

# Armada Way LTN1/20 Review

**P02**

Plymouth City Council

20 October 2023

Quality information

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Revision History

Revision	Revision date	Details	Authorized	Name	Position
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# 1. Introduction

Armada Way is a heavily pedestrianised area of Plymouth City Centre with a mixture of transport modes used throughout. The area is to undergo development to improve the public realm and address under-investment within the City Centre streets and places. As part of this scheme, a 383m new cycle route has been proposed through the centre of Armada Way. This route will link existing cycle provision at North Cross Roundabout with the City Centre, stopping prior to the sundial on New George Street.

The proposed cycling facilities have been designed by Studio Agora Architects and this technical note will assess the cycle facilities against the design recommendations in LTN 1/20.

LTN 1/20 – Cycle Infrastructure Design provides guidance and good practice for the design of cycle infrastructure in support of the Cycling and Walking Investment Strategy. The guidance contains tools which give local authorities flexibility on infrastructure design and sets a measurable quality threshold to achieve when designing cycling schemes. The Cycling Level of Service (CLoS) in Appendix B is a new mechanism introduced to set a minimum quality criterion. Appendix A contains the provided drawings which are to be assessed.

The CLoS assessment tool has been obtained from the York Cycle Campaign website at the following address: <https://yorkcyclecampaign.bike/resources/#Tools>

## 2. Area Assessed

The proposal shows a north-south cycleway that is integrated within the scheme works and differentiated from adjacent surfaces using a designated paving pattern. There are some sections of the cycleway that intersect with pedestrian facilities, which are highlighted using buff paving and in paving flag signage. At these locations cyclists will be required to give pedestrians priority. The cycleway will be bordered by a mix of flush kerbs, tactile paving, grass verges and a water rill feature. Where vertical features are present, the cycleway will be widened to allow additional space.



**Figure 1: Extract of proposed improvements along Armada Way**

The drawings on which the scheme has been assessed are shown below:

- 67CA09-STA-ZZ-XX-DR-L-PLCC-001 Rev. P04 – Proposed GA Masterplan All Zones
- 67CA09-STA-ZZ-XX-DR-L-3014-001 Rev. B – Proposed Cycleway Strategy Sheet 1
- 67CA09-STA-ZZ-XX-DR-L-3014-002 Rev. B – Proposed Cycleway Strategy Sheet 2
- 67CA09-STA-ZZ-XX-DR-L-4010-001 Rev. P01 – Proposed Wayfinding and Signage Types

### 3. Cycling Level of Service Assessment

The Cycling Level of Service (CLOs) Assessment is based upon the provided drawings included in Appendix A along with context on the wider scheme provided during a meeting with the scheme designers. At this stage the following assumptions have been made and have been confirmed as correct by the designers:

- The width of the usable cycleway will be a minimum of 2.55m throughout unless otherwise stated
- Where there are vertical features, the cycleway is widened to allow additional space
- Proposed road markings will be clear, understandable and simple
- Any proposed signage will not cause obstruction of the cycleway and will be located so as not to impinge on the minimum effective width required
- Suitable lighting will be provided throughout
- Proposed surface will be smooth and high friction
- There will be less than 1000 cycles in peak hour flow
- Typical crossfall is 1:40, but a maximum of 1:25 is proposed in limited circumstances

The percentage of score obtained for this scheme is 79%. Therefore, this section of cycleway passes the LTN 1/20 CLOs test which requires a minimum score of 70% to pass with no critical fails. The CLOs Assessment can be seen in Appendix B. It is worth noting that 4 of the factors have not been taken into consideration as part of this assessment. This includes, "Reduce/remove speed differences where cyclists are sharing the carriageway", "Avoid high motor traffic volumes where cyclists are sharing the carriageway" and "Risk of collision". The reason why these have been omitted is due to the proposed cycleway having no interaction with motor vehicles, aside from the vehicle crossover. These factors are used to assess cycleways that are on carriageway and consider traffic speeds, traffic volumes, and movements at junctions, all of which do not apply to this proposal. In addition, Test 8, "Gradients", has also not been assessed due to Section 5.9.4 of LTN 1/20 stating that the requirements are predominantly for new build projects as opposed to alteration of existing routes.

The following items have scored low in the assessment with potential improvements identified below as well as the designer's comments for context:

- Test 6 - The raised table on Mayflower Street can be made pedestrian and cycle priority. If the delay for cyclists is shorter than the delay for motor vehicles the scoring will be a 2 for test 6.

*Designer's Comments - It has always been the intention for the paving of the raised table to simply encourage vehicular traffic to exercise additional caution. Much as suggested above, we would anticipate that in most instances responsible pedestrians and cyclists would naturally give way to vehicles already approaching this crossing. However, we would welcome further consultation on this element as the scheme progresses.*

*Additional PCC comment: we would comment that pedestrian and cycle priority would have a detrimental impact to buses, but we are open to getting a view in the consultation.*

- Test 16 - Consideration should be given to sections of the cycleway that are adjacent to the green spaces and the water feature. Due to the physical barriers that are proposed along these sections and the absolute minimum width, there is a lack of evasive room should cyclists find themselves in a near miss or collision. Additional width and reduced physical hazards will be necessary to score higher in test 16.

*Designer's Comments - Test 16 scores a 0 on the basis that no evasion room is being provided, however given the additional width provided for the presence of vertical surfaces, the overall width of surface for most of the cycleway including the gravel margins and 200mm wide granite kerbs of the rill is approximately 3,560mm which is a metre wider than the absolute minimum and over 500mm wider than the desirable width. Owing to the natural topography of the site which generally falls away towards royal parade at the south, the concern has always been that the more width that is provided, the greater the temptation is likely to be for cyclists to traverse the site at speeds unsuitable for the space in question. Owing to the complexities of the site and the mix of users, the proposed design is believed to provide a well-considered environment that is a comfortable space for use by all users.*

- **Test 19** - The desirable minimum width of 3m as per LTN1/20 is not provided throughout, with the majority of the cycleway having a width of 2.55m. The absolute minimum width as per LTN1/20 is 2m at constraints. This width is based on a peak hour cycle flow of less than 1000.

Although not included within the LTN 1/20 CLoS assessment, the following items should be considered:

- **Test 8** - It has been noted that the majority of the scheme implements a 2.5% crossfall as per LTN1/20 5.10.1. However, sections of the route have a proposed crossfall of 4%. The possibility to reduce this crossfall should be examined by the designer to improve the riding experience for cyclists.

*Designer's Comments - In response to Test 8 and the maximum crossfall of 4%, this occurs only in isolated instances and is a direct result of the existing site topography, which affords only limited opportunity for regarding owing to a combination of existing site topography, below ground services, existing tree planting etc. For the majority of the route the design team have worked hard to ensure a typical cross fall of 2.5%, where reasonably practicable.*

- The location of the proposed water rills should be assessed in relation to the location of the adjacent cycleway. It is assumed that the longitudinal gradient for the majority of the route exceeds 3%, therefore, as per LTN1/20 5.11.1, unguarded water hazards should not be permitted within 4.5m of the cycleway where they would lie within the path of an out-of-control cyclist. Therefore, either edge protection or relocation of the water rill/cycleway should be considered.

*Designer's Comments - Concerning the proximity of the cycleway to the axial water rill, the design intent has always been to utilise this relatively shallow (max 590mm) feature to provide segregation between cyclists and pedestrians along the north-south axis to significantly reduce the likelihood of pedestrians straying onto the cycleway. It is also intended to encourage cyclists to traverse the space more responsibly since the rill introduces a varying level change along one side of the cycleway. It could be argued that an LTN Compliant unguarded cycleway running parallel with vehicular traffic provides significantly higher risk of injury than one running alongside a relatively shallow water feature. The position of the cycleway was one of the most significant design drivers during the initial design stages and having tried various configurations, we are confident that the current arrangement offers the best solution to minimising conflict between cycles and pedestrians as much as reasonably possible.*

- The visibility splays for the junctions between the proposed cycleways and footways should be assessed to ensure compliance with LTN1/20 5.8.
- The horizontal alignment of the proposed cycleway does not appear to comply with Section 5.9 of LTN1/20 which recommends that changes in the alignment should be made using simple curves, with the minimum radii as stated in Table 5-7. This is to accommodate the space required for the turning radius of the cycle design vehicle.

*Designer's Comments - The changes in horizontal alignment are another feature introduced not only to overcome functional requirements of the space as a whole, but also to encourage a reduction in cycling speed. Whilst we appreciate the recommendation for any changes in alignment to be made using simple curves, the proposed re-use of existing historic granite lintels and kerbs to form the edges of the feature rill, largely prohibit the creation of radius bends. In place of these recommended radii, the changes in alignment are therefore accommodated by means of a 135-degree bend offering a reasonably gentle change in direction.*

The CLoS Assessment with details of the scoring, assessor's comments and designer's comments for each design factor is included in Appendix B.

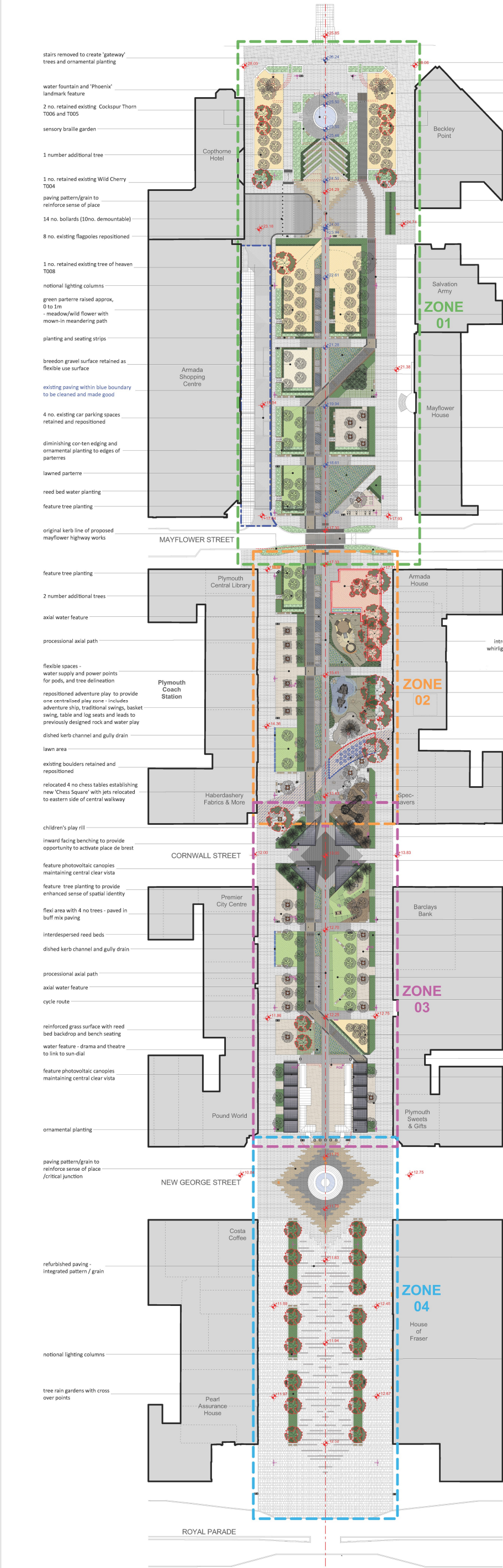
## 4. Conclusion

An LTN 1/20 Cycling Level of Service (CLoS) test has been carried out on the proposed improvements to Armada Way. This technical note demonstrates that the proposed cycling facilities pass the CLoS Assessment, however, recommendations for further improvements to the score, and the scheme as a whole, have been identified and

discussed. There are a number of assumptions made in the CLoS Assessment which have been confirmed by the scheme designers as correct, ensuring they are accurately reflected within the scoring.

# Appendix A Provided Drawings





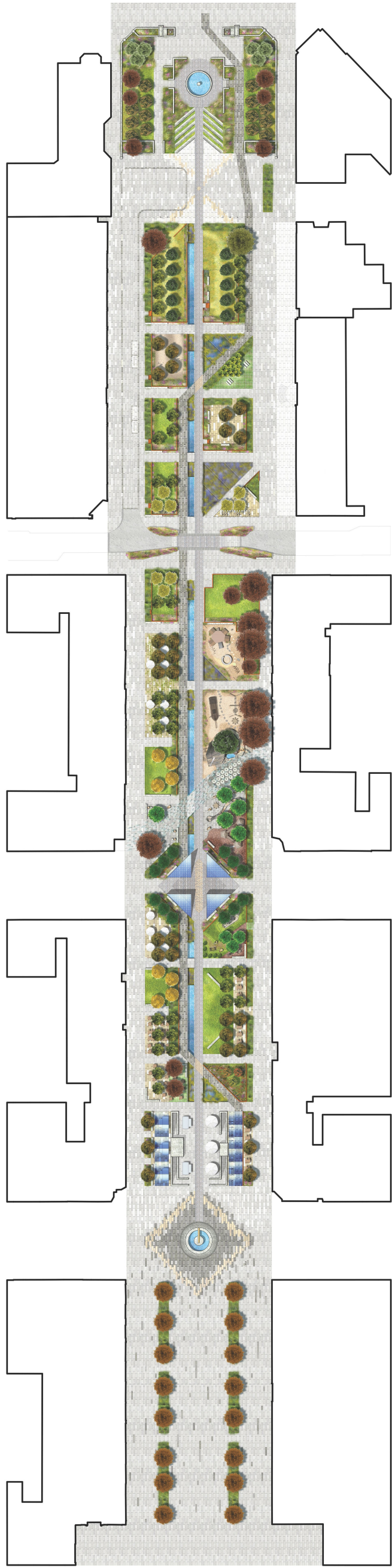
**LEGEND**

+00.00 - Existing Levels

+00.00 - Proposed Levels

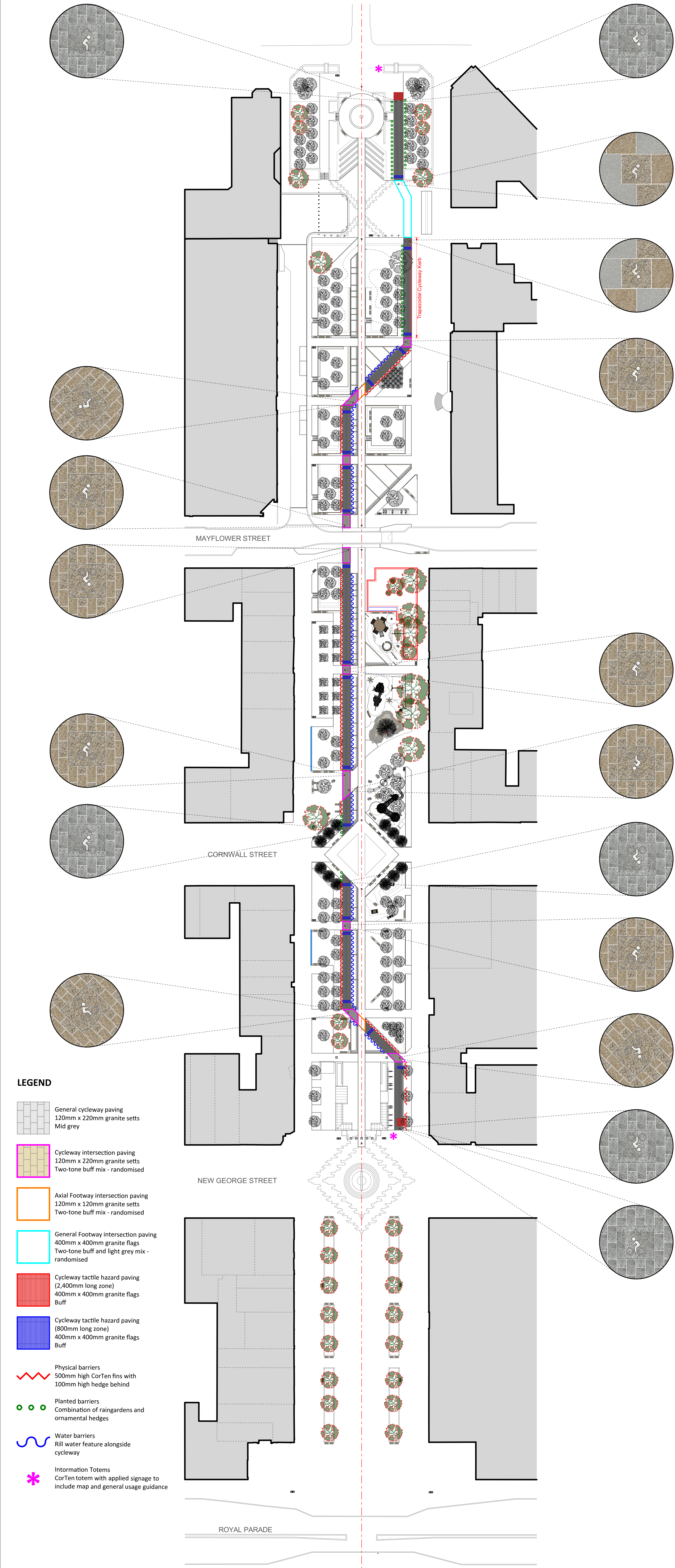
- Existing Trees Retained

- Proposed New Trees



INDICATIVE PRESENTATION PLAN

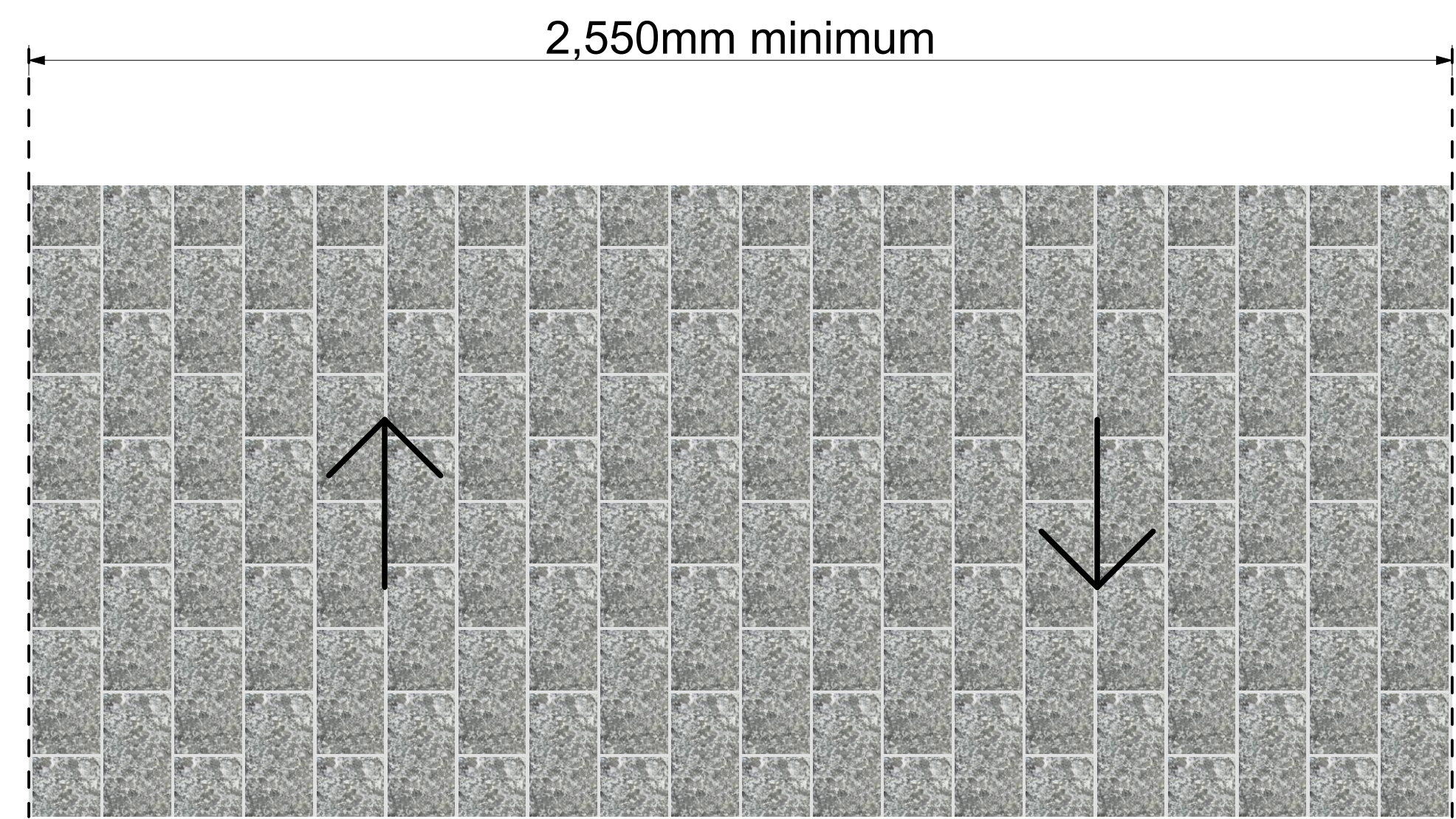




General Cycleway Principles

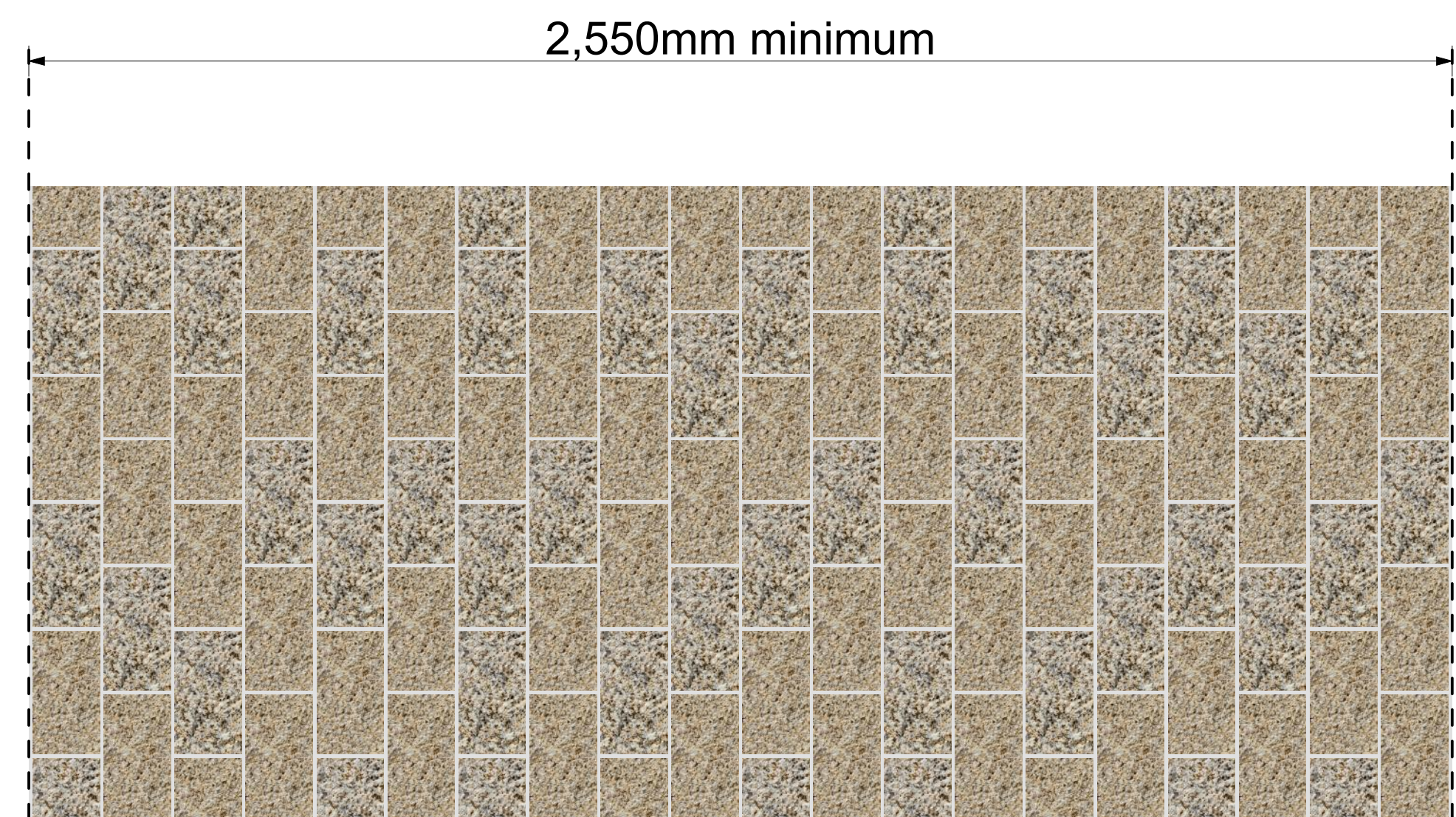
- Pedestrians to always maintain priority
- Totem signage to illustrate route and provide guidance on proper use
- Designated paving pattern to visually define cycle route from adjacent surfaces
- feature paving pattern in contrasting tone at pedestrian interfaces
- Where possible cycleway flanked by barrier features (guarding, vegetation,water) to maintain segregation from pedestrians
- 45° Chicanes introduced to deicourage excessive speed
- In paving signage strategically positioned to reinforce function
- Tactile granite hazard paving strategically positioned to provide warning to visually impaired pedestrians

Typical Cycleway Paving Pattern - Scale 1:10



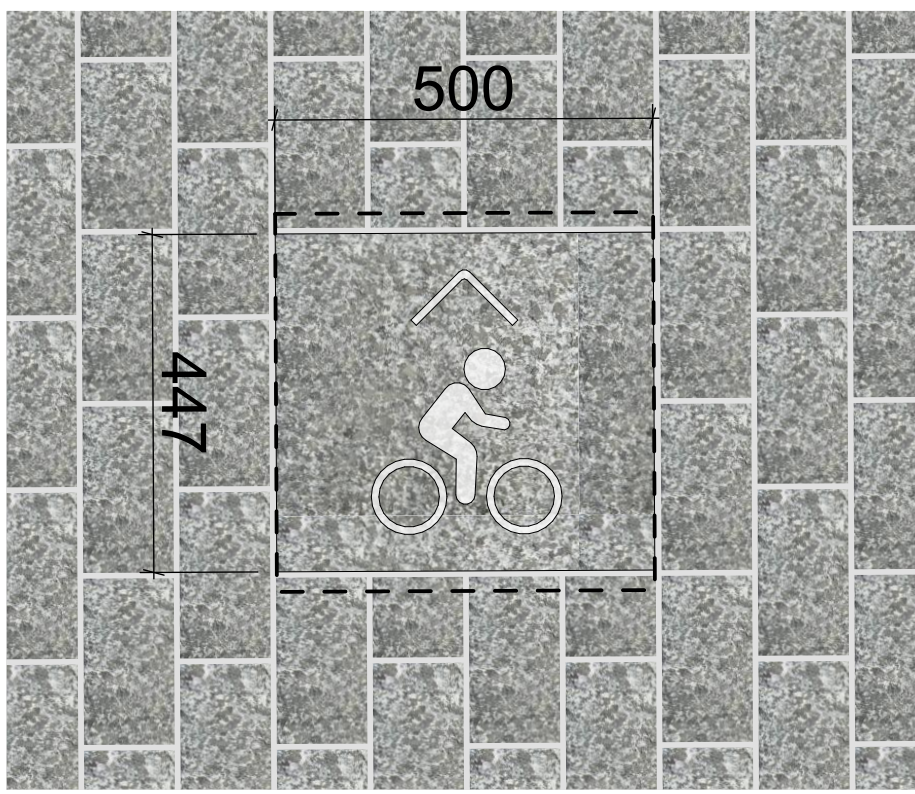
Mid grey 120mm x 220mm granite sett paving - Bush hammered finish

Typical Cycleway Paving Pattern at Pedestrian Intesections - Scale 1:10

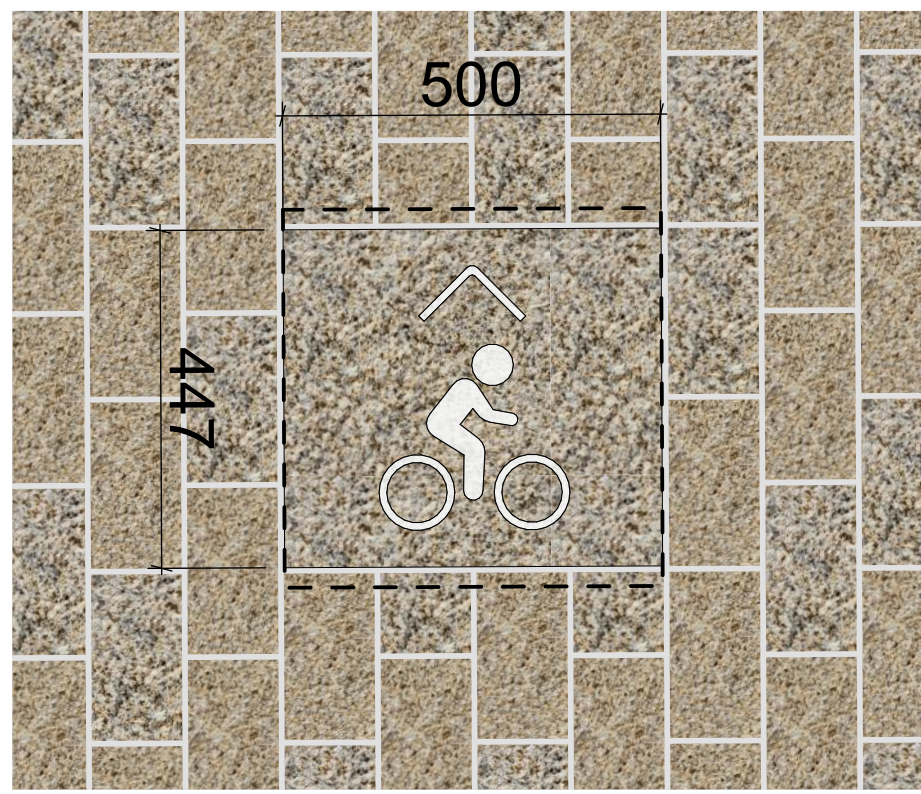


Randomised two-tone buff 120mm x 220mm granite sett paving to idnetify and give warning of pedestrian intersections

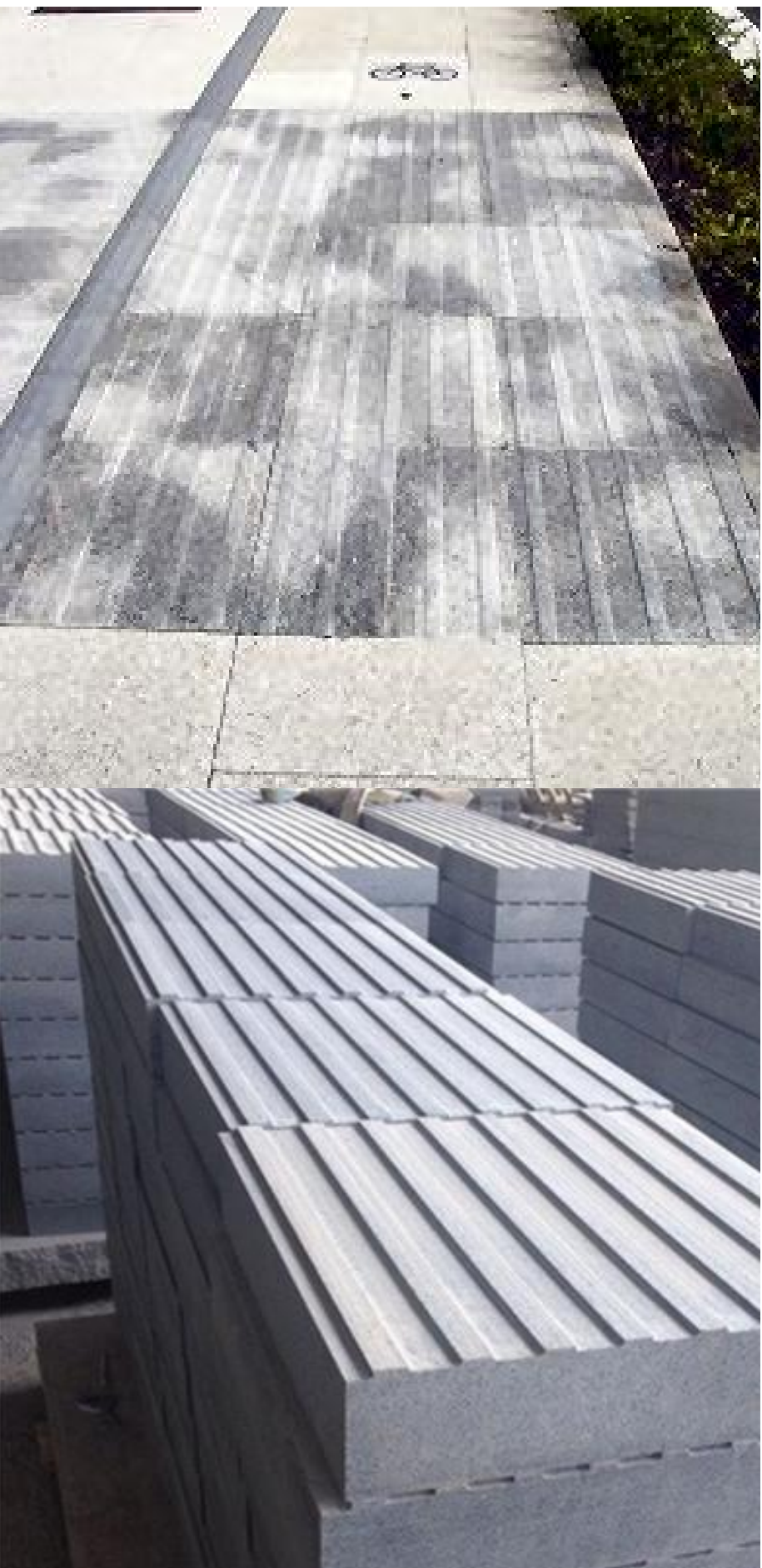
Typical Cycleway Signage In Grey Paving - Scale 1:10



Typical Cycleway Signage In Buff Paving - Scale 1:10



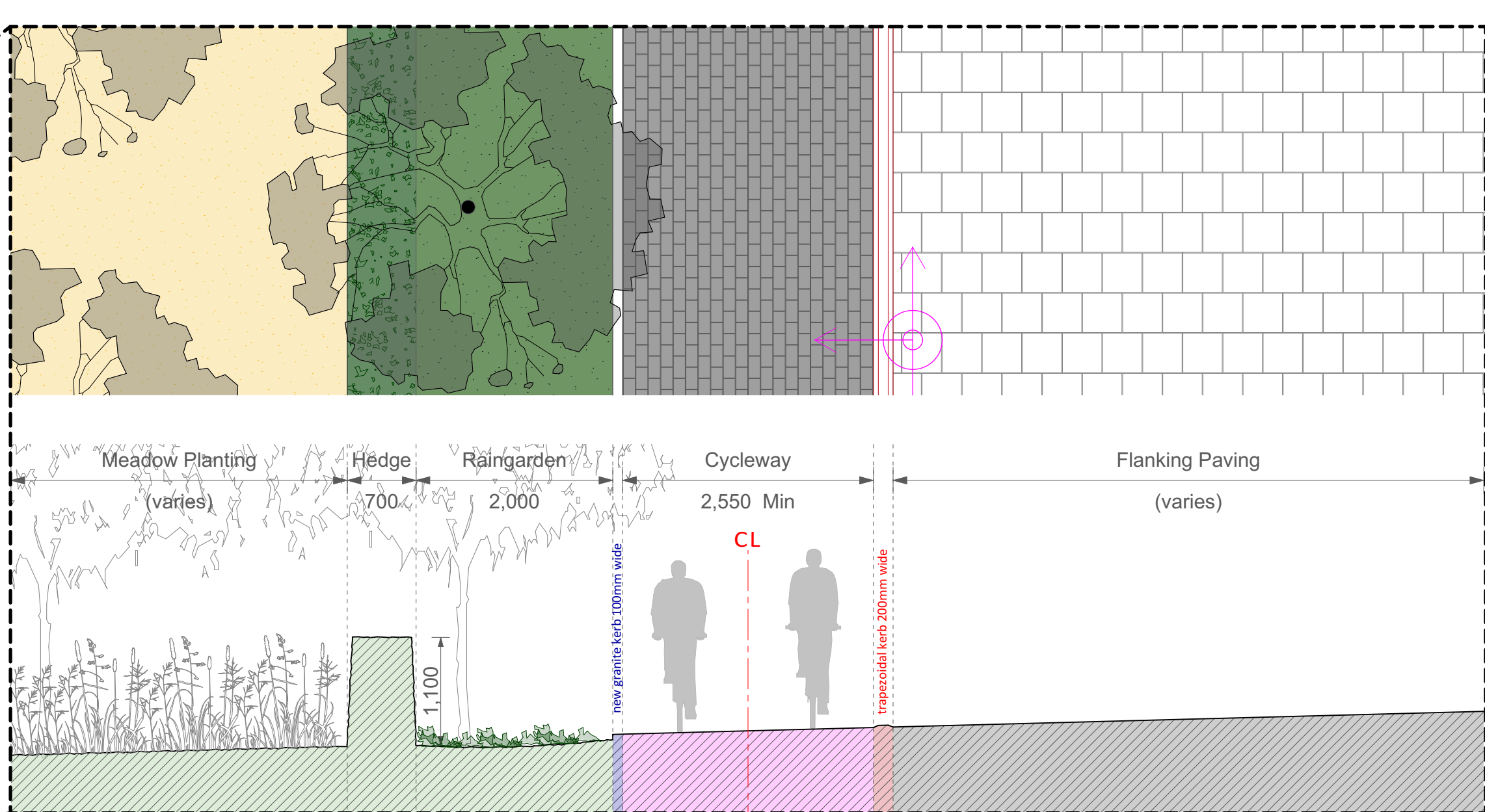
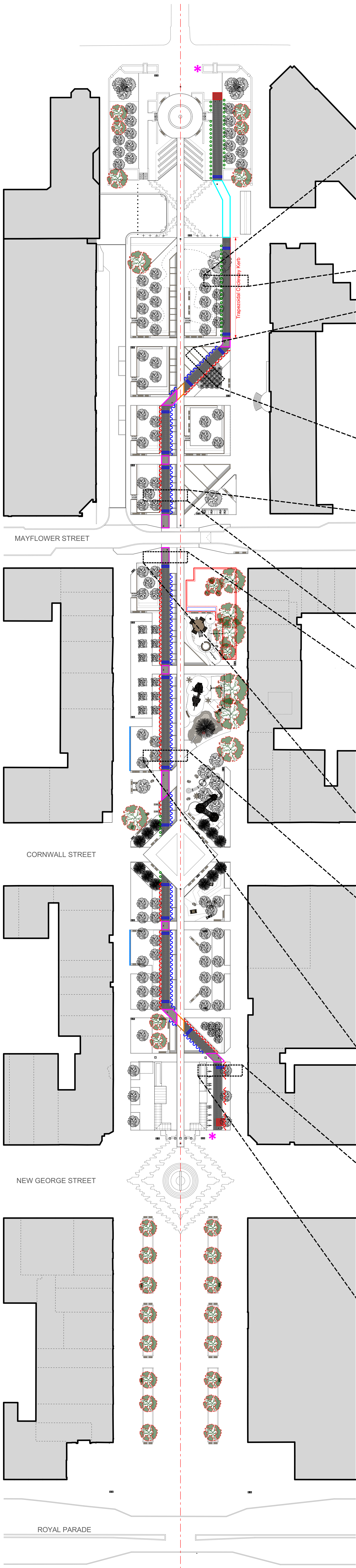
Granite Cycleway Hazard Paving Providing warning to partially sighted



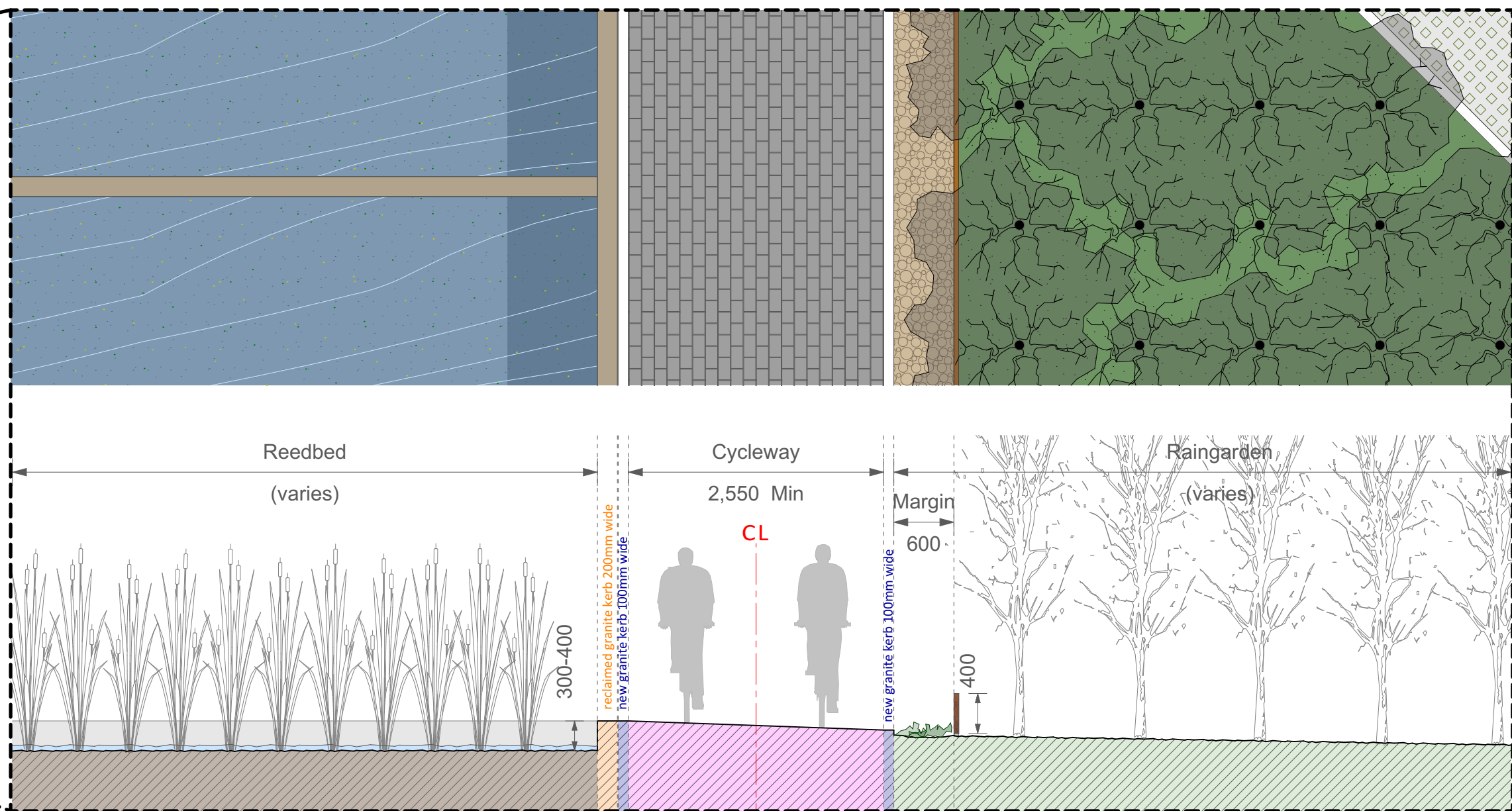
Possible Information Totems CorTen totem with applied signage



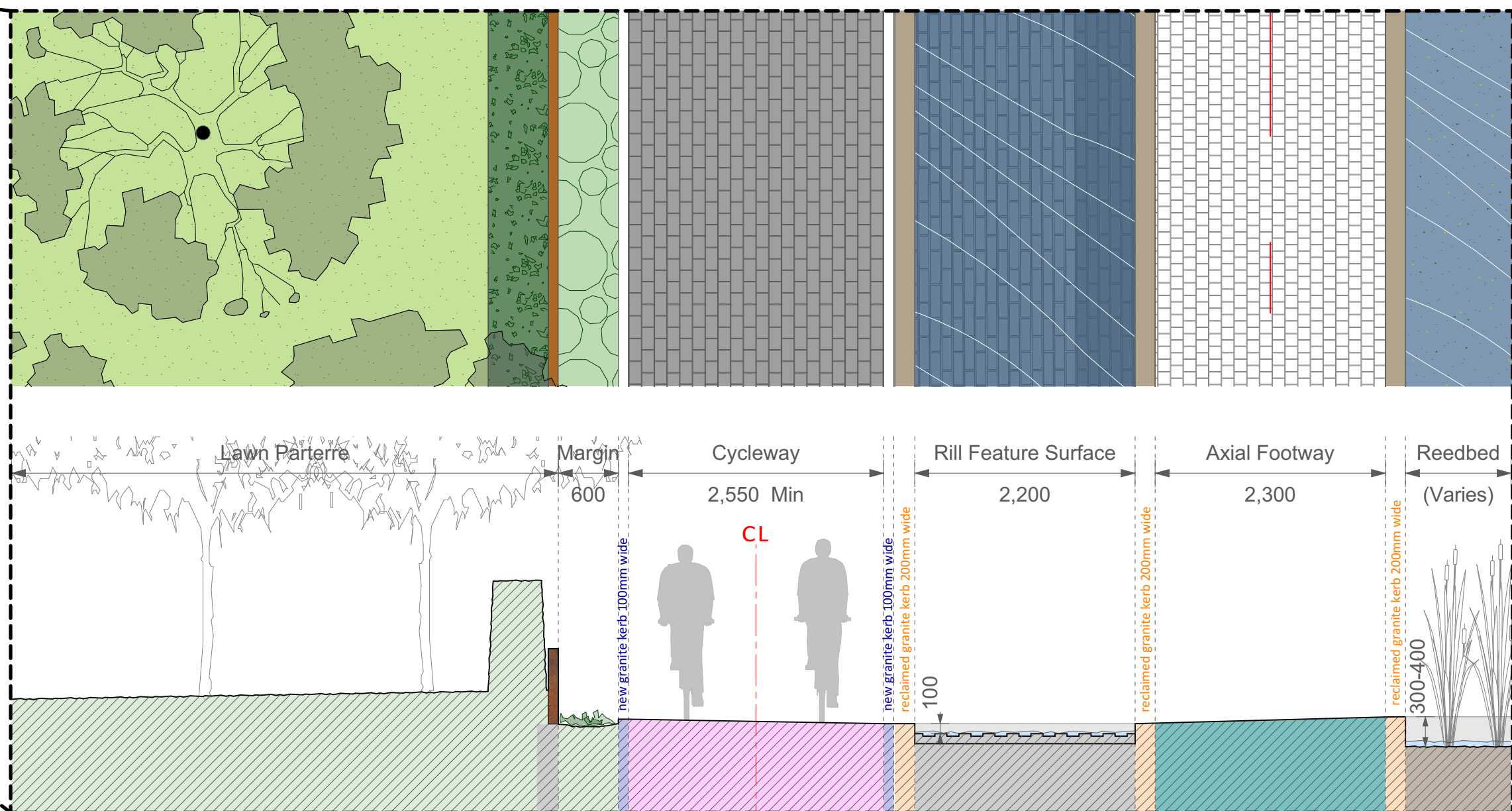




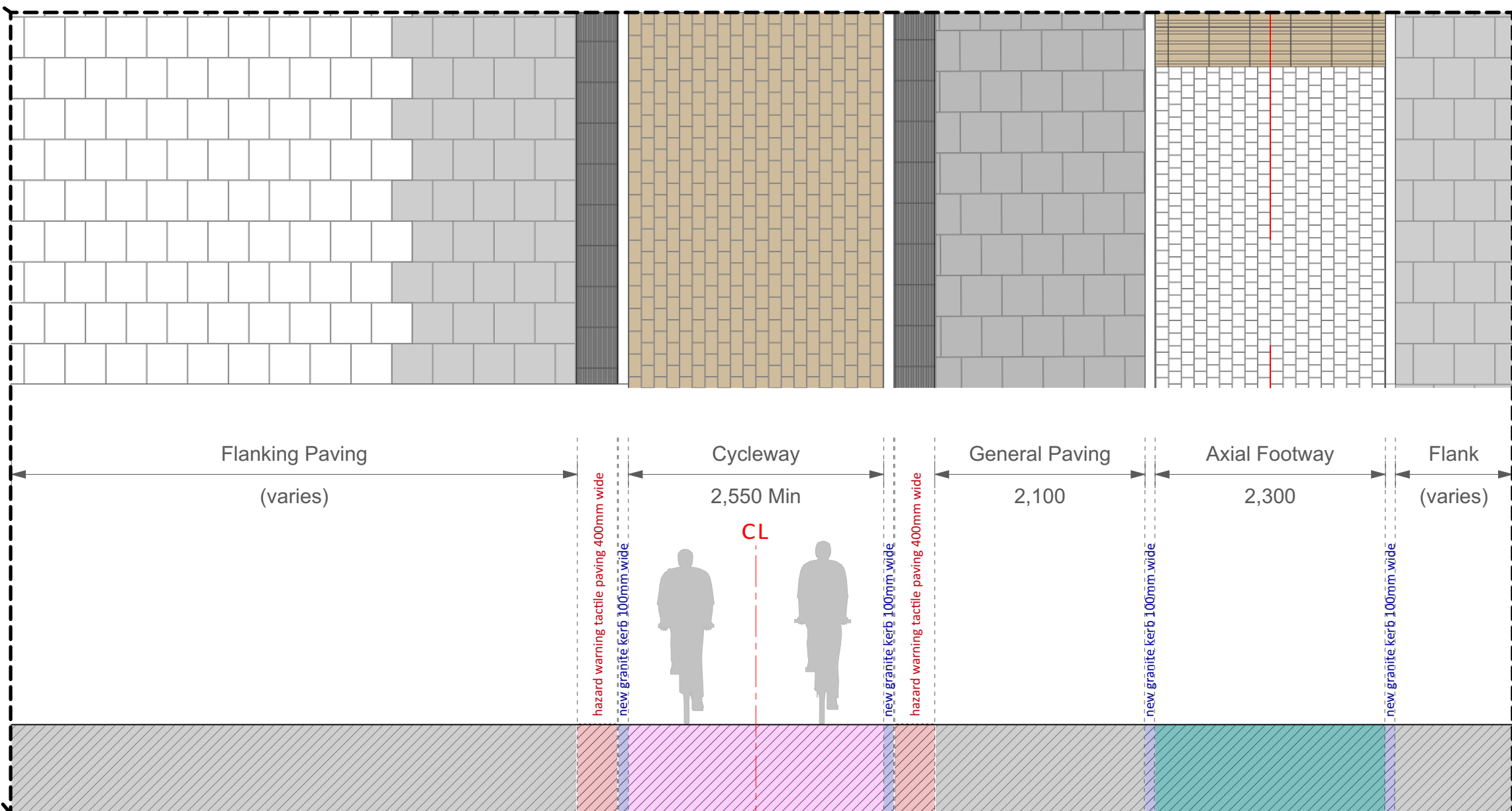
SECTION PLAN  
LOCATION 01



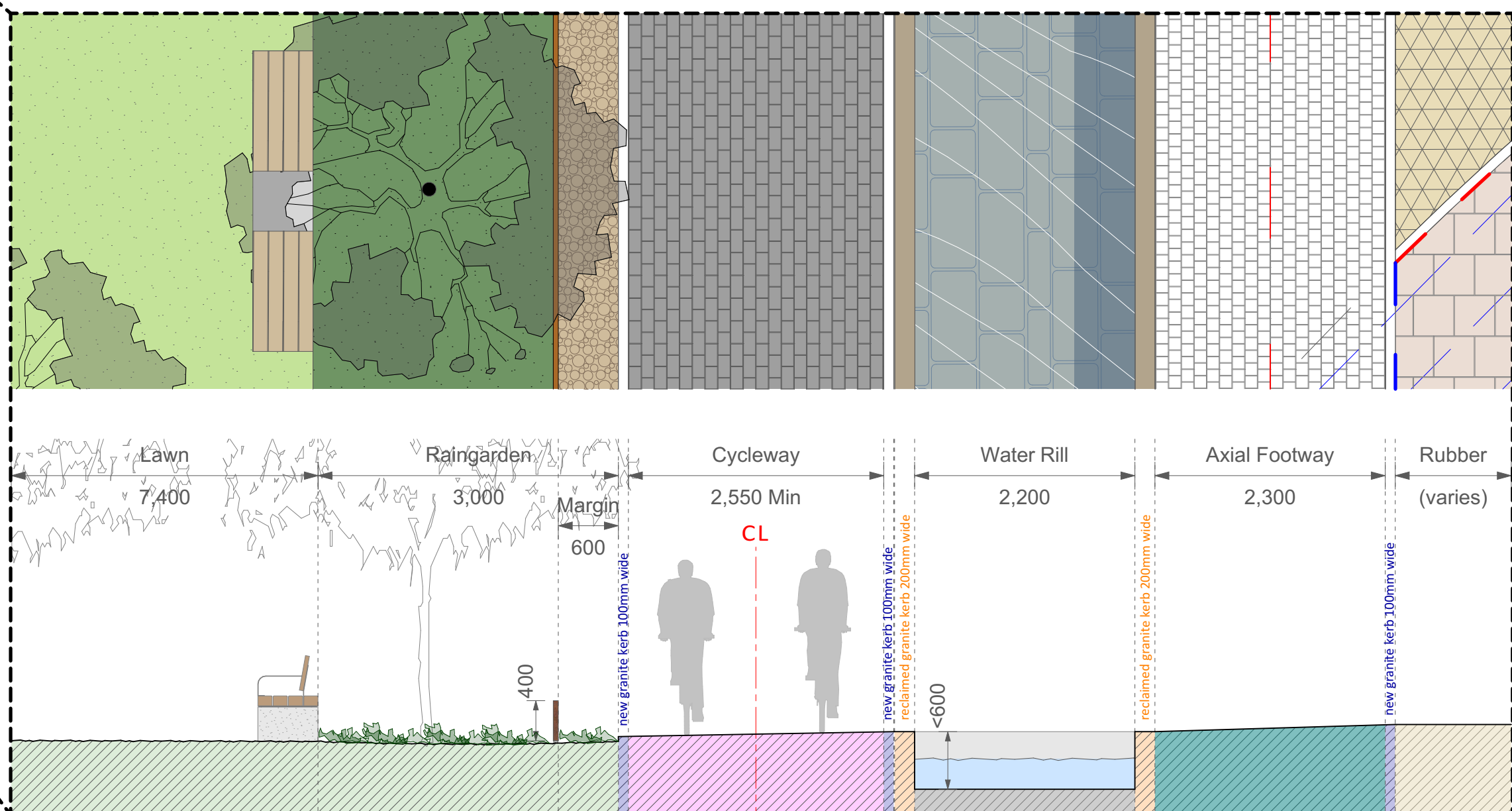
SECTION PLAN  
LOCATION 02



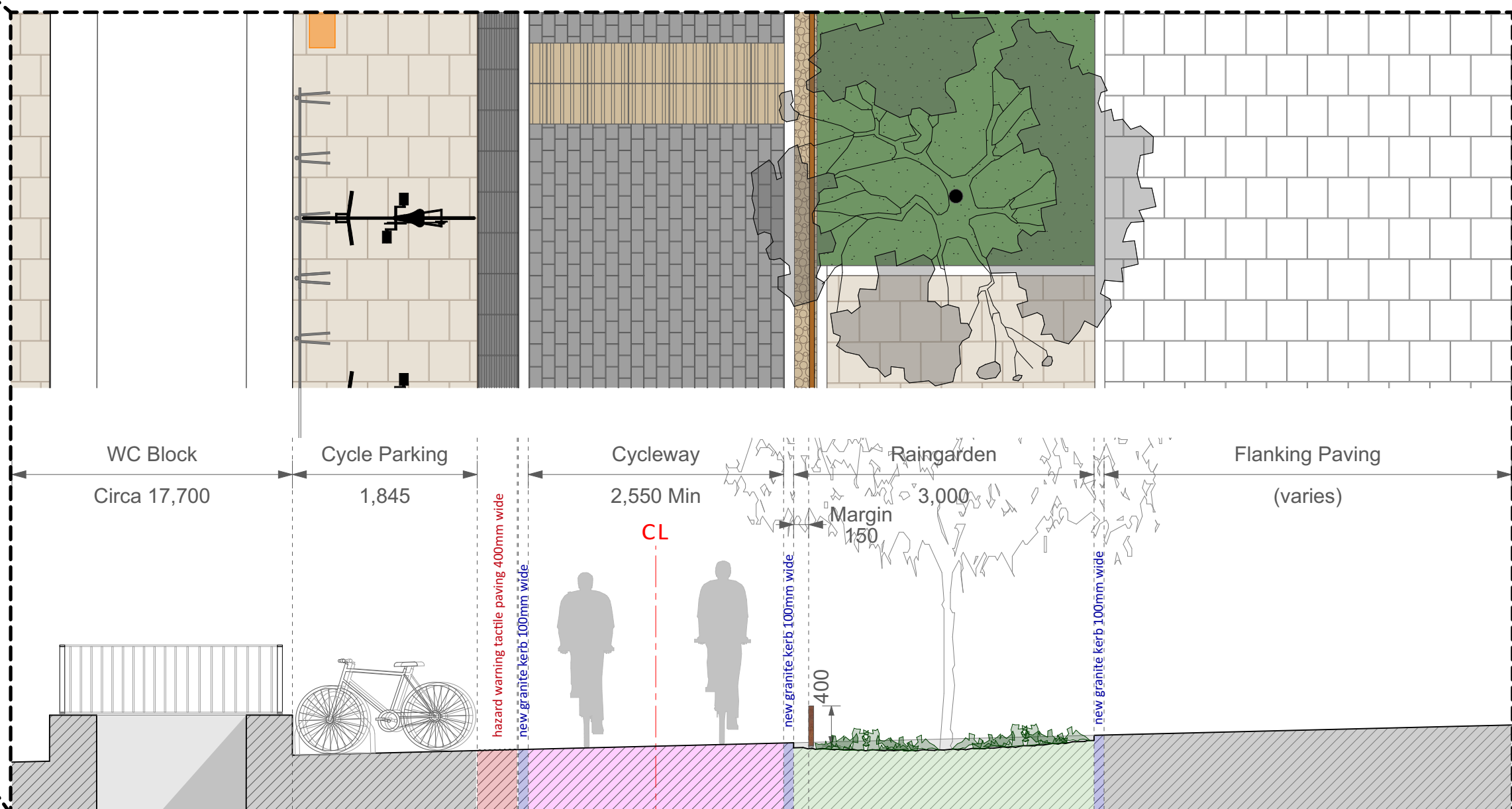
SECTION PLAN  
LOCATION 03



SECTION PLAN  
LOCATION 04



SECTION PLAN  
LOCATION 05



SECTION PLAN  
LOCATION 06

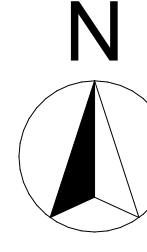
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Rev	Comment	Date	By	Chk	Internal Project Number:
A	DRAFT ISSUE	14.07.2023	DC	LF	22101
B	PCC UPDATE - WIDTH INCREASE & CENTRAL LINE OMITTED	03.10.2023	DC	LF	

Project:  
ARMADA WAY PUBLIC REALM,  
PLYMOUTH

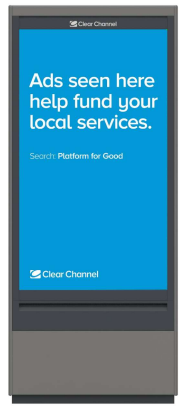
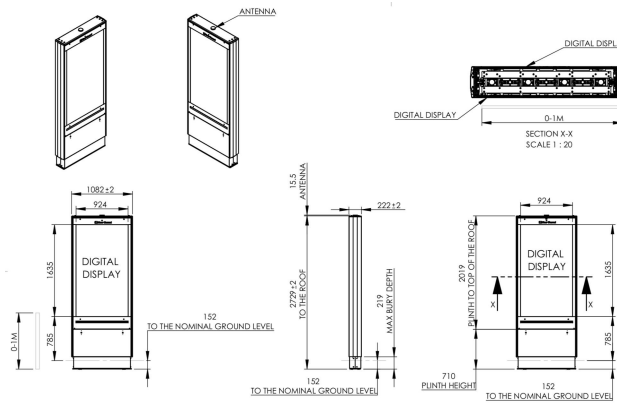


Drawing Number:  
67CA09-STA-ZZ-XX-DR-L-3014-002  
Drawing Title:  
PROPOSED CYCLEWAY STRATEGY -  
SHEET 02 (TYPICAL FLANKING CONDITIONS)  
Scale @ A0:  
1:50, 1:500  
Date Drawn:  
13.07.2023  
Drawn by:  
DC  
Checked by:  
LF  
Suitability:  
D2  
Revision:  
B





## TYPE A - Freestanding Clear Channel Waferlite 75 Information Unit



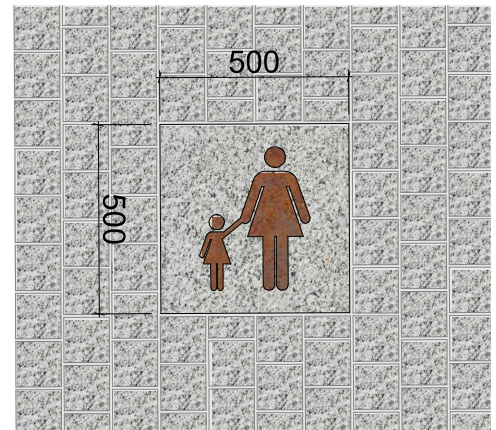
## TYPE B - Existing Fingerpost Signs Retained and Repositioned



## TYPE C - Proposed In Ground Granite Footway Signage in Sett Paving (Scale 1:5)

Hardscapes artscape waterjec cut inlay sign .  
Hardscapes European Granite, or equal approved.  
Flag Colour: Light grey  
Inlay: CorTen Steel  
Finish: Flamed  
Dimensions 500mm (W) x 500mm (L) x 65mm (D)  
Jointing: 7.5mm joints.

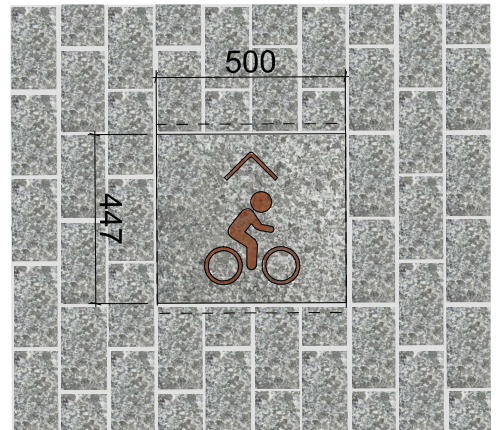
Note: Footway sign to be layed to follow bonding pattern of surrounding 120mm x 120mm paving setts.



## TYPE D - Proposed In Ground Granite Cycleway Signage in Sett Paving (Scale 1:5)

Hardscapes artscape waterjec cut inlay sign .  
Hardscapes European Granite, or equal approved.  
Flag Colour: Mid grey  
Inlay: CorTen Steel  
Finish: Flamed  
Dimensions 500mm (W) x 500mm (L) x 65mm (D)  
Jointing: 7.5mm joints.

Note: Cycleway sign to be layed to follow bonding pattern of surrounding 120mm x 220mm paving setts.



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Rev	Comment	Date	By	CHK
001	Revised from M&B	16.11.2022	PL	LF

Project/Project Number:

22101

Project:

ARMADA WAY PUBLIC REALM,  
PLYMOUTH

Drawing Number:

67CA09-STA-ZZ-XX-DR-L-4010-001

rathbonepartnership  
chartered landscape architects

Drawing Title:

PROPOSED WAYFINDING AND SIGNAGE TYPES -  
ALL ZONES

Scale: B40

1:500

Date Drawn:

14.11.2022

Drawn by:

DC

Checked by:

LF

Sub By:

DZ

Revised:

P01



# Appendix B Cycling Level of Service Assessment

# LTN 1/20 CLoS Test

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Total Score	30
Total Available Score	38
Percentage Score	79%
All Critical Tests Met	Yes
Pass or Fail	Pass

Test	Factor	Design Principle	Indicators	Qualitative Test	Score	Comments	Designer's Comments	
Cohesion	1	Connections	Cyclists should be able to easily and safely join and navigate along different sections of the same route and between different routes in the network.	Ability to join/leave route safely and easily: consider left and right turns	Cyclists have dedicated connections to other routes provided, with no interruption to their journey	2	Cycle route is connected with adjoining routes at either end. Although unclear how Zone 4 will operate.	
	2	Continuity and Wayfinding	Routes should be complete with no gaps in provision. 'End of route' signs should not be installed – cyclists should be shown how the route continues. Cyclists should not be 'abandoned', particularly at junctions where provision may be required to ensure safe crossing movements.	Provision for cyclists throughout the whole length of the route	Cyclists are provided with a continuous route, including through junctions	2	Route continues for the full length required.	
	3	Density Of Network	Cycle networks should provide a mesh (or grid) of routes across the town or city. The density of the network is the distance between the routes which make up the grid pattern. The ultimate aim should be a network with a mesh width of 250m.	Density of routes based on mesh width i.e. distances between primary and secondary routes within the network	Route contributes to a network density mesh width <250m	2	Existing cycle route on North Cross Roundabout and continuing on Armada way to the south.	
Distance	4	Distance	Routes should follow the shortest option available and be as near to the 'as-the-crow-flies' distance as possible.	Deviation Factor is calculated by dividing the actual distance along the route by the straight line (crow-fly) distance, or shortest road alternative.	Deviation factor against straight line or shortest road alternative <1.2	2	Straight line distance is 360m. Distance of the route is 383m. Therefore deviation factor is 1.06.	
	5	Time: Frequency of required stops or give ways	The number of times a cyclist has to stop or loses right of way on a route should be minimised. This includes stopping and give ways at junctions or crossings, motorcycle barriers, pedestrian-only zones etc	Stopping and give way frequency	The number of stops or give ways on the route is more than 4 per km	0	12 areas where cyclists should give way to pedestrians or vehicles have been counted. This is shown by the use of Buff Paving on the proposal. This equates to 30 per km.	Armada Way is to all intents and purposes a shopping precinct and as such it is impractical and unreasonable to limit the frequency at which pedestrians are permitted cross the cycleway any more than we have already. Furthermore, at crossing points, a mix of buff tones has been introduced which will alert both cyclists and pedestrians to the presence of a potential hazard. The overall scheme affords ample fields of vision and as such we would anticipate that in reality, and in most instances, cyclists would only need to reduce their speed as opposed to come to a complete halt at these intersections. Whilst Pedestrians should maintain priority along Armada Way, with the clear fields of vision provided, it would be reasonable to assume that most pedestrians when seeing a moving vehicle of any kind would typically stop instead of proceeding into the path of said moving vehicle. A combined awareness from both user groups should be sufficient in significantly reducing the risk of conflict especially compared with the existing situation.
	6	Time: Delay at junctions	The length of delay caused by junctions should be minimised. This includes assessing impact of multiple or single stage crossings, signal timings, toucan crossings etc.	Delay at junctions	Delay for cyclists at junctions is similar to delay for motor vehicles	1	Information provided by PCC states that the raised table crossing on Mayflower Street will give the perception of priority to pedestrians and cyclists, but road users still retain priority. Road is low speed and raised table will encourage low speeds and low flow.	Intention for the paving of the raised table to simply encourage vehicular traffic to exercise additional caution. Much as suggested above, we would anticipate that in most instances responsible pedestrians and cyclists would naturally give way to vehicles already approaching this crossing. However, we would welcome further consultation on this element as the scheme progresses. Additional PCC comment: we would comment that pedestrian and cycle priority would have a detrimental impact to buses, but we are open to getting a view in the consultation.
	7	Time: Delay on links	The length of delay caused by not being able to bypass slow moving traffic.	Ability to maintain own speed on links	Cyclists can usually pass slow traffic and other cyclists	1	Cycleway is 2.55m wide and allows for travel in both directions. The absolute minimum width as specified in Table 5-2 is 2.5m for a 2-way cycleway, providing there is less than 1000 cycles in the peak hour. There is space for overtaking providing that cyclists are not travelling in the opposing lane.	Given the nature of Armada Way as an active environment, we would suggest that reducing speed through the area should be encouraged. Whilst the width of the cycleway has been limited deliberately to encourage slower speeds, it remains wider than the absolute minimum width therefore permitting space for overtaking of particularly slow-moving users.
	8	Gradients	Routes should avoid steep gradients where possible. Uphill sections increase time, effort and discomfort. Where these are encountered, routes should be planned to minimise climbing gradient and allow users to retain momentum gained on the descent.	Gradient compared to chapter 5 of LTN 1/20	Not applicable/No information	n/a	Cycleway is proposed through an existing section of street. Whilst the gradient would fail the test, this is not a new route which can have it's own gradient and is constrained by the local topography. However, the crossfall of the cycleway should not exceed 2.5%.	The maximum crossfall of 4% occurs only in isolated instances and is a direct result of the existing site topography, which affords only limited opportunity for regarding owing to a combination of existing site topography, below ground services, existing tree planting etc. For the majority of the route the design team have worked hard to ensure a typical cross fall of 2.5%, where reasonably practicable.
Safety	9	Reduce/remove speed differences where cyclists are sharing the carriageway	Where cyclists and motor vehicles are sharing the carriageway, the key to reducing severity of collisions is reducing the speeds of motor vehicles so that they more closely match that of cyclists. This is particularly important at points where risk of collision is greater, such as at junctions.	Motor traffic speed on approach and through junctions where cyclists are sharing the carriageway through the junction	Not applicable/No information	n/a	Not applicable as cycle route is off-road and not shared alongside carriageway traffic.	
	10			Motor traffic speed on sections of shared carriageway	Not applicable/No information	n/a	Not applicable as cycle route is off-road and not shared alongside carriageway traffic.	

Test	Factor	Design Principle	Indicators	Qualitative Test	Score	Comments	Designer's Comments
	11	Avoid high motor traffic volumes where cyclists are sharing the carriageway	Cyclists should not be required to share the carriageway with high volumes of motor vehicles. This is particularly important at points where risk of collision is greater, such as at junctions.	Motor traffic volume on sections of shared carriageway, expressed as vehicles per peak hour	Not applicable/No information	n/a	Not applicable as cycle route is off-road and not shared alongside carriageway traffic.
	12	Risk of collision	Where speed differences and high motor vehicle flows cannot be reduced cyclists should be separated from traffic – see Figure 4.1. This separation can be achieved at varying degrees through on-road cycle lanes, hybrid tracks and off-road provision. Such segregation should reduce the risk of collision from beside or behind the cyclist.	Segregation to reduce risk of collision alongside or from behind	Not applicable/No information	n/a	Not applicable as cycle route is off-road and not shared alongside carriageway traffic.
	13		A high proportion of collisions involving cyclists occur at junctions. Junctions therefore need particular attention to reduce the risk of collision. Junction treatments include: Minor/side roads – cyclist priority and/or speed reduction across side roads Major roads – separation of cyclists from motor traffic through junctions.	Conflicting movements at junctions	Not applicable/No information	n/a	Not applicable as cycle route is off-road and not shared alongside carriageway traffic.
	14	Avoid complex design	Avoid complex designs which require users to process large amounts of information. Good network design should be self-explanatory and self evident to all road users. All users should understand where they and other road users should be and what movements they might make.	Legible road markings and road layout	Clear, understandable, simple road markings and road layout.	2	Designated paving pattern to visually define and provide guidance on area usage. Paving pattern in contrasting tone at pedestrian interfaces.
	15	Consider and reduce risk from kerbside activity	Routes should be assessed in terms of all multi-functional uses of a street including car parking, bus stops, parking, including collision with opened door.	Conflict with kerbside activity	Some conflict with kerbside activity – eg less frequent activity on nearside of cyclists, min 2m cycle lanes including buffer.	1	Cycle lane 2.55m wide and allows for travel in opposing directions. It is expected, because of location, that there will be frequent pedestrian activity.
Comfort	16	Reduce severity of collisions where they do occur	Wherever possible routes should include "evasion room" (such as grass verges) and avoid any unnecessary physical hazards such as guardrail, build outs, etc. to reduce the severity of a collision should it occur.	Evasion room and unnecessary hazards	Cyclists at risk of being trapped by physical hazards along more than half of the route.	0	With the cycle route adjacent to a water feature on one side and trees/vegetation on the other, there are proposed physical barriers either side of the cycleway. Therefore, there is a lack of evasion room, should cyclists find themselves in a collision.  Concerning the proximity of the cycleway to the axial water rill, the design intent has always been to utilise this relatively shallow (max 590mm) feature to provide segregation between cyclists and pedestrians along the north-south axis to significantly reduce the likelihood of pedestrians straying onto the cycleway. It is also intended to encourage cyclists to traverse the space more responsibly since the rill introduces a varying level change along one side of the cycleway. It could be argued that an LTN Compliant unguarded cycleway running parallel with vehicular traffic provides significantly higher risk of injury than one running alongside a relatively shallow water feature. The position of the cycleway was one of the most significant design drivers during the initial design stages and having tried various configurations, we are confident that the current arrangement offers the best solution to minimising conflict between cycles and pedestrians as much as reasonably possible.
	17	Surface quality	Density of defects including non cycle friendly ironworks, raised/sunken covers/gullies, potholes, poor quality carriageway paint (e.g. from previous cycle lane)	Major and minor defects	Smooth high grip surface	2	With the whole scheme being a rejuvenation of the area, the cycle route is designed with a high grip surface and no defects present.
	18		Pavement or carriageway construction providing smooth and level surface	Surface type	Machine laid smooth and non-slip surface – eg Thin Surfacing, or firm and closely jointed blocks undisturbed by turning heavy vehicles.	2	The plan provided shows granite sett paving. It is assumed that due to a new cycle facility being provided the surface type will be to a high standard. This will require adequate supervision in the construction phase.
	19	Effective width without conflict	Cyclists should be able to comfortably cycle without risk of conflict with other users both on and off road.	Desirable minimum widths according to volume of cyclists and route type (where cyclists are separated from motor vehicles).	No more than 25% of the route includes cycle provision with widths which are no more than 25% below desirable minimum	1	The cycle provision consists of a two-way track with additional clearances provided to account for edge constraints. The route is less than the desirable 3.0m width as set out in Table 5-2 of LTN 1/20 but, is not less than 25% below the desirable width (2.25m).

Test	Factor	Design Principle	Indicators	Qualitative Test	Score	Comments	Designer's Comments	
Attractiveness	20	Wayfinding	Non-local cyclists should be able to navigate the routes without the need to refer to maps.	Signing	Route is well signed with signs located at all decision points and junctions	2	The route is well signed with proposed information Totems and fingerpost signs throughout.	
	21	Social safety and perceived vulnerability of user	Routes should be appealing and be perceived as safe and usable. Well used, well maintained, lit, overlooked routes are more attractive and therefore more likely to be used.	Lighting	Route is lit to highway standards throughout	2	Lighting designed to the relevant standards will be provided along the route.	
	22			Isolation	Route is overlooked throughout its length	2	The route is located within the heart of the city and is surrounded by commercial businesses.	
	23	Impact on pedestrians, including people with disabilities	Introduction of dedicated on-road cycle provision can enable people to cycle on-road rather than using footways which are not suitable for shared use. Introducing cycling onto well used footpaths may reduce the quality of provision for both users, particularly if the shared use path does not meet recommended widths.	Impact on pedestrians, Pedestrian Comfort Level based on Pedestrian Comfort guide for London (Section 6.1)	Pedestrian provision enhanced by cycling provision, or Pedestrian Comfort Level remains at A	2	Both the pedestrian and cycle provision are being enhanced.	
	24	Minimise street clutter	Signing required to support scheme layout	Signs informative and consistent but not overbearing or of inappropriate size	Signing for wayfinding purposes only and not causing additional obstruction.	2	Minor signage required for route, no major physical obstructions should be present.	
	25	Secure cycle parking	Ease of access to secure cycle parking within businesses and on-street	Evidence of bicycles parked to street furniture or cycle stands	Secure cycle parking provided, sufficient to meet demand	2	Existing cycle parking present in the area. Drawing provided shows proposed covered cycle parking for the general public as well as a separate storage area for courier bicycles.	

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