provided between any parking spaces. At least one planting island has a paved area with table and seating reducing the water and air intake to the existing street tree root zone.

Upgrade of existing tree planting islands, while keeping the existing street trees: Was raised in few submissions. This to keep the existing street trees in the Shopping Street areas while rejuvenating their soil conditions, watering and reducing paving covering etc. - Works involved with doing this effectively is likely to cause root-disturbance, with adverse impact on the street tree's root system causing at least temporary set-back, or possible death of the existing Street Tree. Thus, this suggestion of tree planting island soil upgrade is not recommended.

Existing Physical Scenario



Analysis of existing scenario.

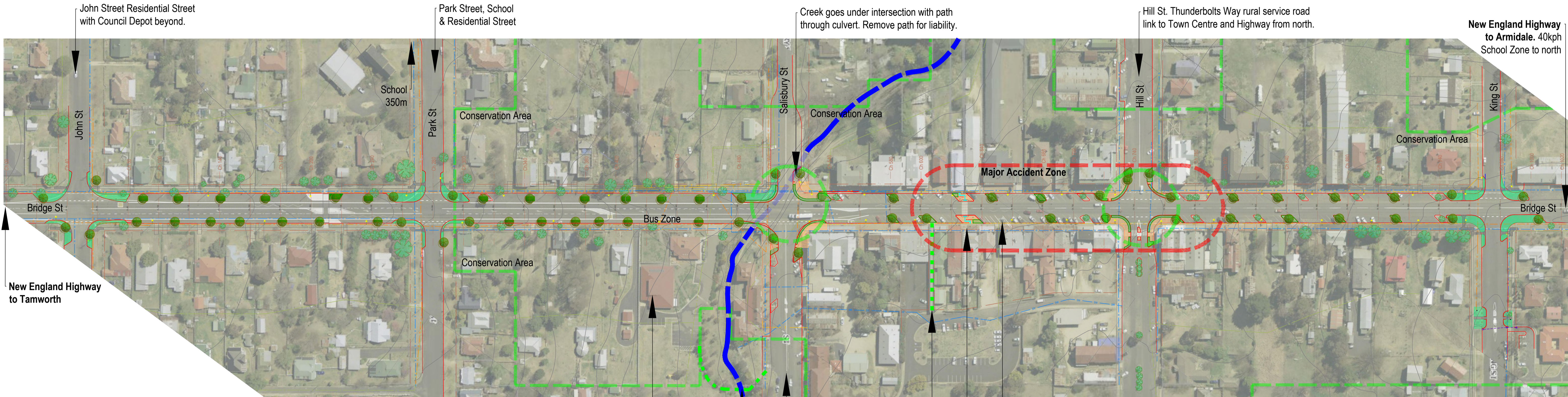


Bridge Street 40kph Streetscape, Uralla, NSW. Analysis Plan

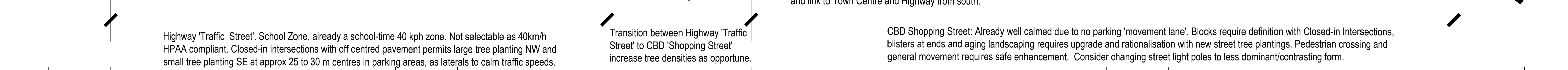
For: Uralla Shire Council, PO Box 74, Uralla NSW

By: Rupert G.H. Milne Home, Landscape Consulting; B. App. Sc. Landscape Design, RLA, AILA Milnegunya, 174 Mungay Creek Rd. Willawarrin, NSW 2440. p. 0265 671384 e. rupla@harboursat.com.au w. rupla.com.au In Association with David Tooby, RLA of King & Campbell.

Long Section



Broad Overview Concepts



John St intersection:
 'Close-in' with 'blisters' to confine and define vehicle movements, as lead-in to calm traffic zone. Semi access west - Med priority 1 car holding between dashline and ped X-overs

Park St intersection:
 'Close-in' with 'blisters' to confine and define vehicle movements. Med-low priority. 2 car holding to NW 1 car holding to SE between dashline and ped X-overs

School cross-over point, only to cater for children crossing highway east to west - no school bus parking. Retain School Zone, modifying cross-over, which was developed before heavy vehicles moved to Pacific Highway route.

Transition to CBD 'Shopping Street' calmed traffic zone:
Salisbury St intersection 'close-in' with 'blisters' to define blocks, calm vehicle movements and ease pedestrian movement. - Semi access east. High priority. 2 car holding to NW 2-3 car holding to SE between dashline and ped X-overs

Mid-block Pedestrian X-ing:
 Options to remove or retain. Removal and elevated threshold not favoured by RMS. Retain 'At Grade' roughly as is, reduce visual clutter on from approach lanes.
East Kerb: Reduce height to permit cars to fully reverse into spaces to increase view of pedestrian crossing.

CBD 'Shopping St.' calmed traffic zone:
Hill St - intersection 'close-in' with 'blisters' to define blocks, confine vehicle movements and ease pedestrian movement. Semi access to/fro west. Replace eastern 'crossing' with 'refuge' to continue median format. High priority. 2-3 car holding to NW & SE between dashline and ped X-overs

Transition to CBD 'shopping St.' calmed traffic zone:
King St Intersection 'close-in' with 'blisters' to define blocks, confine vehicle movements and ease pedestrian movement. Med priority. 1 car holding to NW 2 car holding to SE between dashline and ped X-overs

Whole of Site Concepts:

Whether the whole or even a part of the project site meets the RMS Selection Criteria for the legislative 40km/h High Pedestrian Activity areas or not, the Concepts proposed calm and reduce traffic speeds and promote pedestrian safe use of the street. (A 'legislative' 40km/h HPAA, was rejected at a meeting with the TAC.) The most significant Concept proposed is to 'Close in' all the intersections within the study area with kerb-line blisters to the traffic lanes. (Rather than the existing road kerb outside the parking lanes.) This reduces road widths at the intersections, enclosing, calming and reducing traffic speeds, as well as reduced distances for pedestrians to cross the road safely, thus increasing the spatial and phase separation between vehicles and pedestrians. (Separation is component of Treatment 4 in the RMS Guidelines.) Closing in the intersections legibly 'defines' them and informs drivers when they are entering/leaving a 'block'. - The above proposes 'priorities' for implementation. An important Concept proposes Street Tree Planting at closer and/or more consistent centres than existing to act as laterals for additional traffic calming.




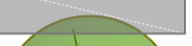

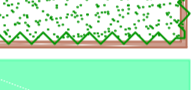

Bridge Street 40kph Streetscape, Uralla, NSW. Overview Concepts Plan

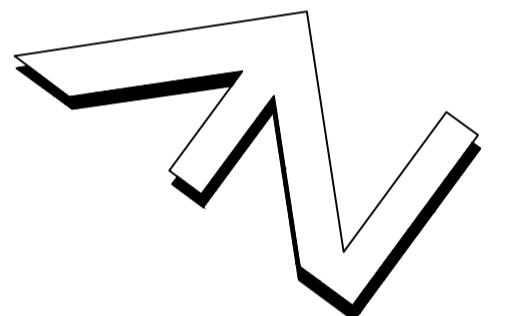
For: Uralla Shire Council, PO Box 74, Uralla NSW

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John Street Intersection Chainage 20 to 80: Close in intersection to traffic moving lanes, with 9m radius turning kerbs to east and minimum Semi trailer turn path to west. One car holding bay between hold lines and footpath crossing points. Retain location of flashing School Zone sign. Reduce driveways of lot on south east corner to what is needed allowing extension of proposed new kerb blister to these points.

Bridge Street: Retain existing traffic and turning lanes to avoid pavement reconstruction. Use side 'parking lanes' to establish Street trees to close-in street and as laterals to reduce traffic speeds within School Zone and residential street function. Western wide parking lane permits larger trees in larger tree pits. Eastern confined parking lane close to power line restricts to smaller trees in confined pits. Refer details Sheet 8.

- LEGEND:**
-  Existing trees from aerial image
 -  Existing lights & driveways from aerial image.
 -  Proposed kerb lines.
 -  Proposed footpaths
 -  Proposed street tree planting
 -  Proposed Tree Pits. Refer details
 -  Proposed Grassing to footpaths



School Zone crossing refuge: Retain with new tree planting in tree pits/vaults on downstream sides only. No tree planting within 30m min on upstream sides.

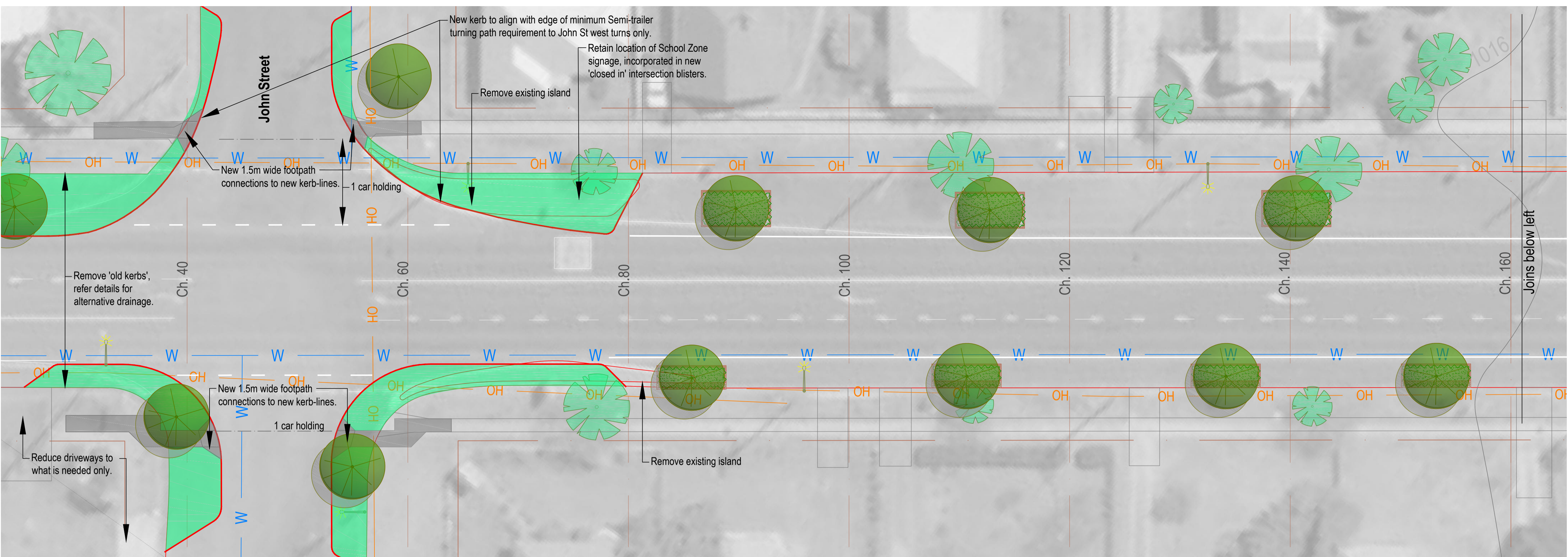
Park Street Intersection Chainage 250 to 300: Close-in intersection to traffic moving lanes, with 9m radius turning kerbs. Tree in blister on southern approach to be 20 m clear from Park St lead-in lane west. One car holding to east, two car holding to west between hold lines and footpath crossing points.

Bridge Street 40kph Streetscape, Uralla, NSW - Concept Plans

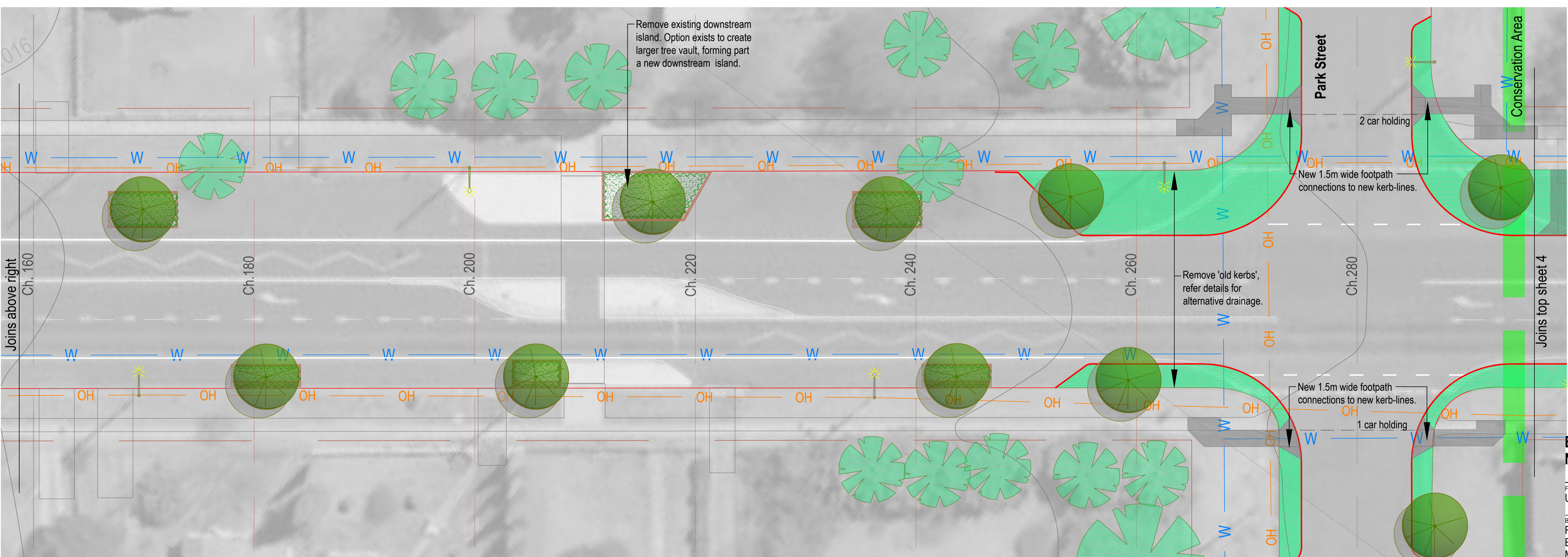
For: Uralla Shire Council, PO Box 74, Uralla NSW

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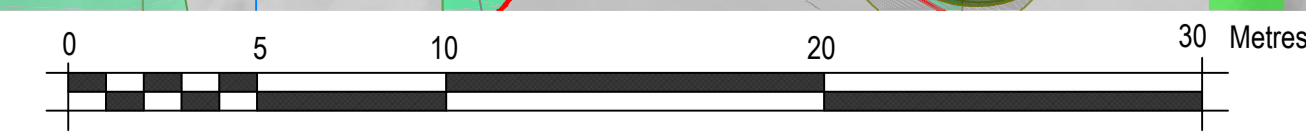
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Designed: RMH Drawn: RMH Drawing: 3 of 9

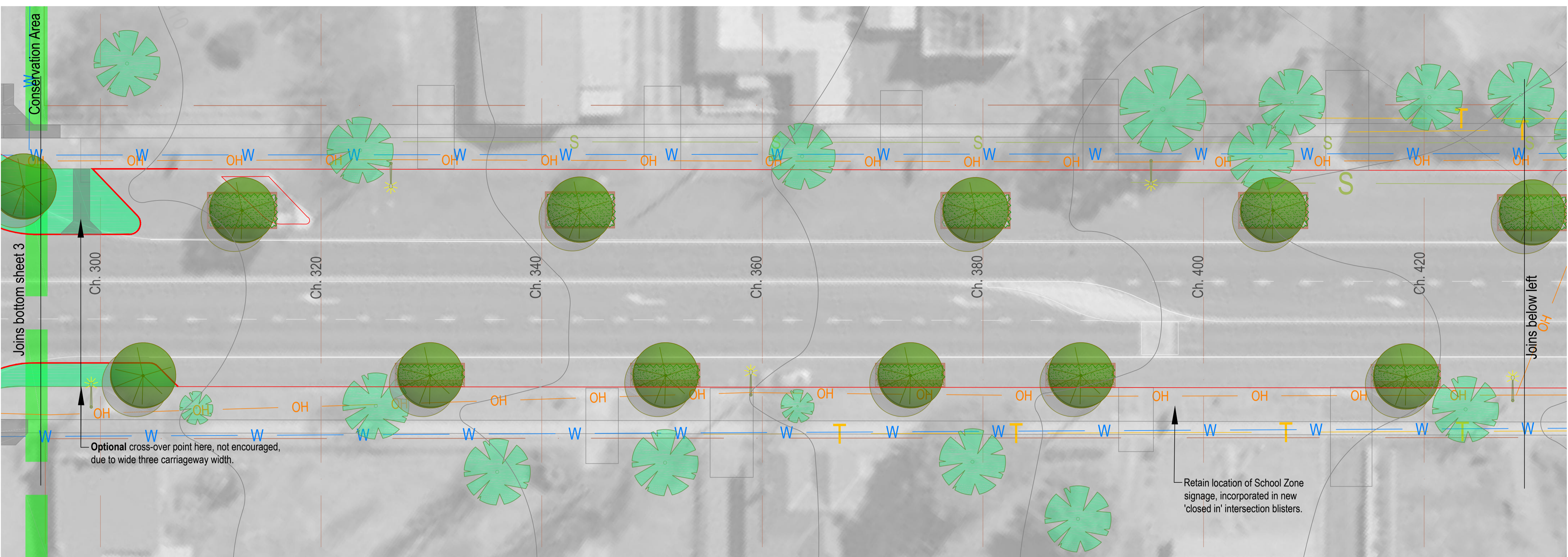


Plan: Chainage 30 - 160



Plan: Chainage 160 - 300

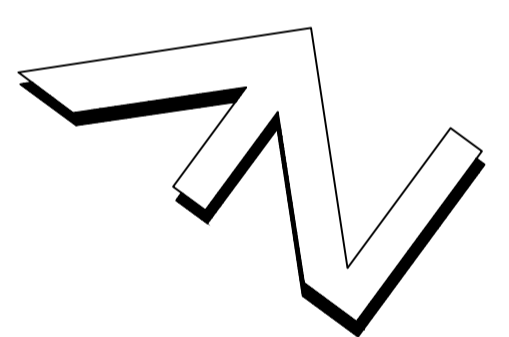




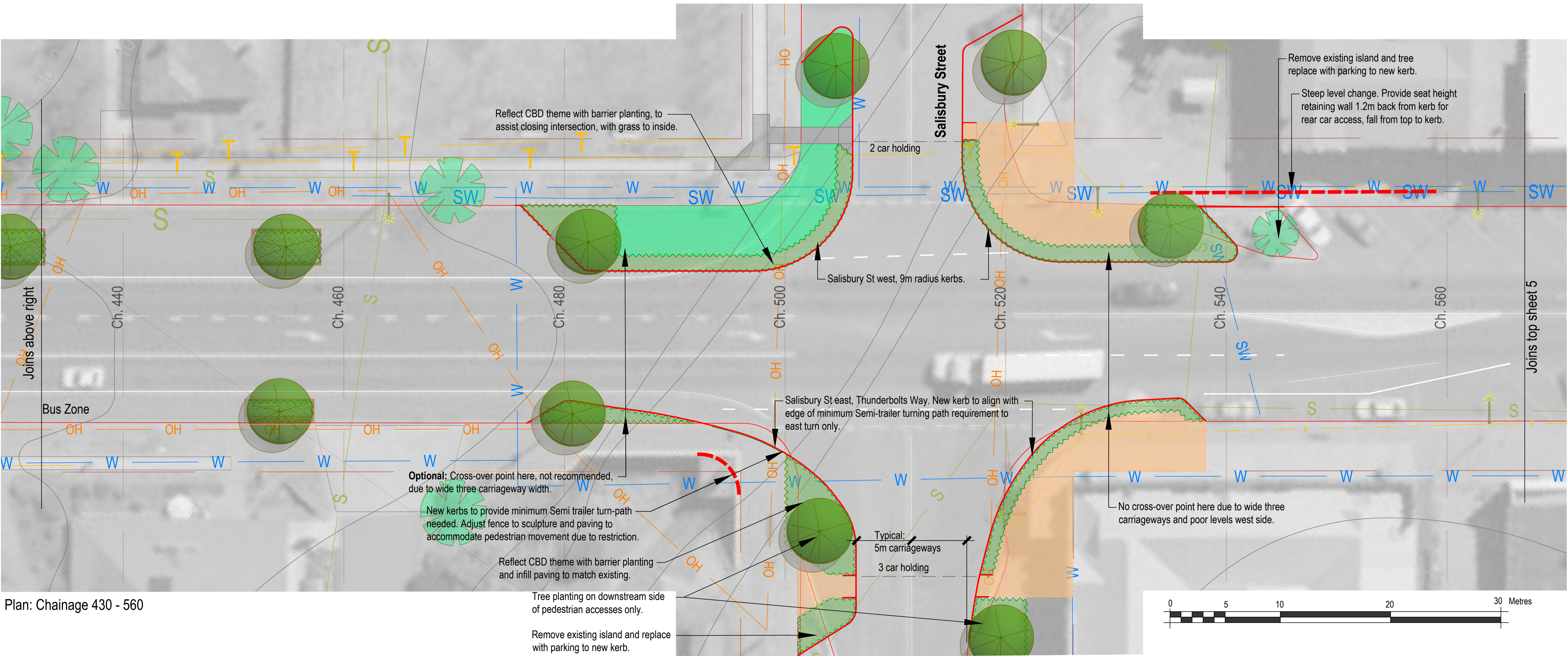
Plan: Chainage 300 - 430

Bridge Street: Retain existing traffic and turning lanes to avoid pavement reconstruction. Use side 'parking lanes' to establish Street trees to close-in street and as laterals to reduce traffic speeds within School Zone and residential street function. Street trees to keep clear view of retained flashing School Zone signage. Western wide parking lane permits larger trees in larger tree pits. Eastern confined parking lane close to power line restricts to smaller trees in confined pits. Refer Sections and concept details Sheet 8. No tree planting in Bus Zone.

- LEGEND:**
- Existing trees from aerial image
 - Existing lights & driveways from aerial image.
 - Proposed kerb lines.
 - Proposed footpaths
 - Town-scape paving areas
 - Grass footpaths
 - Proposed Tree Pits. Refer details
 - Proposed street tree planting
 - Low Shrub planting

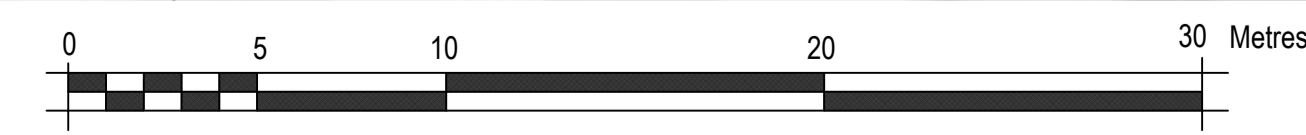


Salisbury Street Intersection, Chainage 480 to 540: Transition between Highway Traffic Street and CBD Shopping Street. High priority to close in intersection to traffic moving lanes, with 9m radius turning kerbs to west turn, and minimum Semi-trailer turns to Thunderbolts Way east. Two car holding bay west and two to three car holding to east, between hold lines and footpath crossing points. Adjust linemarking to define traffic and right turn from north approach to accommodate two 3.5m lanes adjacent retained parallel parking. **CBD type kerb blisters** to have separation of low (0.4 m) barrier planting behind kerb, with infill of new paving to match and marry into existing CBD paving. New pram-ramps to be kerb return type, 1.5 min wide. **South west blister:** Reflect CBD intersection theme, with barrier planting edge to grass, as this quadrant is seen as extension to CBD.



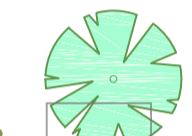


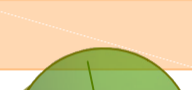


Plan: Chainage 430 - 560

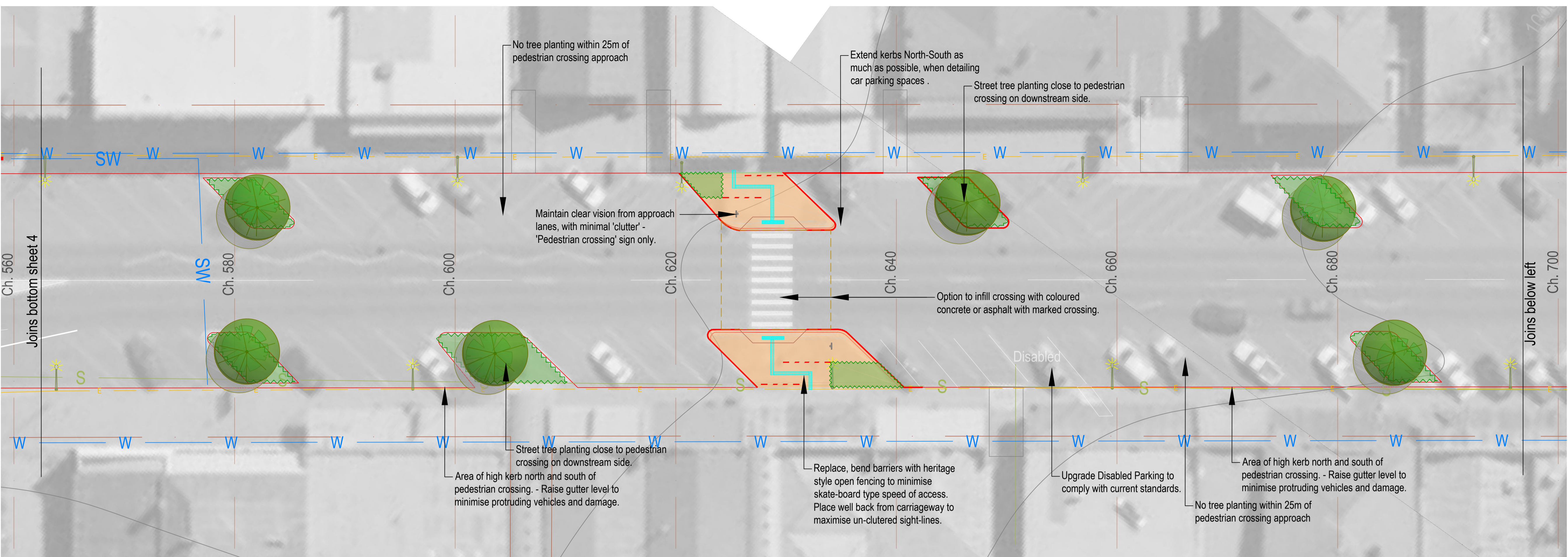
Bridge Street 40kph Streetscape, Uralla, NSW. - Concept Plans



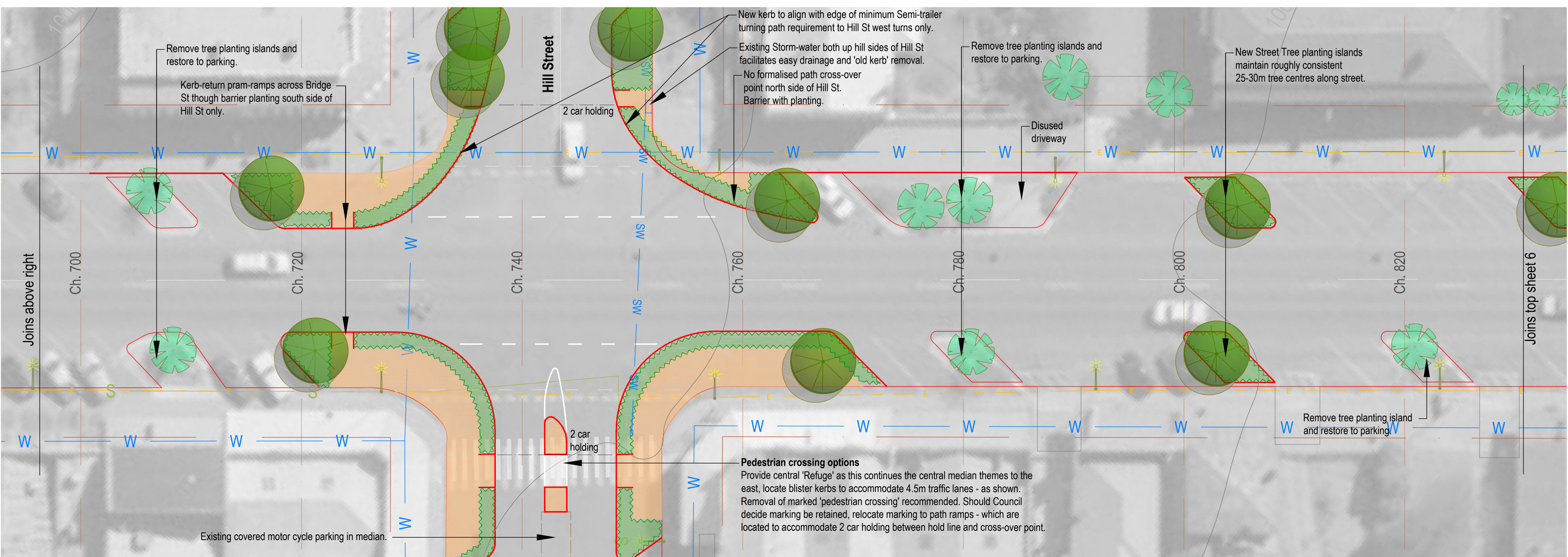
Bridge Street: CBD Shopping Street.
 Retain existing traffic lanes and dimensions. The lack of dedicated manoeuvring lane for parking effectively slows traffic speeds well below 40 kph, except in quiet out-of-hours times.
 Some areas of eastern kerb are above 150mm high, damaging vehicles and kerb as well as protruding into sightlines for pedestrian crossing. It is recommended to raise the gutter level, either with new kerb and gutter or additional keyed-in concrete and parking area asphalt infill, also resulting in reduced car park grades on this side.
 Disabled parking spaces and pedestrian crossing area to be upgraded to comply with current AS 1428. Retain but rejuvenate most existing tree planting islands, with replacement quality topsoil to adequate extents and larger more robust tree species.

Pedestrian Crossing:
 Retain in existing location, 'at grade' as existing, extend base of ramps & kerbs to 4.5m from centre line marking, to close in and allow pedestrians better view of approaching traffic. Reduce visual clutter from approach traffic lanes. Refer details Sheet 7.

- LEGEND:**
-  Existing trees from aerial image
 -  Existing lights & driveways from aerial image.
 -  Proposed kerb lines.
 -  Town-scape paving areas
 -  Proposed street tree planting
 -  Low Shrub planting



Plan: Chainage 560 - 700



Hill Street Intersection, Chainage 720 to 760:
 Traffic Street and CBD Shopping Street. High priority to close-in intersection to traffic moving lanes, with 9m radius turning kerbs to east and minimum required Semi-trailer path to Thunderbolts Way, to west. Two car holding bay east and two to three car holding points west, between hold lines and footpath crossing points. **CBD kerb blisters** to have separation of low (0.5 m) barrier planting behind kerb, with infill of new paving to match and marry into existing CBD paving. Remove disused kerb using existing storm-water to drain. Provide pedestrian access across the southern section of Bridge Street, Subway - Pub only. New pram-ramps, kerb-return type, 2.0m min wide.

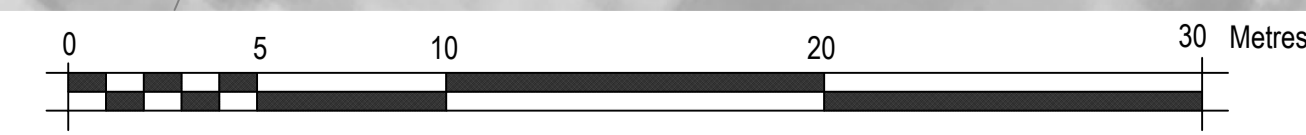
Bridge Street: CBD Shopping Street.
 Retain existing traffic lanes and dimensions. The lack of dedicated manoeuvring lane for parking effectively slows traffic speeds, except in quiet out-of-hours times.
 Most existing tree planting islands in this section are poorly located, either under street lights or now seldom used driveway (Ch 780) or replaced by new intersection blisters. New tree planting islands are proposed at more consistent centres with larger more robust tree species.

Bridge Street 40kph Streetscape, Uralla, NSW. - Concept Plans

For:
 Uralla Shire Council, PO Box 74, Uralla NSW

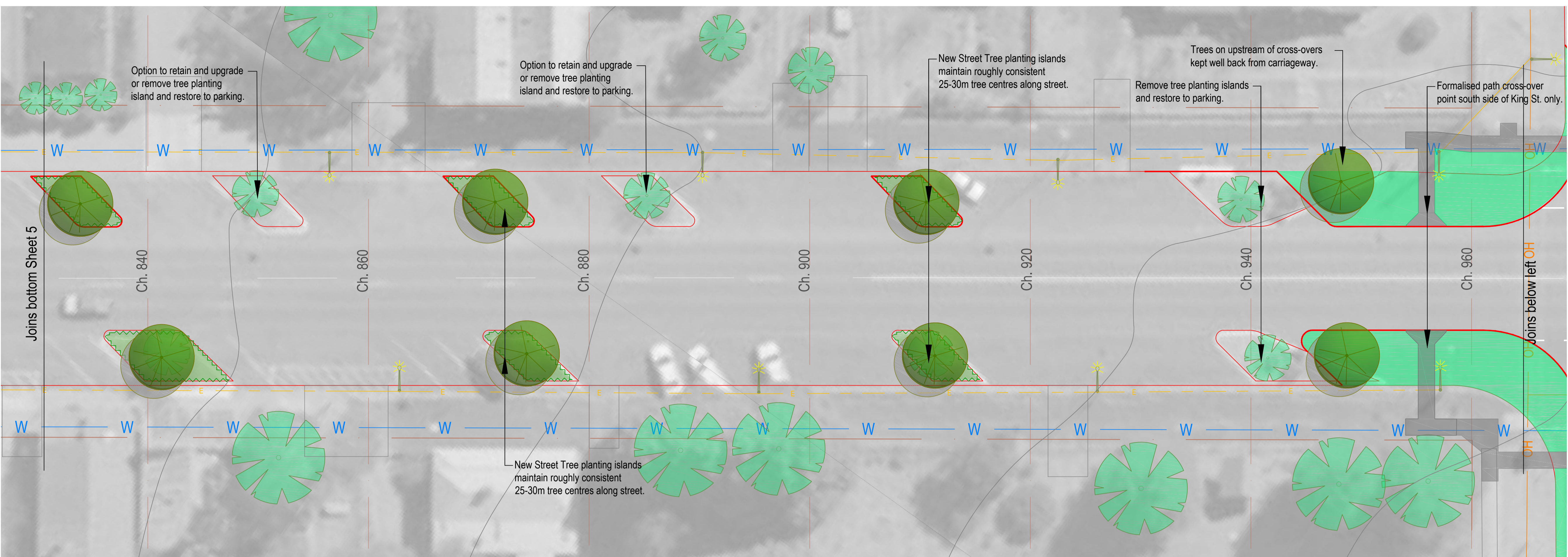
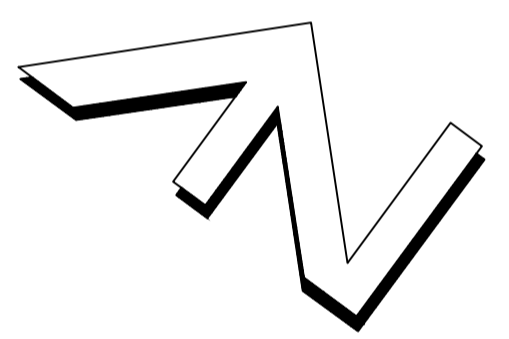
By:
 Rupert G.H. Milne Home, Landscape Consulting:
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Plan: Chainage 700 - 830

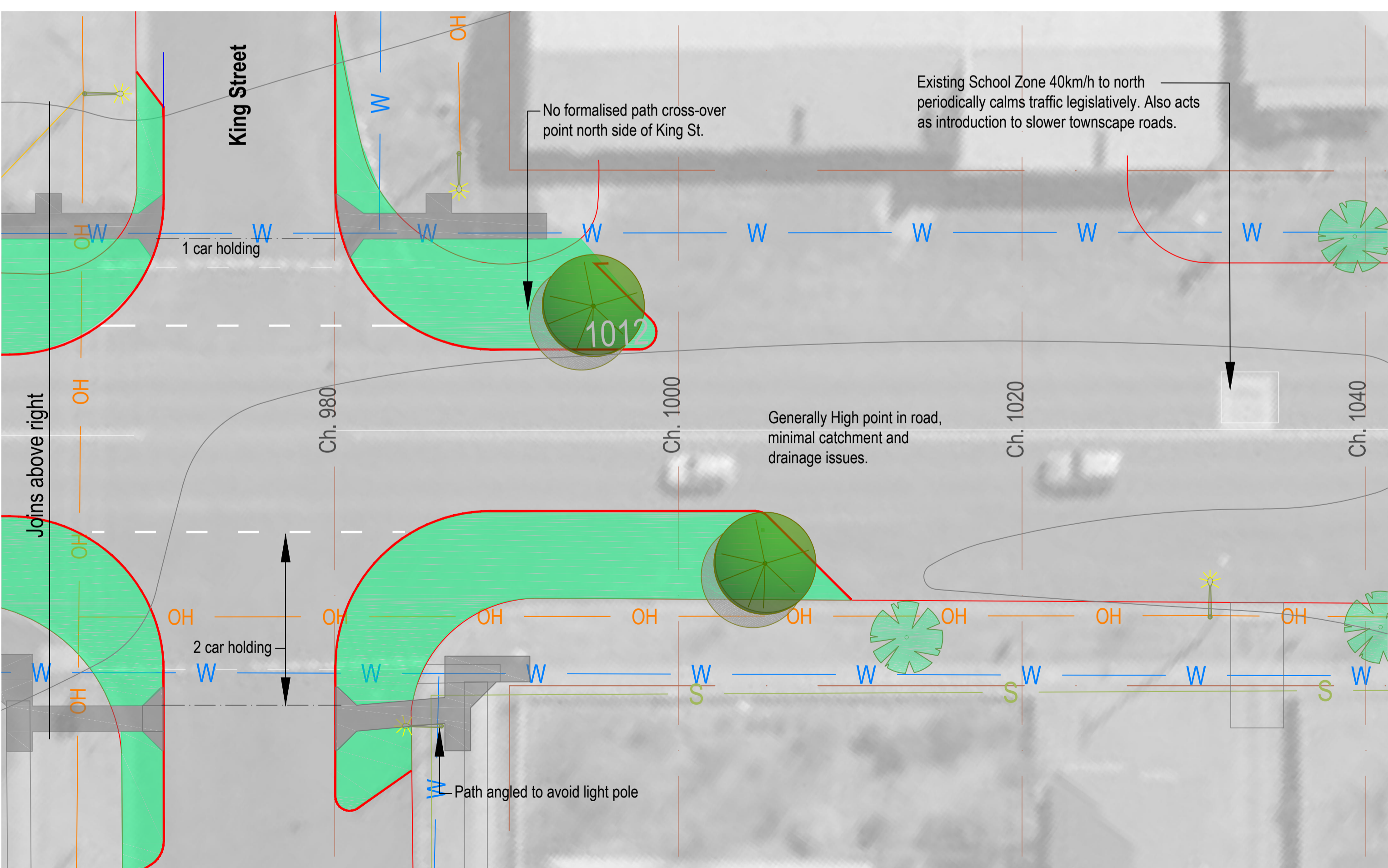


Bridge Street: CBD Shopping Street.
Retain existing traffic lanes and dimensions. The lack of dedicated manoeuvring lane for parking very effectively slows traffic speeds to below 40 kph, except in quiet out-of-hours times. Some existing tree planting islands in this section are not well located or replaced by new intersection blisters. Others, mostly on the east side, are proposed for upgrade with replacement quality topsoil to adequate extents and new street tree. New tree planting islands are proposed at more consistent centres with larger more robust tree species.

- LEGEND:**
- Existing trees from aerial image
 - Existing lights & driveways from aerial image.
 - Proposed kerb lines.
 - Proposed Footpaths
 - Grass footpaths
 - Proposed street tree planting
 - Low Shrub planting



Plan: Chainage 830 - 960



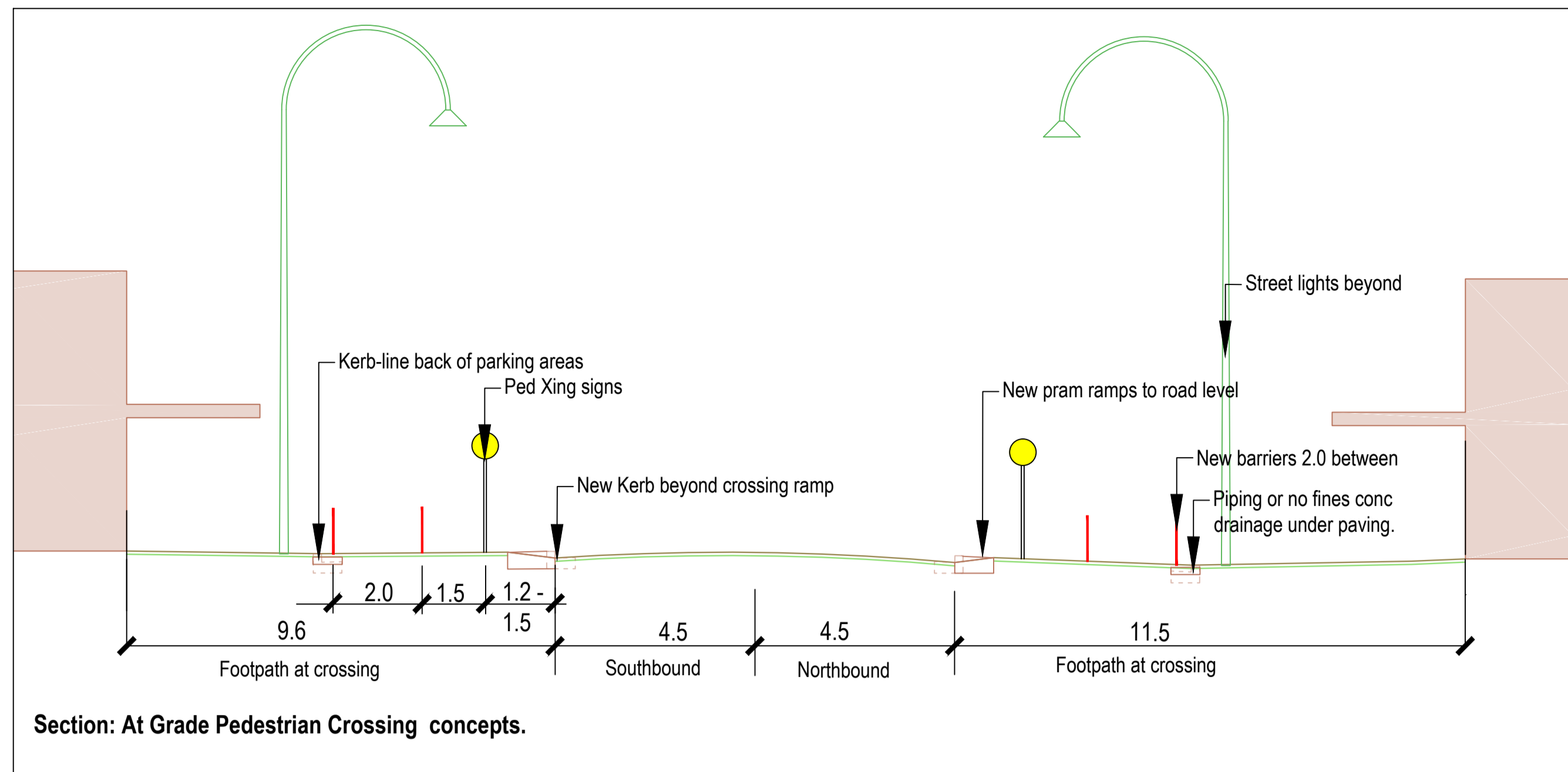
Plan: Chainage 960 - 1100

King Street Intersection Chainage 950 to 1000:
Close in intersection to traffic moving lanes, with 9m radius turning kerbs.
One car holding to west, two car holding to east between hold lines and footpath crossing points.
Tree in blister on east side of northern approach to be 25m clear from King St lead-in east lane. Blisters proposed to be grassed but could house 'Gateway' entry feature to Uralla CBD, supplementary to that at intersection to north. - to future design.

Bridge Street 40kph Streetscape, Uralla, NSW. - Concept Plans

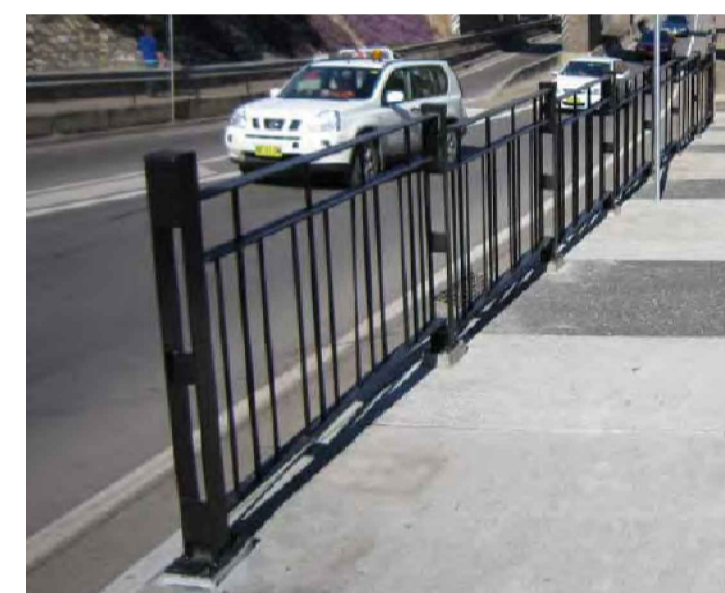
For: Uralla Shire Council, PO Box 74, Uralla NSW

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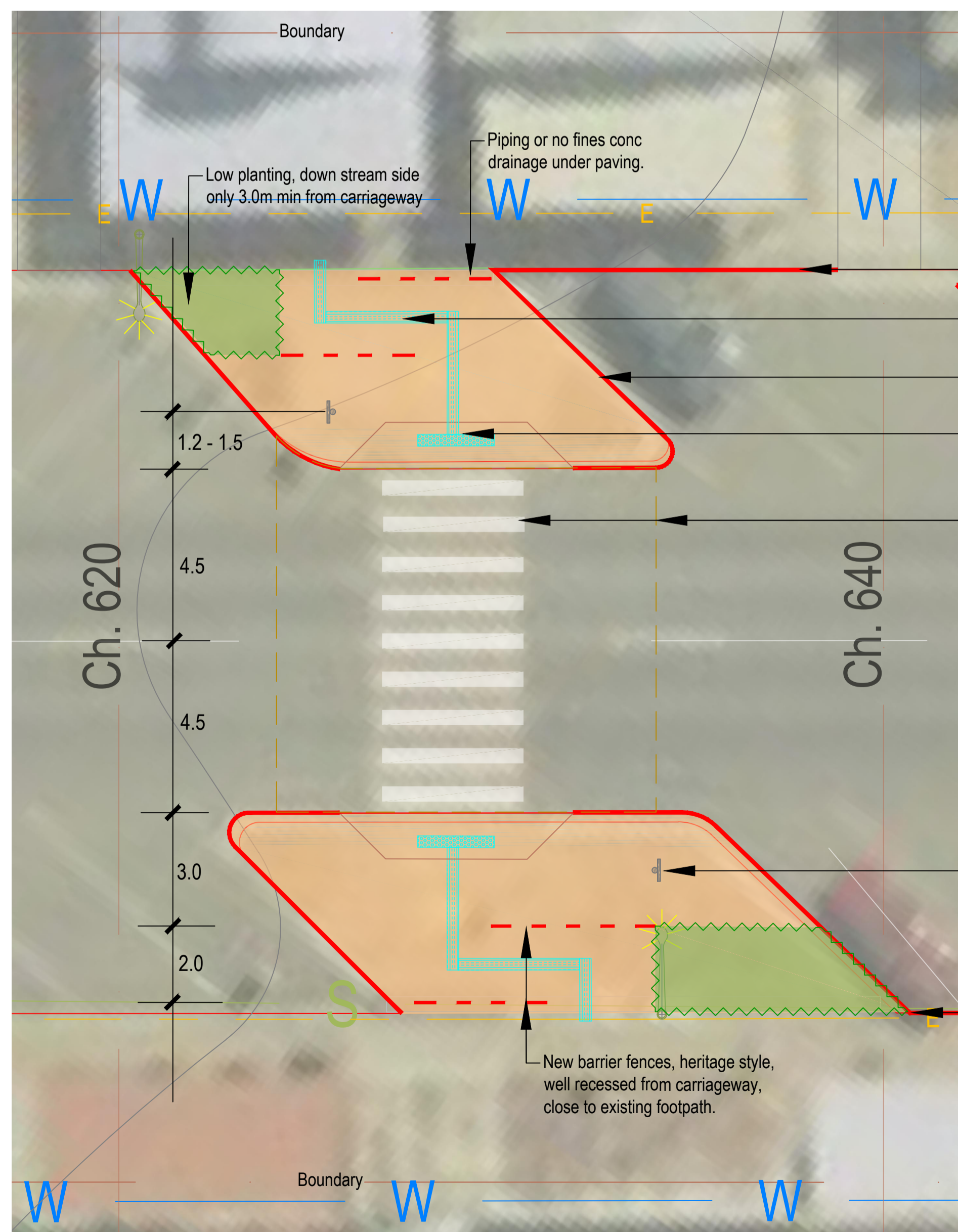


Section: At Grade Pedestrian Crossing concepts.

0 5 Metres
 NOTE: All dimensions shown are approximate only as plans are not prepared over survey.



Barrier fence option more in character with furniture. Keep well back from carriageways.



- Existing kerb line
- 2.0m between new barriers
- Extend N-S length of blister as opportune when preparing detail revised parking.
- New kerb ramp, TGSIs and paving to match streets.
- Retain existing at-grade crossing. Option exists to use coloured or textured pavement at crossing with line marks above.
- Maintain clear vision from approach lanes, with minimal 'clutter' - 'Pedestrian crossing' sign only closer than 3m to carriageway.
- Existing kerb line
- New barrier fences, heritage style, well recessed from carriageway, close to existing footpath.

At Grade Pedestrian Crossing concepts. Plan

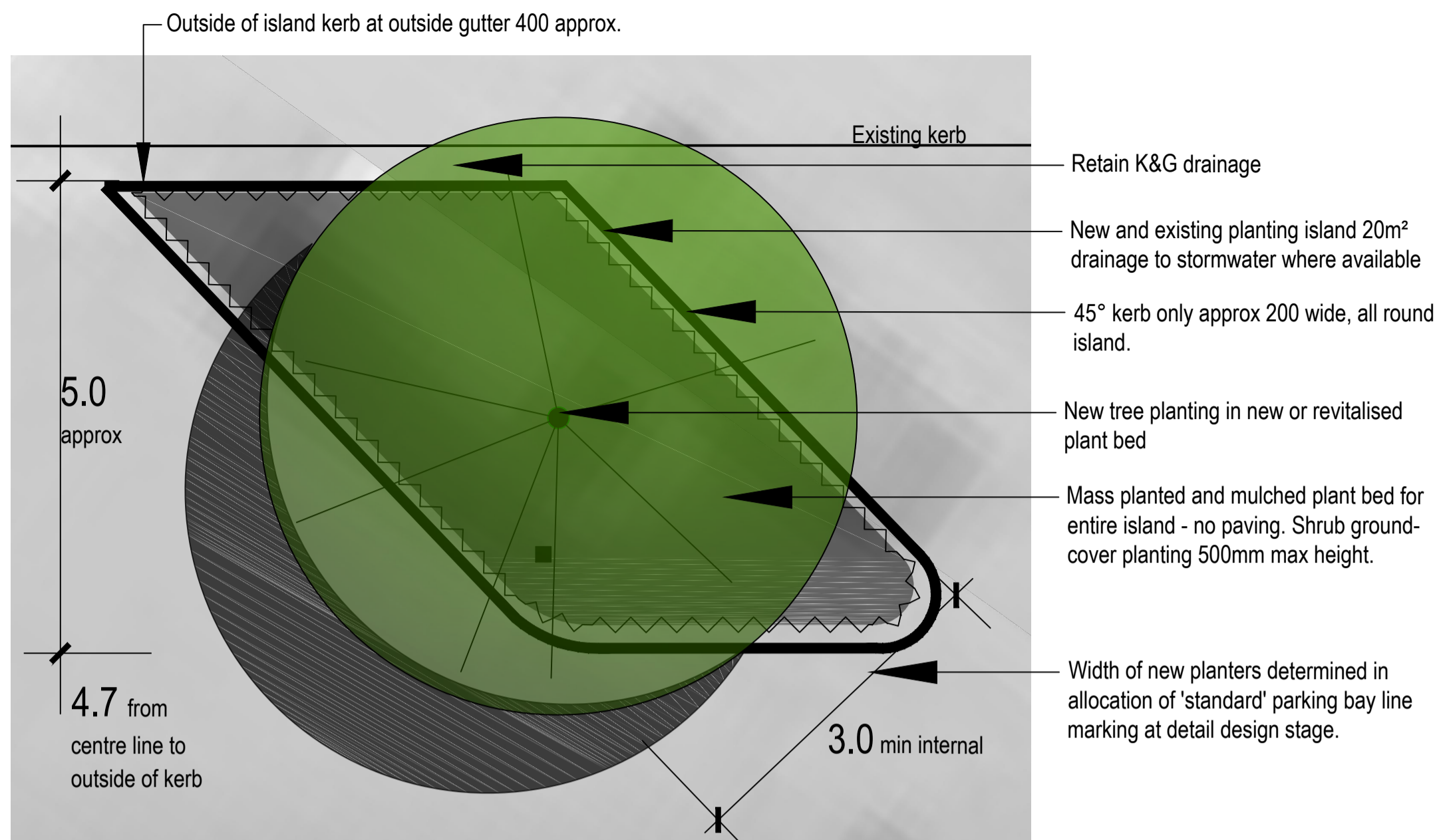


Sketches of Traffic Street, Street Tree Planting.

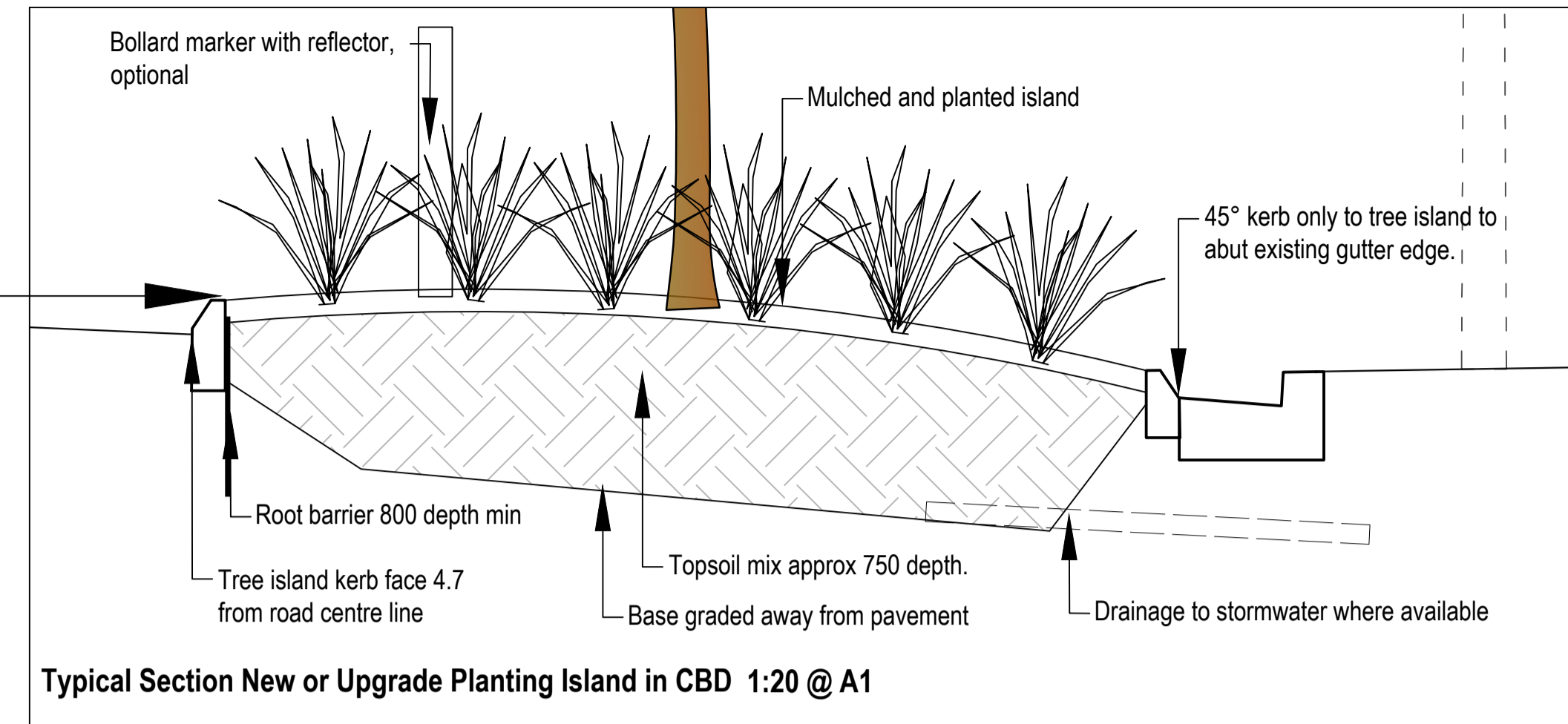
Bridge Street 40kph Streetscape, Uralla, NSW. - Pedestrian Crossing Concepts

For:
 Uralla Shire Council, PO Box 74, Uralla NSW

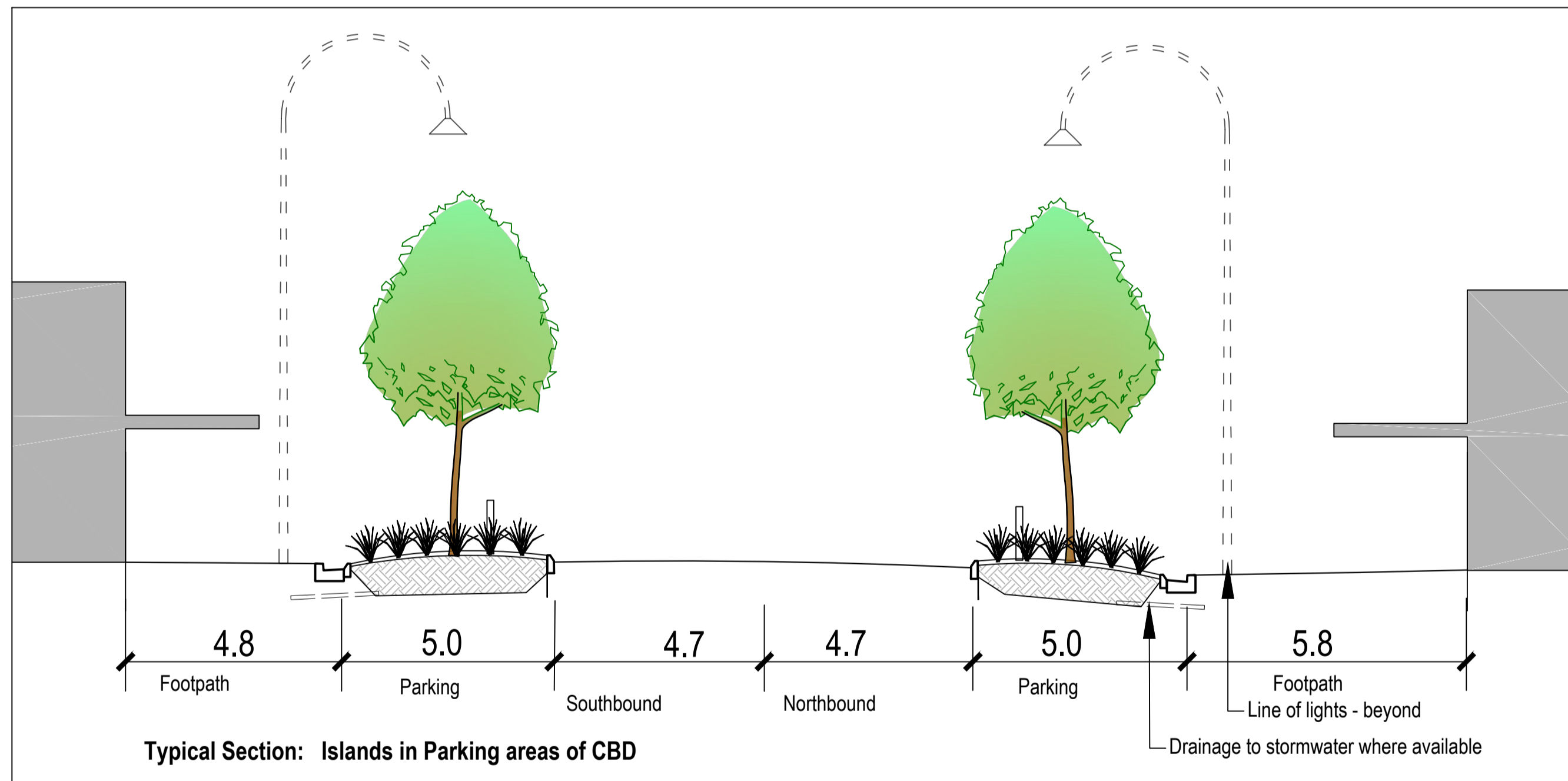
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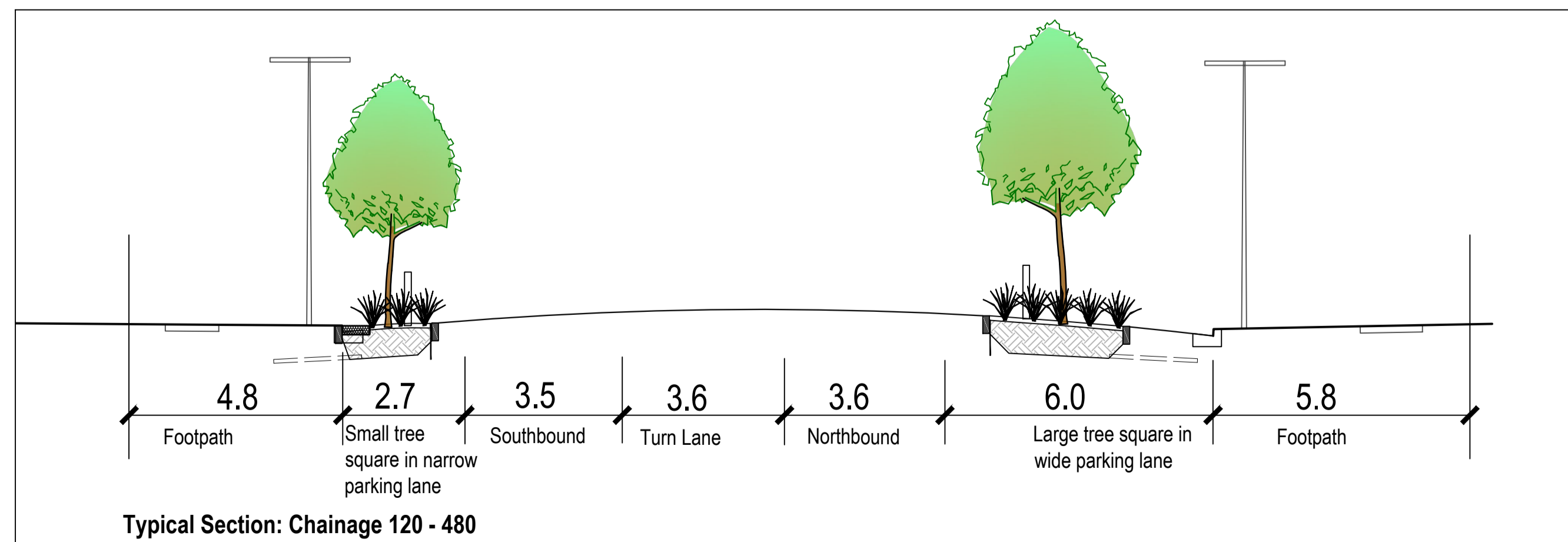
Plan 1:20 @ A1
 Typical New or Upgrade Planting Island in CBD



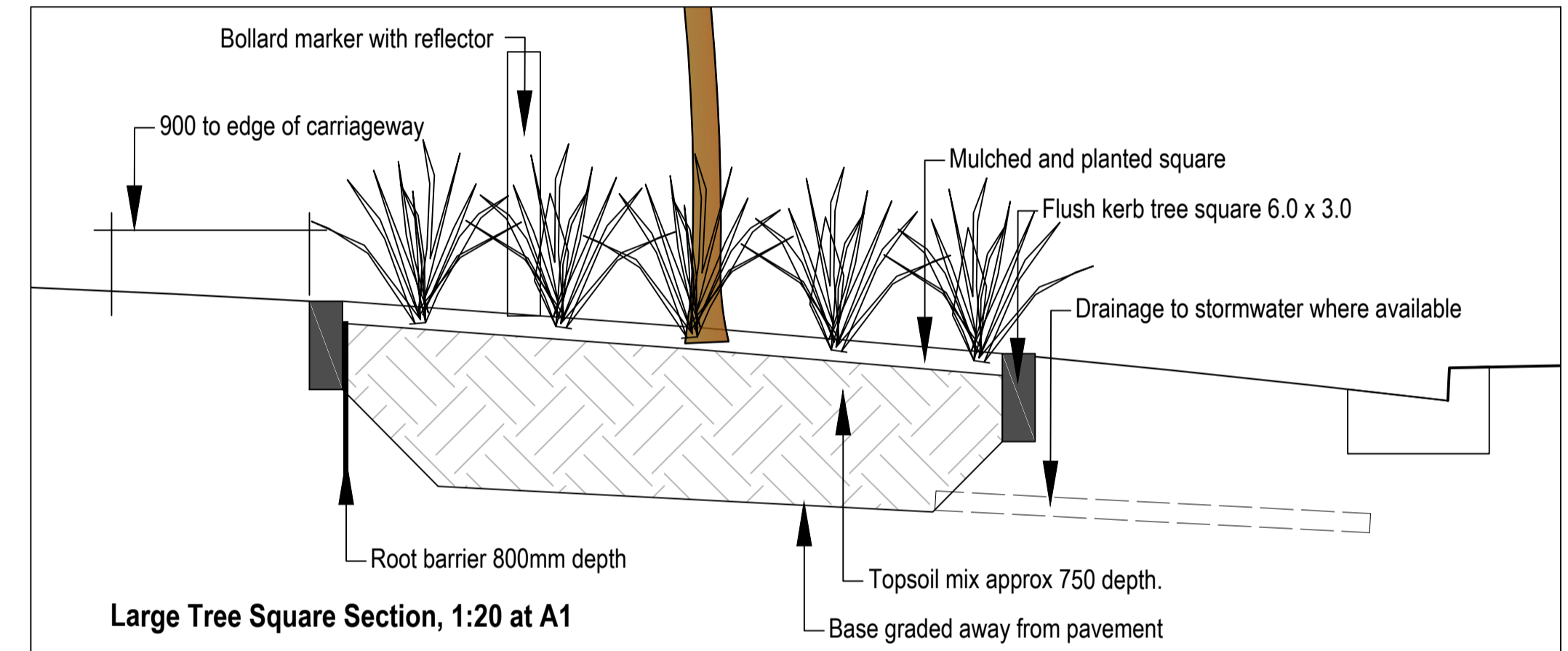
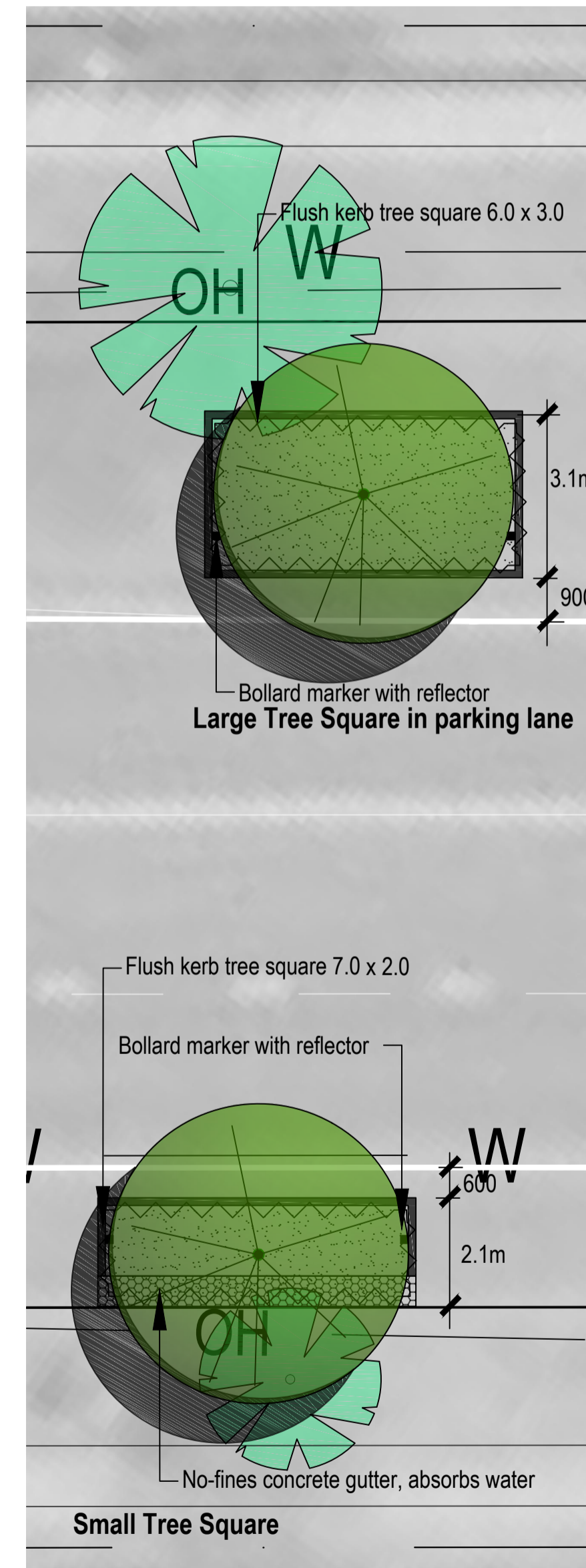
Typical Section New or Upgrade Planting Island in CBD 1:20 @ A1



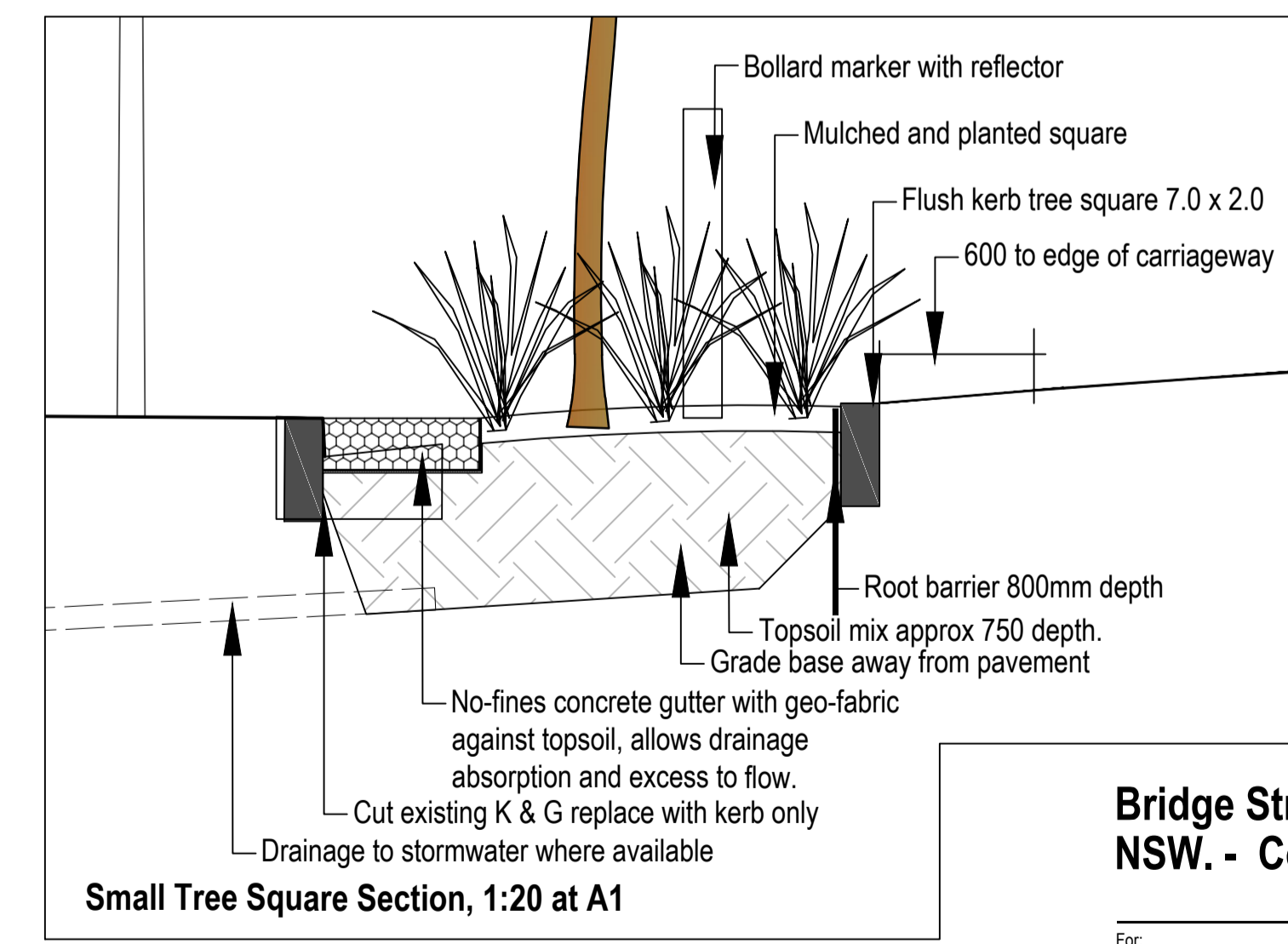
Typical Section: Islands in Parking areas of CBD



Typical Section: Chainage 120 - 480



Large Tree Square Section, 1:20 at A1



Small Tree Square Section, 1:20 at A1



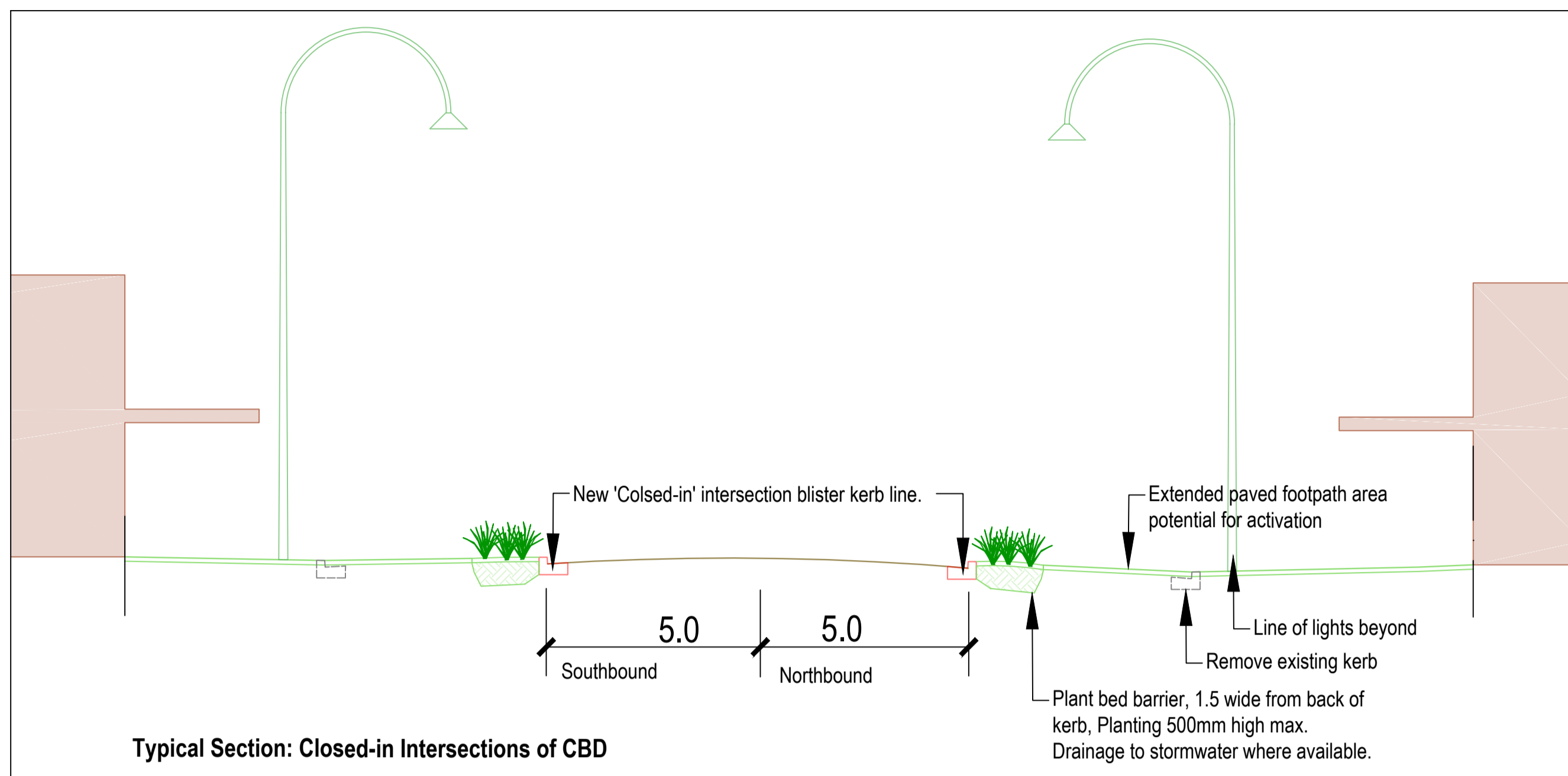
NOTE: All dimensions shown are approximate only as plans are not prepared over survey.

Bridge Street 40kph Streetscape, Uralla, NSW. - Concept Sections

For: Uralla Shire Council, PO Box 74, Uralla NSW

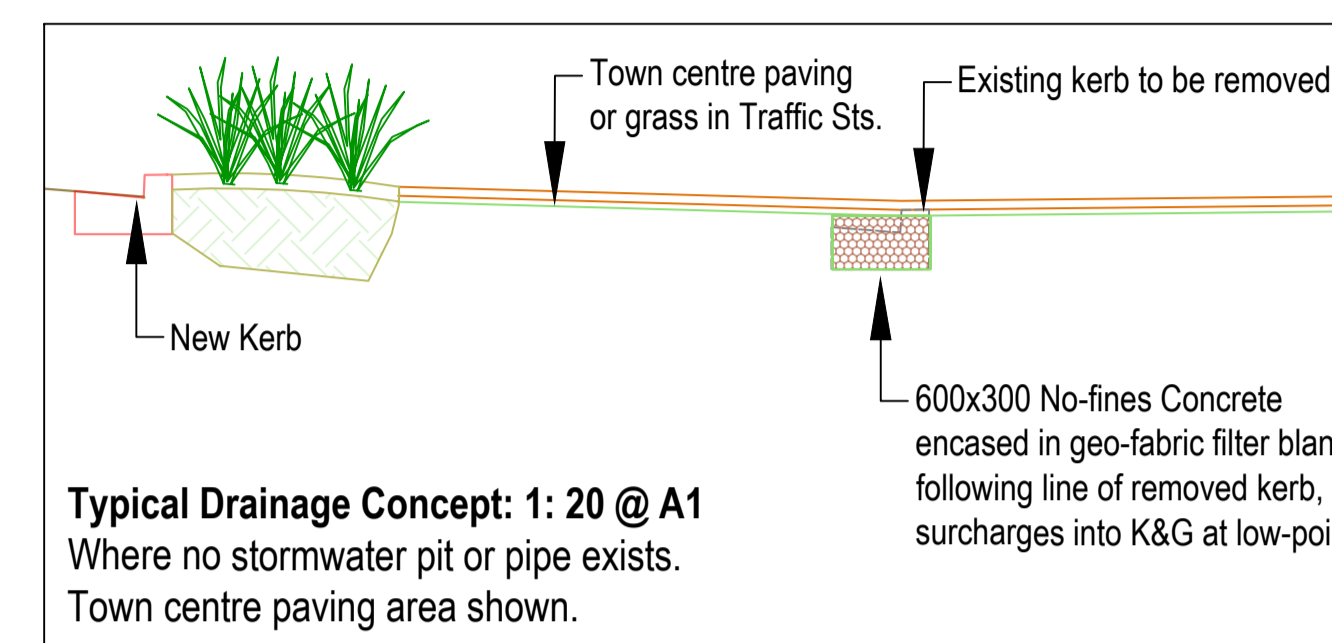
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Scale 1 : 100 @ A1 Date: 20/6/2018 File No: 1711
 Designed: RMH Drawn: RMH Drawing: 8 of 9



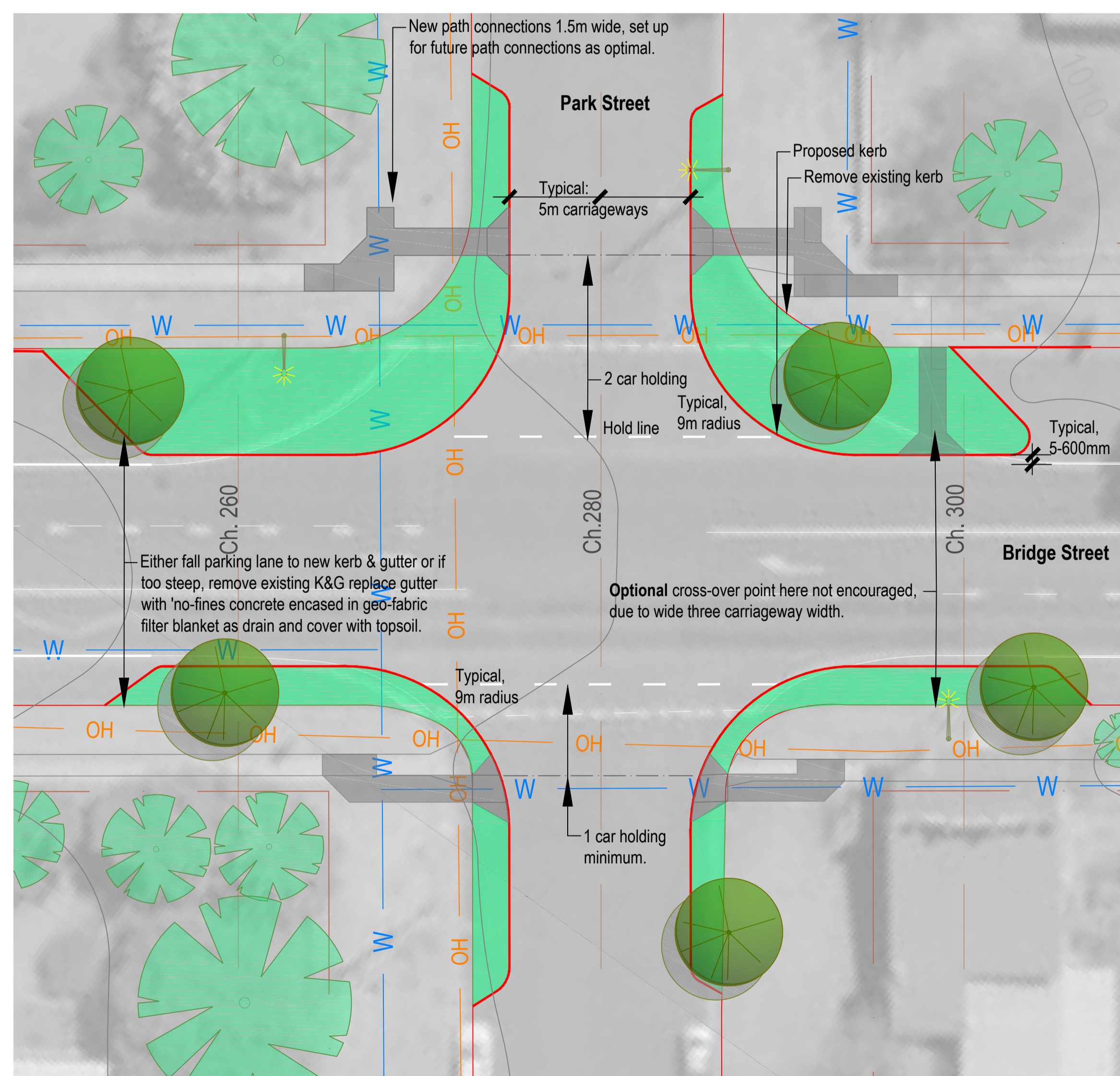
Street Drainage with Closed-in intersection kerb alignments:

Existing kerb and gutter drainage along the streets is interrupted by the new kerb alignments. Often this is left open with blister islands, which is not recommended as it leaves the old kerb alignment and does not bring the footpath sufficiently close to the carriageways. While this is an issue for detail design resolution, two in-principle options are presented below.

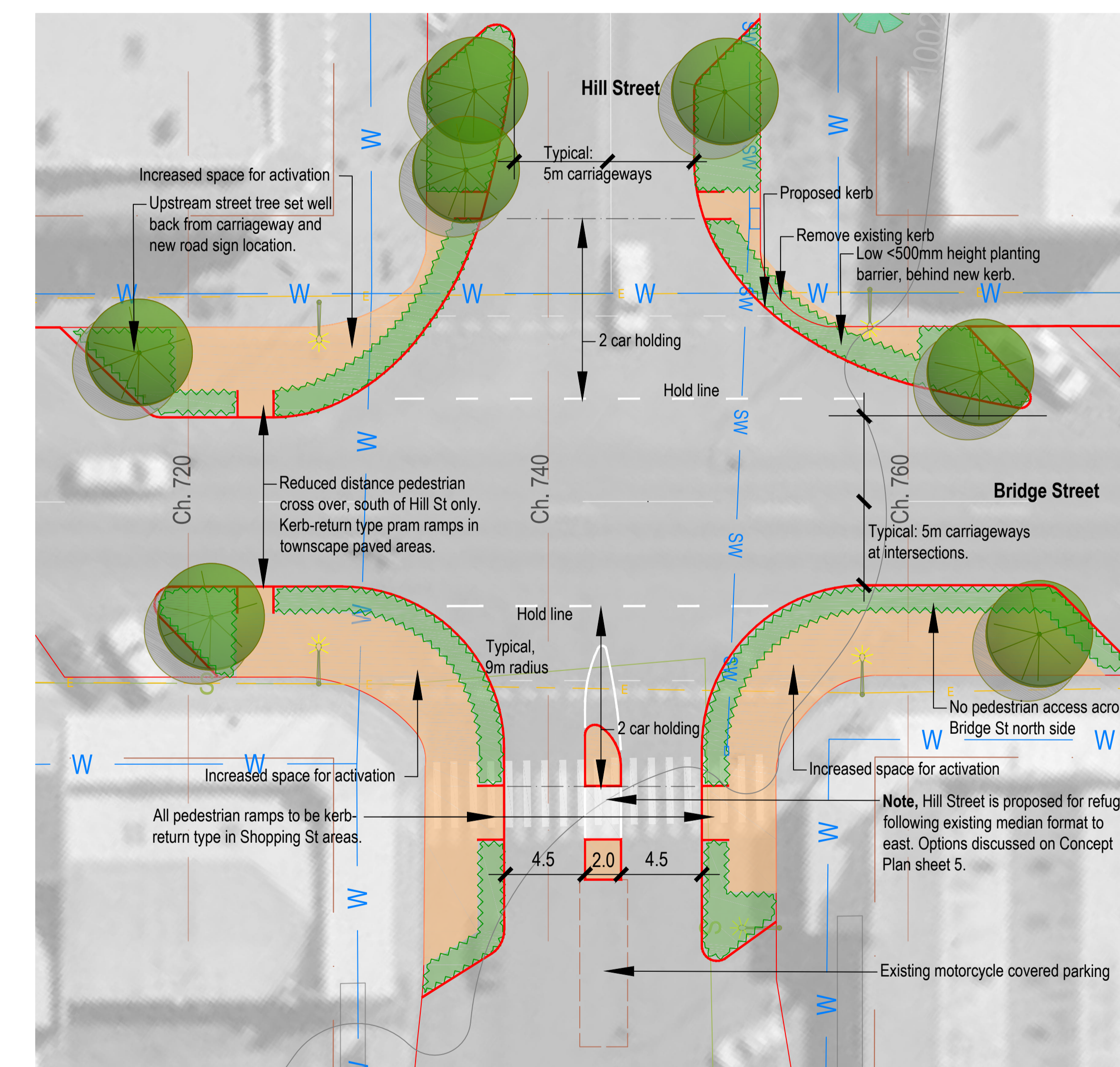


If no adjacent stormwater pit or pipe exists to tap into, then there is an option to provide a 'No-fines' concrete encased in geo-fabric replacing the removed kerb and gutter. - to the preliminary sketch detail left.

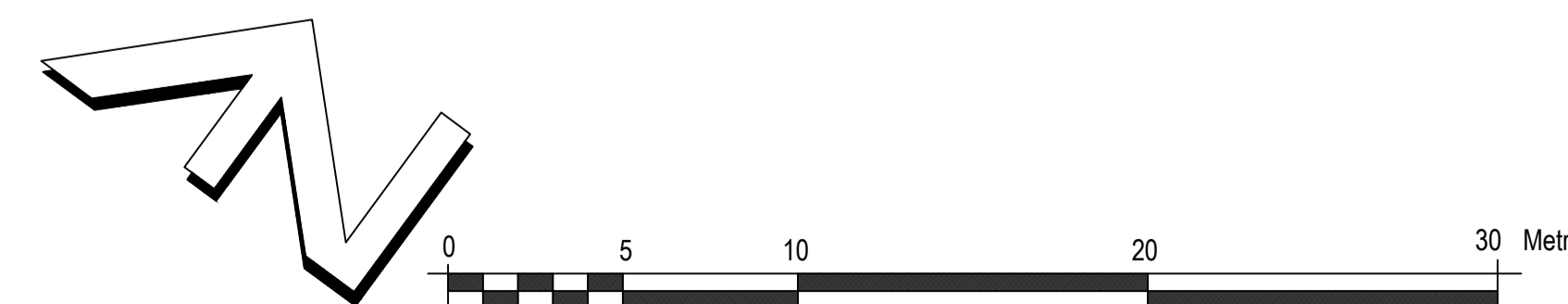
A second option is to pipe the water to the low point and discharge into the lower kerb and gutter that currently carries the stormwater.



Typical 'Traffic Street' Closed-in Intersection:
 - Park St shown



Typical 'Shopping Street' Closed-in Intersection:
 part Bridge St. and Hill St. shown



NOTE: All dimensions shown are approximate only as plans are not prepared over survey.

Bridge Street 40kph Streetscape, Uralla, NSW. - Intersection Concepts

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Scale 1 : 200 @ A1 Date: 20/6/2018 File No: 1711
 Designed: RMH Drawn: RMH Drawing: 9 of 9