

PEDESTRIAN GUARDRAIL RISK ASSESSMENT

DULWICH VILLAGE – OUTLINE DESIGN

LONDON BOROUGH OF SOUTHWARK



DULWICH VILLAGE – OUTLINE DESIGN - PEDESTRIAN GUARDRAIL RISK ASSESSMENT

LONDON BOROUGH OF SOUTHWARK

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1 INTRODUCTION

1.1 Introduction

- 1.1.1 The London Borough of Southwark commissioned Metis NRP to redesign the existing Dulwich Village / Calton Avenue / Turney Road junction to improve the public realm, create a new public space and improve conditions for pedestrians and cyclists. A Stage 1 Road Safety Audit (RSA1) has since been undertaken on the proposed outline design. The audit was undertaken in June 2023 and the report recommended a safety assessment to be carried out for the proposed removal of the pedestrian guard railing along the north-western section of Dulwich Village and Turney Road.
- 1.1.2 This document has been produced in response to recommendation raised in the RSA1 report. The aim of the report is to assess the safety implications of either removing or maintaining the existing guard railing. The scheme design is included in Appendix A.

1.2 Background

- 1.2.1 The existing guard railing is placed along the edge of the footway where the Dulwich Village C of E school is located. As expected, a high number of pedestrians use these footways to travel to and from the school, especially in the morning and afternoon periods.

2 GUARDRAIL ASSESSMENT

2.1 Existing traffic conditions

2.1.1 Since the pedestrian guardrail was installed (pre-2008) a new 20mph speed limit has been introduced in the area. In addition, new bus gates have been installed restricting northbound traffic to buses only Monday to Friday from 8:00-9:00am and 15:00-16.30pm. It is thought that the combination of lower speed limits and a reduction in traffic volumes has significantly reduced the need for pedestrian guard railing. Especially as the busiest periods for pedestrians are at school opening and closure times when traffic volumes are at the lowest due to the bus gates.

2.2 Collision data

2.2.1 Collision data is only available from after the guard rail was installed. It is not possible to determine the efficacy of the guard rail with the collision data available or what would be the number of collisions if there was no guardrail.

2.3 Design considerations

2.3.1 The design proposals were developed following the Southwark Streetscape Design Manual SSDM (Rev. May 2020) Section 5.14 Pedestrian Guard-Railing. The manual recommends the systematic removal of guard railing as segregating pedestrians behind barriers creates a hostile environment. The guard railing also encourages higher traffic speeds and pedestrians or cyclists can be trapped between traffic and the barrier, posing a safety risk.

2.3.2 While analysing existing video footage of the junction, it was observed that a number of pedestrians cross Dulwich Village from the south-east corner of the junction to the gap in the guard railing, as shown in the Figure 2-1, in an attempt to short cut to their destination. There are safety concerns for pedestrians crossing the road as described and, in this instance, the existing guard rail creates a potential safety issue.

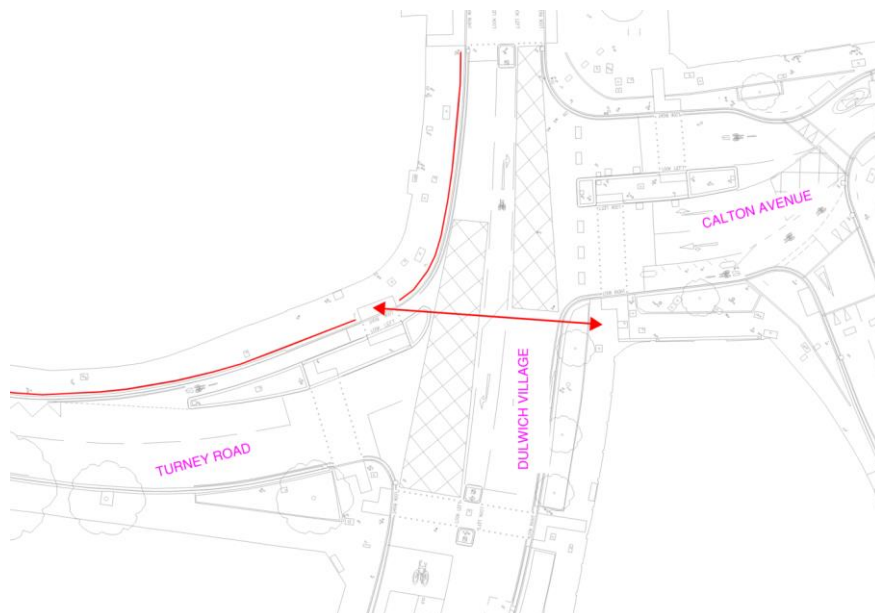


Figure 2-1: Locations of guard railing and informal crossing.

2.3.3 A snapshot of the proposed design is included in Figure 2-2. The design itself will mitigate against the removal of guard railing causing a safety issue in the following ways:

- Significant footway widening on Turney Road.
- Narrowing of the carriageway on Turney Road and Dulwich Village encouraging lower traffic speeds.
- Complete re-design of the area will give visual priority to pedestrians and cyclists and reduce the dominance of motor traffic.
- Wider pedestrian crossings provided on pedestrian desire lines will enable pedestrians to cross safely and efficiently.
- Places to wait and rest will discourage parents and carers from congregating on busy footways.

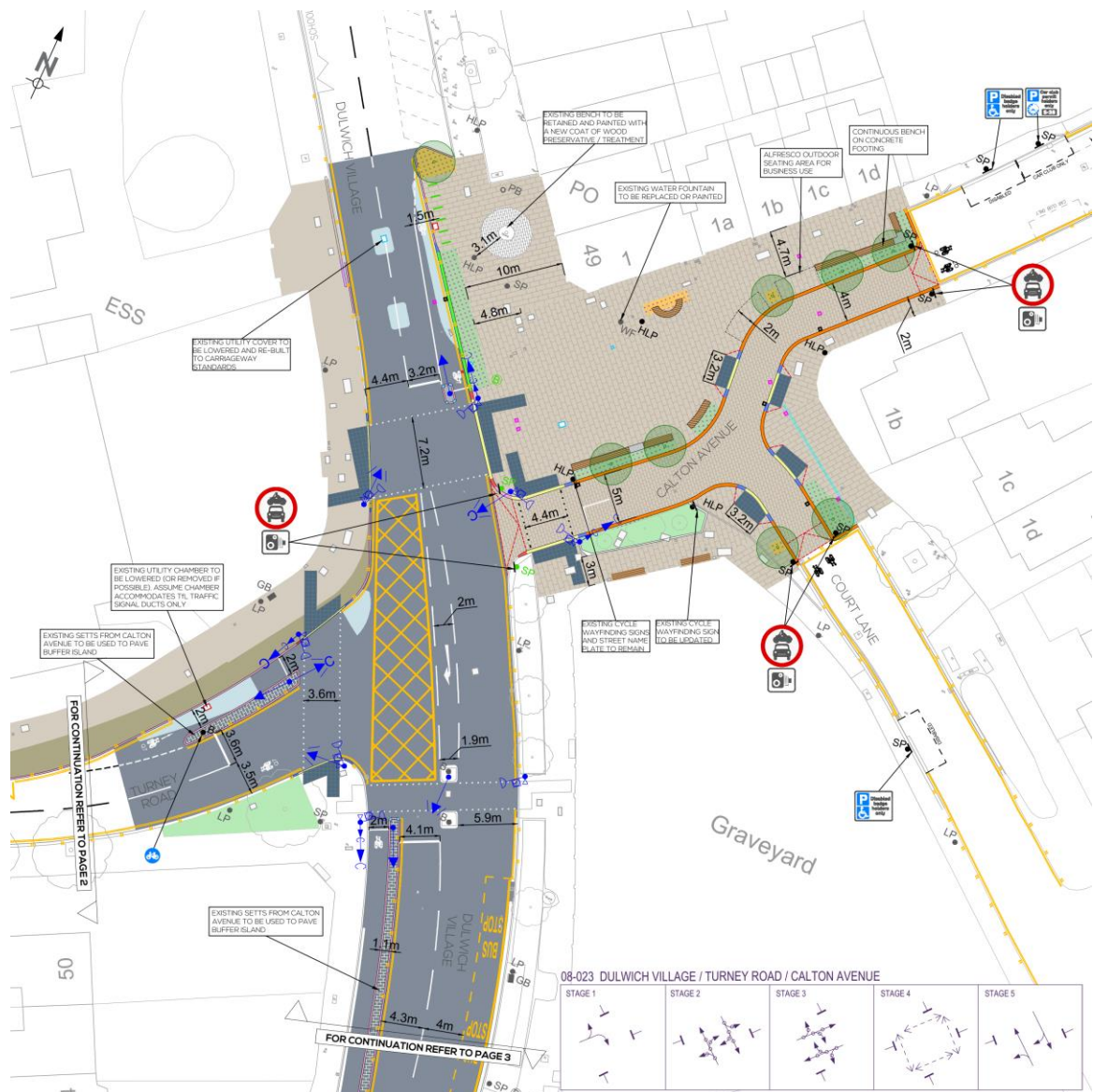


Figure 2-2: Snapshot of proposed design.

2.3.4 In 2011 TfL commenced a programme to remove large amounts of pedestrian railings on the Transport for London Road Network (TLRN). Following the removal of pedestrian railings at 70 junctions and crossings in London there was a statistically significant fall of 56% in the number of collisions involving pedestrians who were killed or seriously injured. There was also a fall of 48% in the number of Killed or Seriously Injured (KSI) collisions for all users. This compares to a background trend on the whole TfL Road Network of falls of 14% and 19% respectively. Further detailed analysis was carried out to identify pedestrian collisions that occurred in the vicinity of ‘reverse’ and ‘forward’ staggered crossings. This showed reductions of 76% and 67% in KSI collisions at each type respectively with the former being statistically significant. Source: [Pedestrian railings removal report \(tfl.gov.uk\)](https://www.tfl.gov.uk/road-network/roadworks/pedestrian-railings-removal-report)

2.4 Pedestrian Comfort Level

- 2.4.1 A Pedestrian Comfort Level (PCL) assessment has been undertaken for the existing and proposed situations following TfL guidelines to identify the congestion on different sections of footway and to identify if there is an increased risk of pedestrians stepping into the footway if the guard railing is removed.
- 2.4.2 To undertake the PCL assessment, 15-minute spot counts were undertaken and factored up to hourly counts. These were undertaken on three different days: 22nd, 23rd and 24th of March 2023. The full counts and calculations are included in Appendix B.
- 2.4.3 To undertake the PCL analysis the footway where the guard railing is to be removed has been split into 22 sections and these analysed individually. The full PCL analysis is shown in Appendix C. Summaries of the existign average, peak and max PCL are displayed in Figure 2-3 with comparisons with the proposals shown in Figure 2-4, Figure 2-5 and Figure 2-6. In all graphs the minimum recommended PCL (B+) is highlighted in red.

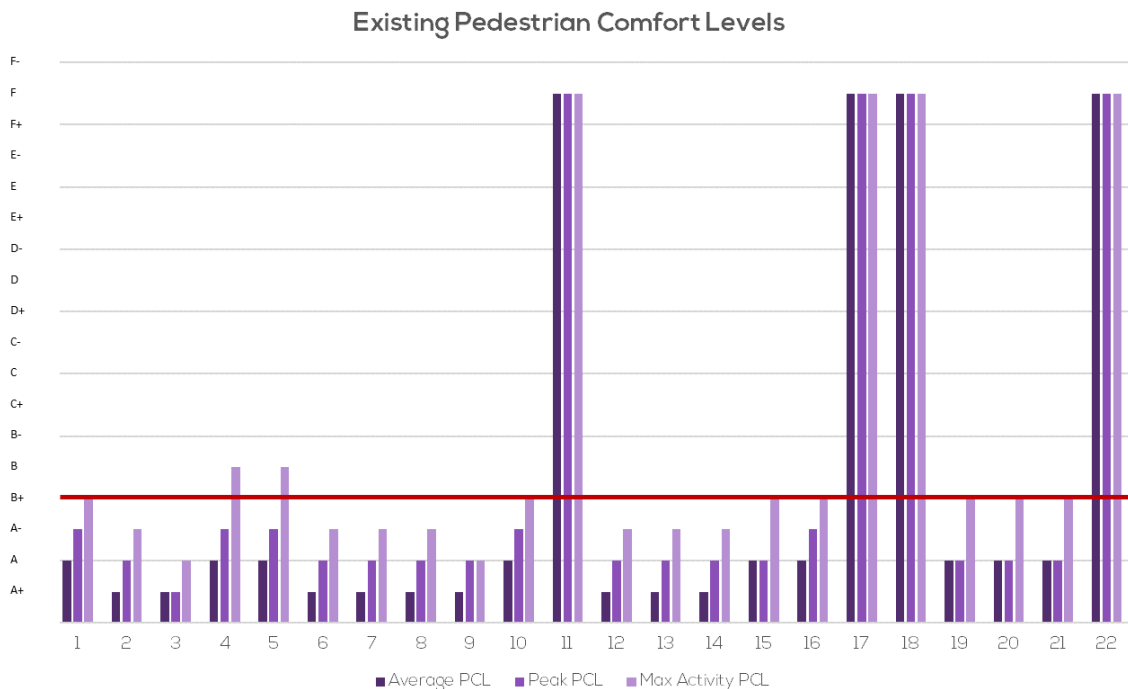


Figure 2-3: Existing Average, Peak and Max PCL

2.4.4 Figure 2-3 shows that existing average and peak PCLs are above the recommended minimum at four locations, with all four locations receiving the second worst comfort level (F). When the maximum level within the peak is assessed an additional two locations are above the recommended minimum levels.

2.4.5 Figure 2-4, Figure 2-5 and Figure 2-6 show that when the scheme is implemented, the average, peak and max PCLs are all below the recommended minimum. This is due to the following design changes:

- Significantly wider footways
- Removal of pedestrian guard railing, increasing usable footway
- Relocation of street furniture

2.4.6 The average PCL assessments are also shown schematically in Figure 2-7 and Figure 2-8.

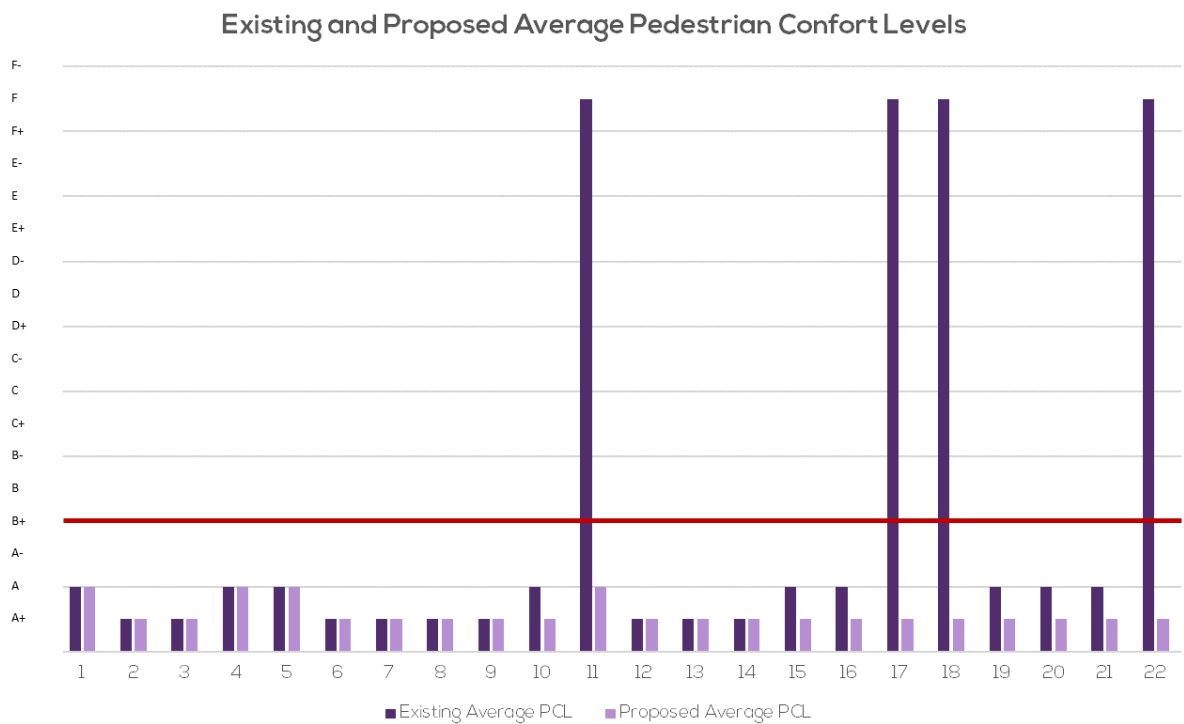


Figure 2-4: Existing and Proposed Average PCL

Existing and Proposed Peak Pedestrian Confort Levels

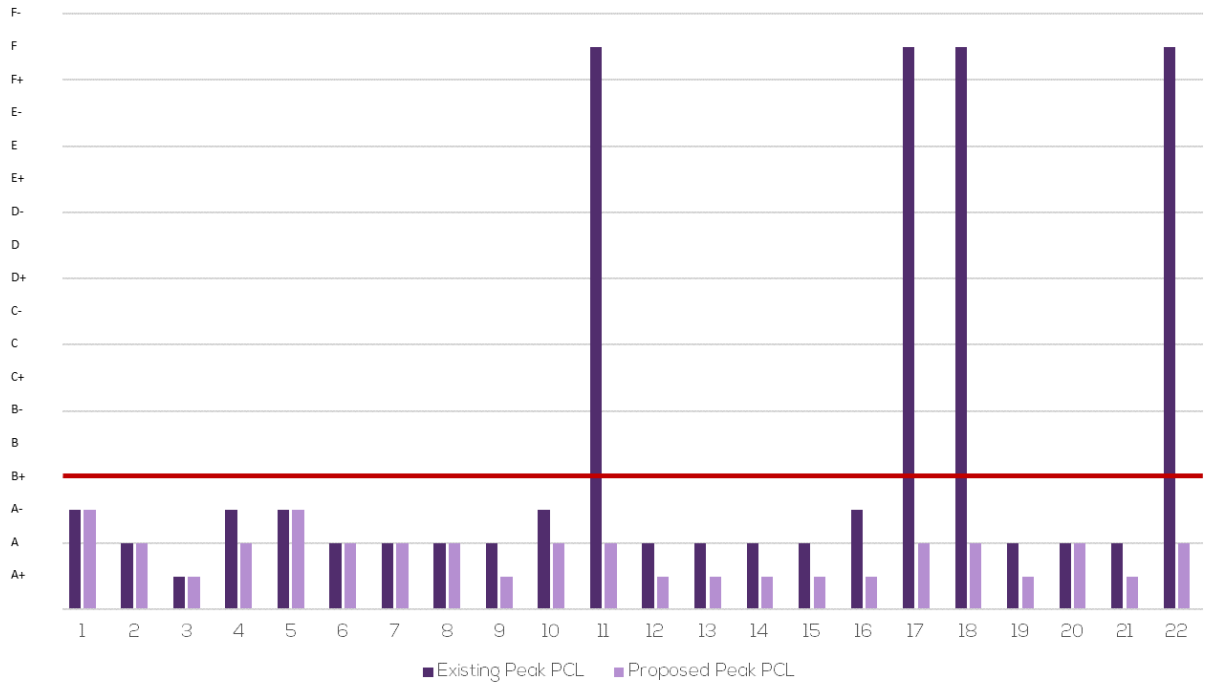


Figure 2-5: Base and Proposed Peak PCL

Existing and Proposed Max Pedestrian Confort Levels

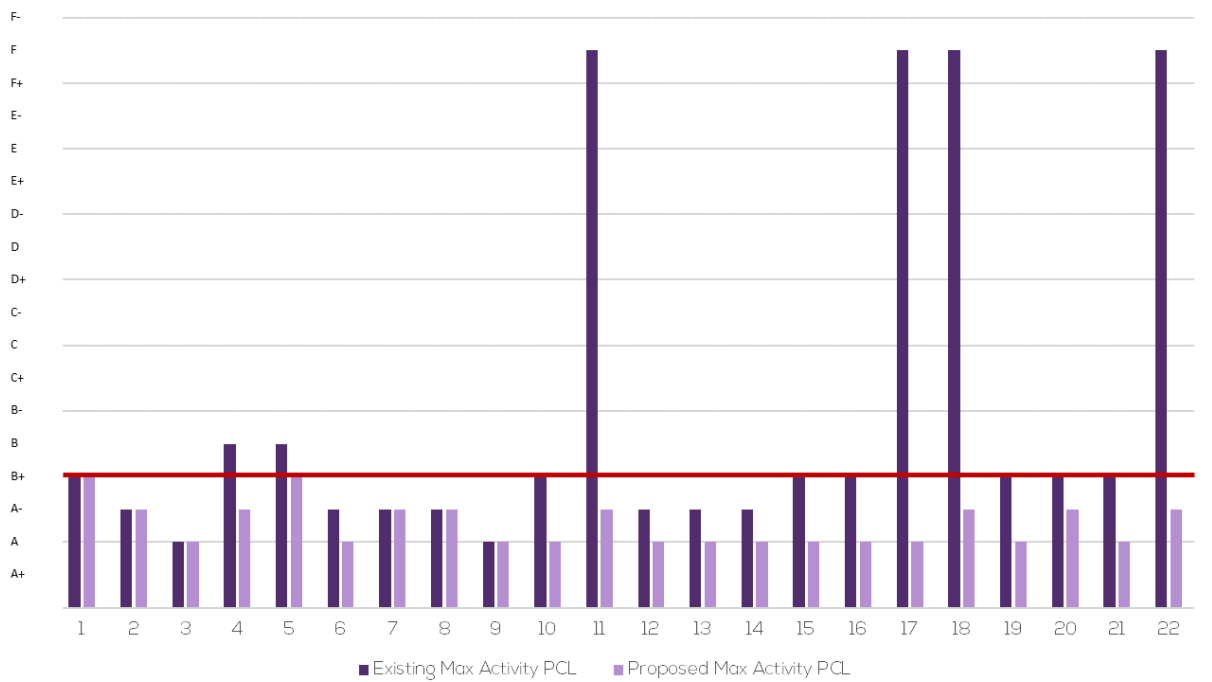


Figure 2-6: Base and Proposed Max PCL

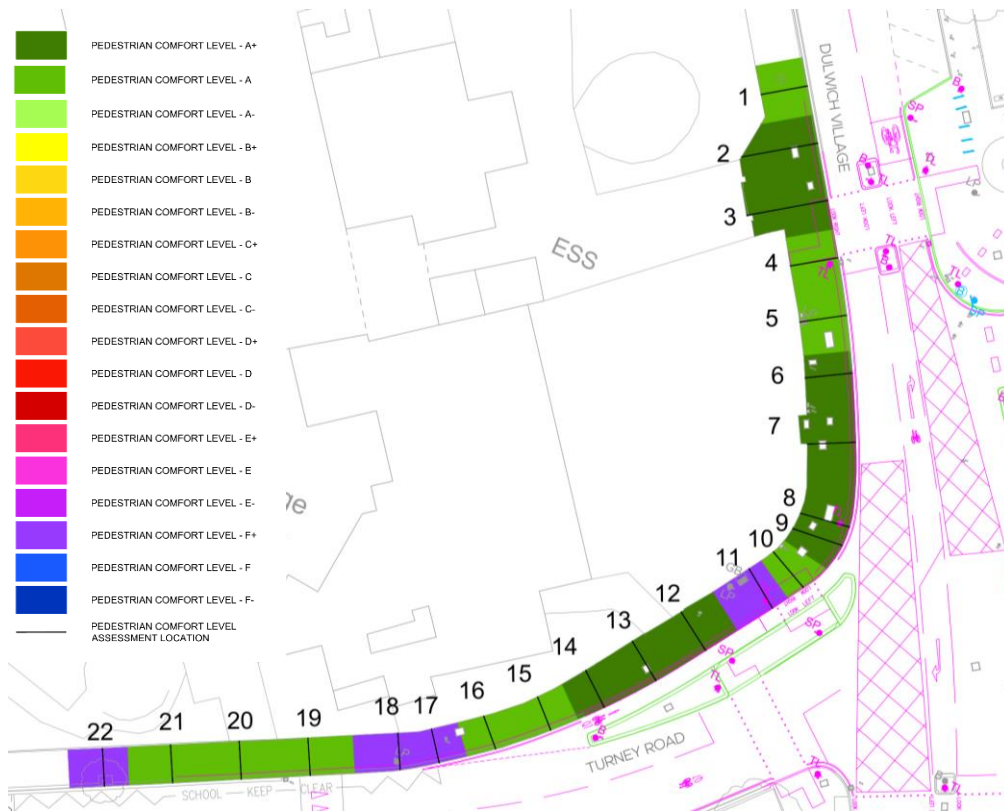


Figure 2-7: Existing Average PCLs

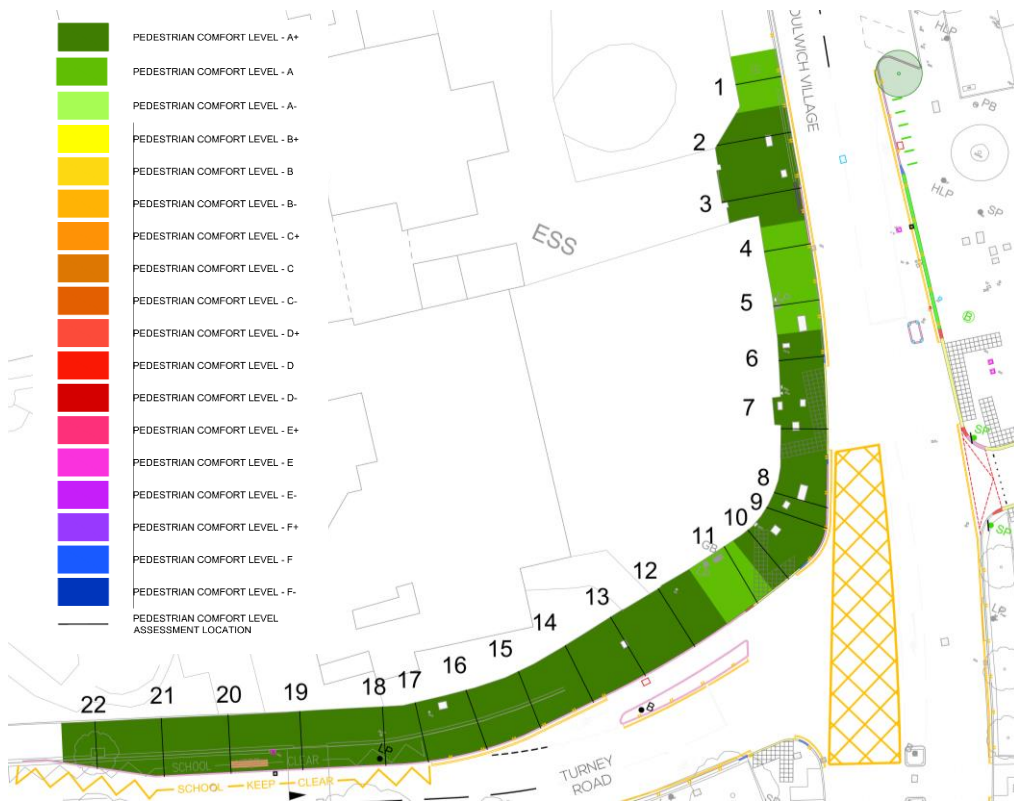


Figure 2-8: Proposed Average PCLs

3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Conclusions

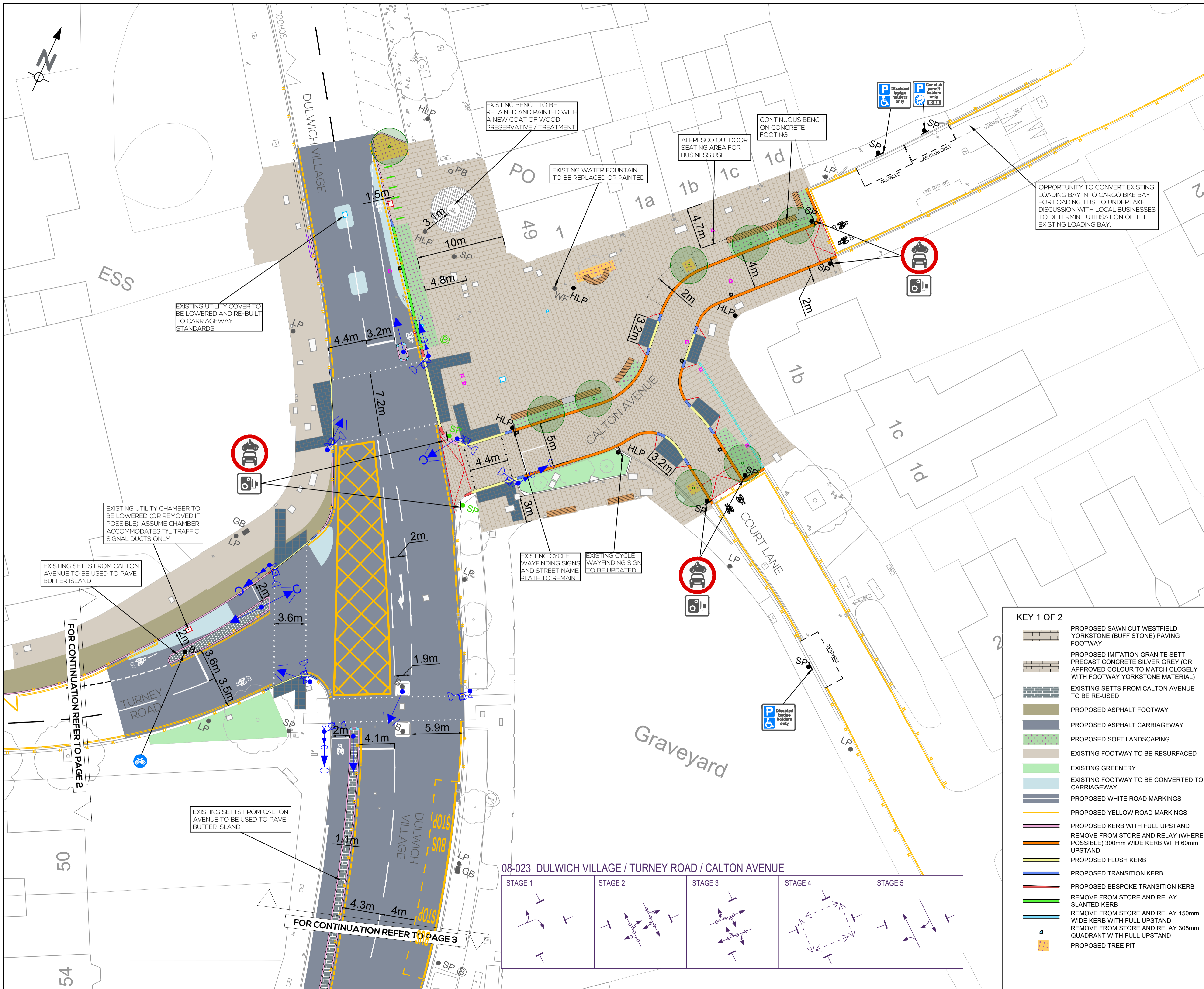
- 3.1.1 The current design proposals include the removal of a significant amount of pedestrian guard railing on Dulwich Village and Turney Road. A recommendation was provided in the stage 1 RSA that an assessment of the safety of doing so was undertaken.
- 3.1.2 As part of this analysis a Pedestrian Comfort Level (PCL) assessment has been undertaken, which shows that sections of the existing footway can become uncomfortable for users due to the volume of pedestrians in the available space – this ties in with complaints received from members of the public and observations made by NRP staff during site visits. This poses a risk that pedestrians might step into the carriageway if guard railing is removed.
- 3.1.3 The same PCL assessment has been undertaken on the proposed design, which shows that all footways will operate below the recommended minimum (B+) for all users, even during the busiest periods.
- 3.1.4 There are also concerns that the existing guard railing encourages pedestrians to take a short cut across Dulwich Village at an unsafe crossing point.

3.2 Recommendation

- 3.2.1 Based on the assessment undertaken it is considered that the removal of the guard railing would not pose a safety risk to pedestrians and is in alignment with current TfL and Southwark guidance. The following mitigation against any perceived safety risk is included in the scheme design or already in place:
- Significant footway widening on Turney Road.
 - Narrowing of the carriageway on Turney Road and Dulwich Village encouraging lower traffic speeds.
 - Complete re-design of the area will give visual priority to pedestrians and cyclists and reduce the dominance of motor traffic.
 - Wider pedestrian crossings provided on pedestrian desire lines will enable pedestrians to cross safely and efficiently.
 - Places to wait and rest will discourage parents and carers from congregating on busy footways.
 - Removing the guard railing will increase the usable footway width.
 - The design proposes to retain a section of the guard rail directly opposite the entrance to the school on Dulwich Village. Similarly, opposite the school entrance on Turney Road, the design proposes the use of street furniture (bench) to provide a barrier for children stepping into the carriageway.
 - The speed limit has been lowered from 30mph to 20mph since the guard railing was originally introduced.
 - A bus gate is in operation south of the scheme, removing northbound through traffic during the hours when pedestrian volumes are at their highest.
 - The relocation of the pedestrian crossing north of the junction and removal of guard railing will reduce the temptation to cut across the junction diagonally to the only gap currently available.
 - Upon implementation of the scheme, it is recommended that the site is monitored to assess if there is any increased risk for pedestrians.

APPENDIX A: SCHEME DESIGN





- NOTES:
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 - TRANSITION OF MATERIALS TO BE FINALISED DURING DETAILED DESIGN STAGE.

- KEY 2 OF 2
- PROPOSED DRAINAGE CHANNEL KERB
 - EXISTING KERB
 - PROPOSED RAMP
 - PROPOSED GUARDRAIL
 - EXISTING GUARDRAIL TO REMAIN
 - PROPOSED TACTILES
 - INDICATIVE LOCATION OF PROPOSED GULLY
 - EXISTING GULLY
 - EXISTING GULLY TO BE REMOVED
 - HLP ● PROPOSED HERITAGE LIGHTING
 - SP ● PROPOSED SIGN POST
 - B ● PROPOSED BOLLARD
 - PROPOSED RELOCATED CYCLE STAND
 - PROPOSED RELOCATED LITTER BIN
 - LP ● EXISTING LIGHTING COLUMN TO REMAIN
 - SP ● EXISTING SIGN POST TO REMAIN
 - PB ○ EXISTING POST BOX TO REMAIN
 - WF ● EXISTING THAMES WATER DRINKING WATER FOUNTAIN TO REMAIN
 - B ● EXISTING BOLLARD TO REMAIN
 - GB ■ EXISTING GRIT BOX TO REMAIN
 - EXISTING LITTER BIN TO REMAIN
 - PROPOSED BENCH
 - PROPOSED TREE
 - PROPOSED TRAFFIC SIGNAL
 - EXISTING UTILITY COVER TO BE RAISED / LOWERED TO SUIT NEW LEVELS
 - EXISTING UTILITY COVER MAY NEED TO BE RELOCATED TO ACCOMMODATE PROPOSED KERB
 - EXISTING UNAFFECTED UTILITY COVER

- KEY 1 OF 2
- PROPOSED SAWN CUT WESTFIELD YORKSTONE (BUFF STONE) PAVING FOOTWAY
 - PROPOSED IMITATION GRANITE SETT PRECAST CONCRETE SILVER GREY (OR APPROVED COLOUR TO MATCH CLOSELY WITH FOOTWAY YORKSTONE MATERIAL)
 - EXISTING SETTS FROM CALTON AVENUE TO BE RE-USED
 - PROPOSED ASPHALT FOOTWAY
 - PROPOSED ASPHALT CARRIAGEWAY
 - PROPOSED SOFT LANDSCAPING
 - EXISTING FOOTWAY TO BE RESURFACED
 - EXISTING GREENERY
 - EXISTING FOOTWAY TO BE CONVERTED TO CARRIAGEWAY
 - PROPOSED WHITE ROAD MARKINGS
 - PROPOSED YELLOW ROAD MARKINGS
 - PROPOSED KERB WITH FULL UPSTAND REMOVE FROM STORE AND RELAY (WHERE POSSIBLE) 300mm WIDE KERB WITH 60mm UPSTAND
 - PROPOSED FLUSH KERB
 - PROPOSED TRANSITION KERB
 - PROPOSED BESPOKE TRANSITION KERB REMOVE FROM STORE AND RELAY SLANTED KERB
 - REMOVE FROM STORE AND RELAY 150mm WIDE KERB WITH FULL UPSTAND
 - REMOVE FROM STORE AND RELAY 305mm QUADRANT WITH FULL UPSTAND
 - PROPOSED TREE PIT

REV	REV. DATE	PURPOSE OF REVISION	DRAWN	CHKD	APPRVD
4.0	04/07/2023	UPDATED FOLLOWING CLIENT COMMENTS	LB	DV	DW
3.0	26/06/2023	UPDATED FOLLOWING CLIENT COMMENTS	LB	DV	DW
2.0	11/05/2023	UPDATED FOLLOWING CLIENT COMMENTS	LB	DV	DW
1.0	25/04/2023	FIRST ISSUE	LB	DV	DW



CLIENT: Southwark Council
 PROJECT: TURNEY ROAD AND CALTON AVENUE OUTLINE DESIGN

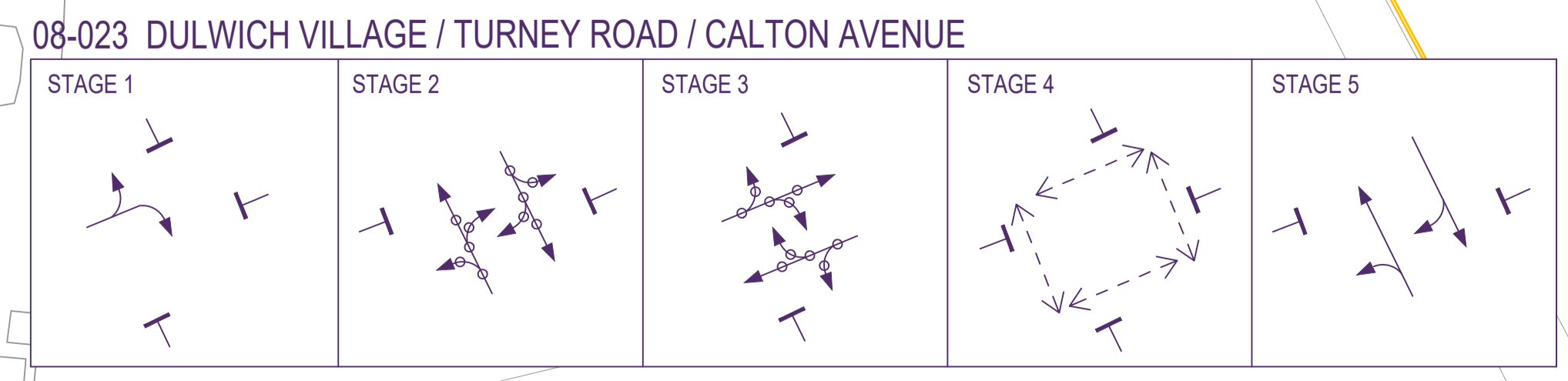
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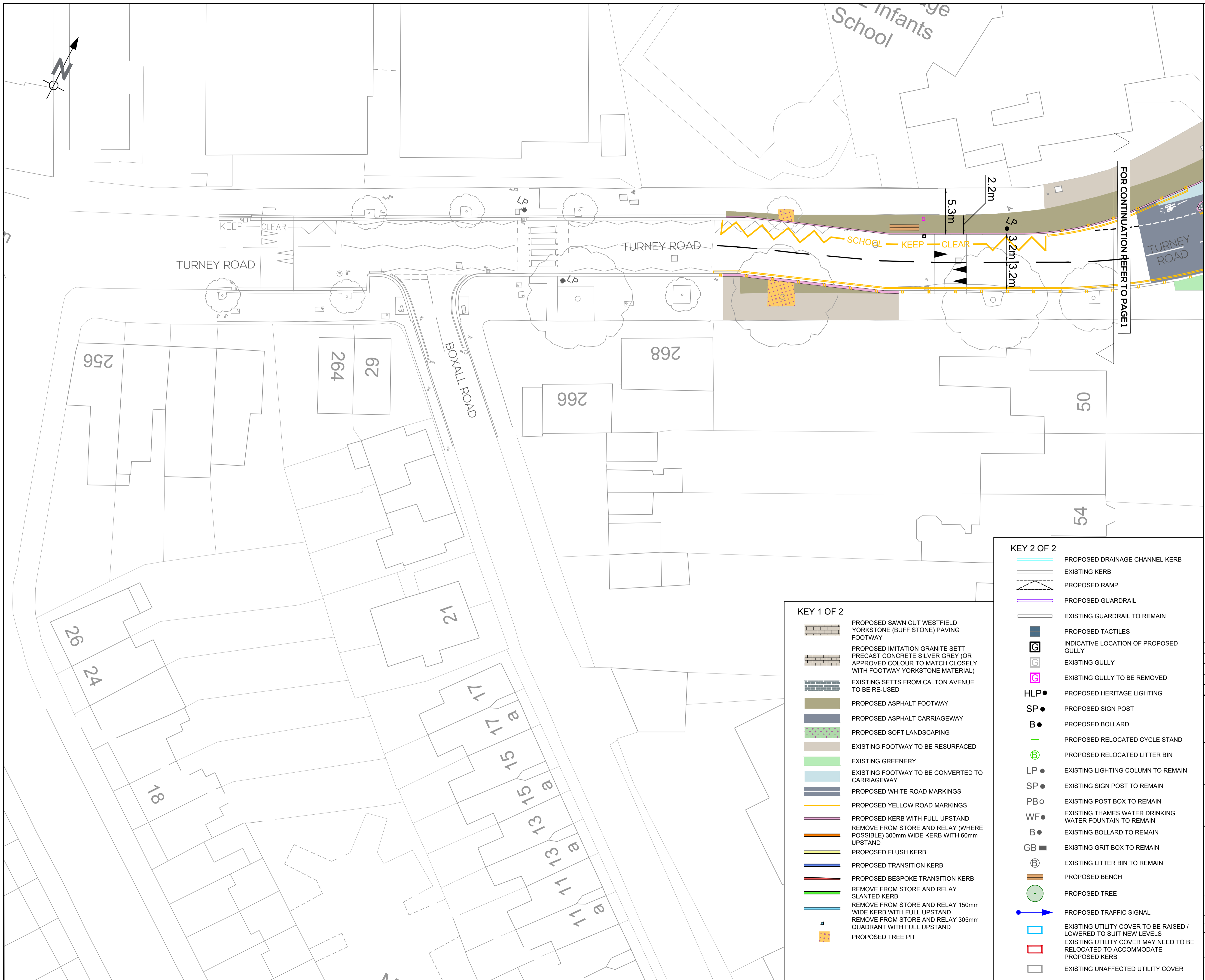
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08-023 DULWICH VILLAGE / TURNEY ROAD / CALTON AVENUE



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 - EXISTING GREENERY
 - EXISTING FOOTWAY TO BE CONVERTED TO CARRIAGEWAY
 - PROPOSED WHITE ROAD MARKINGS
 - PROPOSED YELLOW ROAD MARKINGS
 - PROPOSED KERB WITH FULL UPSTAND
 - REMOVE FROM STORE AND RELAY (WHERE POSSIBLE) 300mm WIDE KERB WITH 60mm UPSTAND
 - PROPOSED FLUSH KERB
 - PROPOSED TRANSITION KERB
 - PROPOSED BESPOKE TRANSITION KERB
 - REMOVE FROM STORE AND RELAY SLANTED KERB
 - REMOVE FROM STORE AND RELAY 150mm WIDE KERB WITH FULL UPSTAND
 - REMOVE FROM STORE AND RELAY 305mm WIDE KERB WITH FULL UPSTAND
 - PROPOSED TREE PIT

- KEY 2 OF 2**
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 - PROPOSED RAMP
 - PROPOSED GUARDRAIL
 - EXISTING GUARDRAIL TO REMAIN
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 - PROPOSED SIGN POST
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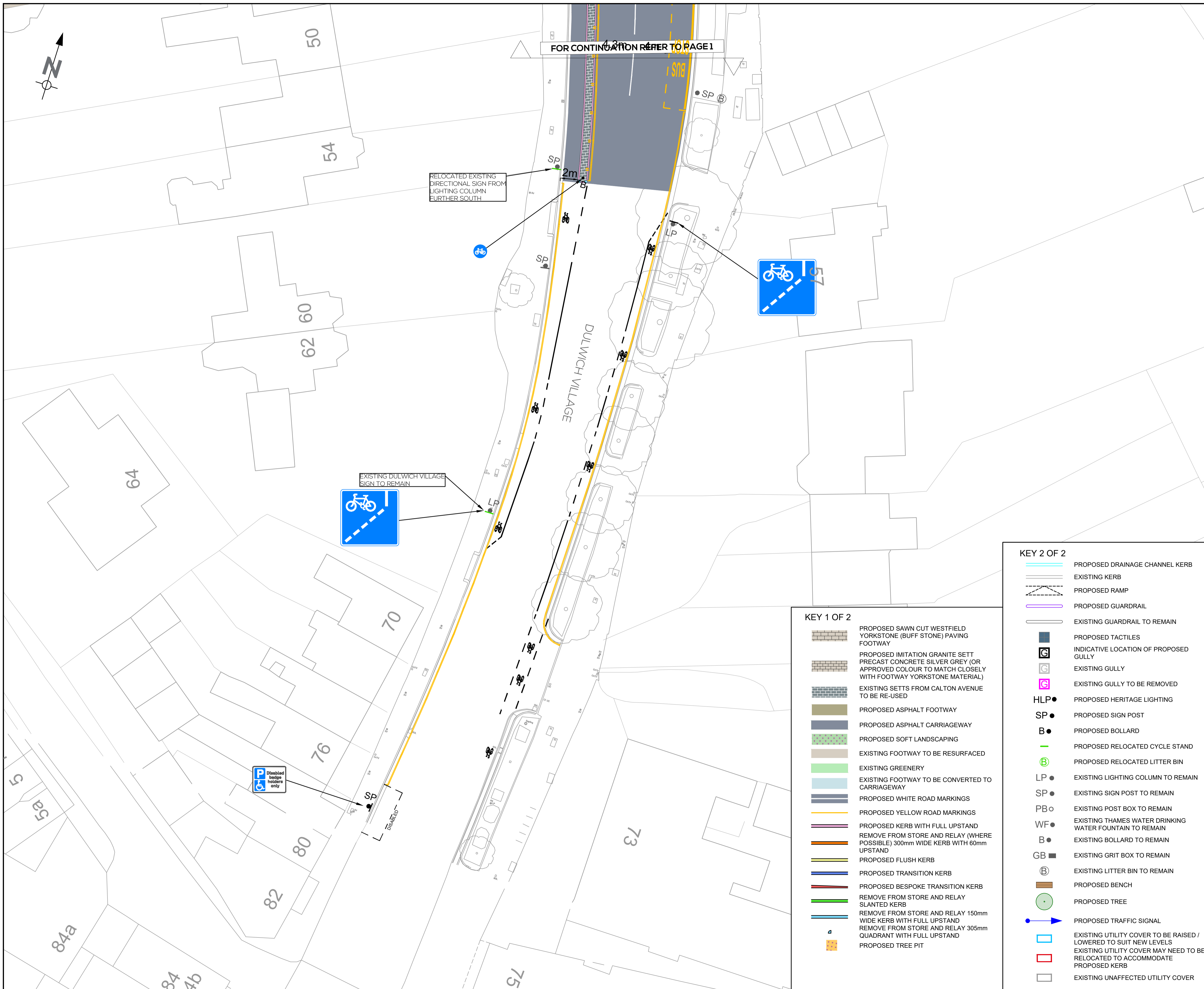
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	SP ● PROPOSED SIGN POST
	B ● PROPOSED BOLLARD
	● PROPOSED RELOCATED CYCLE STAND
	ⓑ PROPOSED RELOCATED LITTER BIN
	LP ● EXISTING LIGHTING COLUMN TO REMAIN
	SP ● EXISTING SIGN POST TO REMAIN
	PB ○ EXISTING POST BOX TO REMAIN
	WF ● EXISTING THAMES WATER DRINKING WATER FOUNTAIN TO REMAIN
	B ● EXISTING BOLLARD TO REMAIN
	GB ● EXISTING GRIT BOX TO REMAIN
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	■ PROPOSED BENCH
	○ PROPOSED TREE
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CLIENT

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PROJECT

TURNEY ROAD AND CALTON AVENUE OUTLINE DESIGN

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GENERAL ARRANGEMENT

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SCALE 1:200 @ A1 **DO NOT SCALE**

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APPENDIX B: PEDESTRIAN COUNT DATA



Estimated?	Time	Average hourly pedestrian footfall		
		2023-03-22	2023-03-23	2023-03-24
0 Y	00:00 - 01:00*	5	5	5
1 Y	01:00 - 02:00*	5	5	5
2 Y	02:00 - 03:00*	5	5	5
3 Y	03:00 - 04:00*	5	5	5
4 Y	04:00 - 05:00*	5	5	5
5 Y	05:00 - 06:00*	5	5	5
6 n	06:00 - 07:00	-	12	12
7 N	07:00 - 08:00		320	140
8 N	08:00 - 09:00		404	532
9 y	09:00 - 10:00*	181	181	181
10 Y	10:00 - 11:00*	54	54	54
11 Y	11:00 - 12:00*			
12 N	12:00 - 13:00	-	52	56
13 Y	13:00 - 14:00*	54	54	54
14 Y	14:00 - 15:00*	54	54	54
15 N	15:00 - 16:00	668	644	616
16 N	16:00 - 17:00	160	204	180
17 Y	17:00 - 18:00*			
18 N	18:00 - 19:00	88	60	32
19 Y	19:00 - 20:00*			
20 Y	20:00 - 21:00*			
21 Y	21:00 - 22:00*			
22 N	22:00 - 23:00	4	16	0
23 Y	23:00 - 23:59*			

ave hrly ffall 93.5
ave peak ffall 386.8
max ffall 668.0

Notes

1. Peak times have been defined as 07.00am-9.00am and 15.00pm-17.00pm
2. Asterisk denotes assumed footfall

APPENDIX C: FULL PCL ASSESSMENTS



Sign Off		Assessed By		Date		
		Reviewed By		Date		
Summary Info	Location Name	1	2	3	4	5
	Location Type	Full Footway Width	Static Activity	Static Activity	Street Furniture (Single)	Street Furniture (Multiple)
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	4.1603m	6.2741m	7.2722m	4.2506m	4.1741m
	Clear Footway Width	1.9603m	2.8741m	5.0722m	1.6506m	1.5741m
	Total Street Furniture Impact	1.5m	2.7m	1.5m	1.9m	1.9m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A- : 6 ppmm	A : 4 ppmm	A+ : 2 ppmm	A- : 7 ppmm	A- : 7 ppmm
	Total Width Required for PCL B+	3.70	4.90	3.70	4.10	4.10
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.50	1.50
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	B+ : 10 ppmm	A- : 7 ppmm	A : 4 ppmm	B : 12 ppmm	B : 12 ppmm
	Total Width Required for PCL B+	3.82	5.02	3.82	4.22	4.22
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	This level of comfort is appropriate for periods of additional stress for all Area Types	This level of comfort is appropriate for periods of additional stress for all Area Types
Impact	Notes					
Impact	Mitigation					

Sign Off		Assessed By		Date		
		Reviewed By		Date		
Summary Info	Location Name	6	7	8	9	10
	Location Type	Street Furniture (Single)	Street Furniture (Single)	Street Furniture (Multiple)	Street Furniture (Single)	Full Footway Width
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	4.17m	4.27m	4.5081m	4.636m	4.1455m
	Clear Footway Width	3.07m	3.17m	2.9081m	3.536m	1.9455m
Total Street Furniture Impact		0.4m	0.4m	0.9m	0.4m	1.8m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A : 4 ppmm	A : 4 ppmm	A : 4 ppmm	A : 3 ppmm	A- : 6 ppmm
	Total Width Required for PCL B+	2.60	2.60	3.10	2.6	3.7
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.5	1.5
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	A- : 6 ppmm	A- : 6 ppmm	A- : 7 ppmm	A : 5 ppmm	B+ : 10 ppmm
	Total Width Required for PCL B+	2.72	2.72	3.22	2.72	3.82
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.
Impact	Notes					
Impact	Mitigation					

Sign Off		Assessed By		Date		
		Reviewed By		Date		
Summary Info	Location Name	11	12	13	14	15
	Location Type	Street Furniture (Multiple)	Street Furniture (Single)	Street Furniture (Single)	Street Furniture (Single)	Street Furniture (Single)
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	4.0654m	4.0383m	4.0899m	3.6837m	3.1757m
	Clear Footway Width	1.4654m	2.9383m	2.9899m	2.5837m	2.0757m
	Total Street Furniture Impact	1.9m	0.4m	0.4m	0.4m	0.4m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	F : 8 ppmm	A : 4 ppmm	A : 4 ppmm	A : 4 ppmm	A : 5 ppmm
	Total Width Required for PCL B+	4.10	2.60	2.60	2.60	2.60
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.50	1.50
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	F : 13 ppmm	A- : 7 ppmm	A- : 6 ppmm	A- : 7 ppmm	B+ : 9 ppmm
	Total Width Required for PCL B+	4.22	2.72	2.72	2.72	2.72
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	Although in practice it may be possible to walk along the street, the clear footway width is insufficient for comfortable movement.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Although in practice it may be possible to walk along the street, the clear footway width is insufficient for comfortable movement.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.
Impact	Notes					
Impact	Mitigation					

Sign Off	Assessed By		Date			
	Reviewed By		Date			
Summary Info	Location Name	16	17	18	19	20
	Location Type	Street Furniture (Single)	Static Activity	Static Activity	Street Furniture (Single)	Street Furniture (Single)
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	3.1015m	3.0726m	3.3414m	3.3276m	3.3685m
	Clear Footway Width	2.0015m	0.8726m	0.6414m	2.2276m	2.2685m
	Total Street Furniture Impact	0.4m	1.5m	2m	0.4m	0.4m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A- : 6 ppmm	F : 13 ppmm	F : 17 ppmm	A : 5 ppmm	A : 5 ppmm
	Total Width Required for PCL B+	2.60	3.70	4.20	2.6	2.6
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.5	1.5
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	B+ : 10 ppmm	F : 22 ppmm	F : 30 ppmm	B+ : 9 ppmm	B+ : 9 ppmm
	Total Width Required for PCL B+	2.72	3.82	4.32	2.72	2.72
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	Although in practice it may be possible to walk along the street, the clear footway width is insufficient for comfortable movement.	Although in practice it may be possible to walk along the street, the clear footway width is insufficient for comfortable movement.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Although in practice it may be possible to walk along the street, the clear footway width is insufficient for comfortable movement.	Although in practice it may be possible to walk along the street, the clear footway width is insufficient for comfortable movement.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.
Impact	Notes					
Impact	Mitigation					

Sign Off		Assessed By		Date	
		Reviewed By		Date	
Summary Info	Location Name	21	22		
	Location Type		Street Furniture (Single)		
	Area Type		High Street		
	Average Flow (PPH)	387	387		
	Peak Hour Flow (PPH)	668	668		
	Total Footway Width	3.37m	3.34m		
	Clear Footway Width	2.27m	1.24m		
	Total Street Furniture Impact	0.4m	1.4m	0m	
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A : 5 ppmm	F : 9 ppmm		
	Total Width Required for PCL B+	2.60	3.60		
	Clear Width Required For PCL B+	1.50	1.50		
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	B+ : 9 ppmm	F : 16 ppmm		
	Total Width Required for PCL B+	2.72	3.72		
	Clear Width Required For PCL B+	1.62	1.62		
Impact	Pedestrian Comfort at Peak Hour Flow	#N/A	Although in practice it may be possible to walk along the street, the clear footway width is insufficient for comfortable movement.	#VALUE!	
Impact	Pedestrian Comfort at Average of Maximum Activity	#N/A	#N/A	#VALUE!	
Impact	Notes				
Impact	Mitigation				

Sign Off		Assessed By		Date		
		Reviewed By		Date		
Summary Info	Location Name	1	2	3	4	5
	Location Type	Full Footway Width	Static Activity	Static Activity	Street Furniture (Single)	Street Furniture (Multiple)
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	4.1603m	6.2741m	7.2722m	4.2506m	4.1741m
	Clear Footway Width	1.9603m	2.8741m	5.0722m	2.3506m	1.7741m
	Total Street Furniture Impact	1.5m	2.7m	1.5m	1.5m	2m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A- : 6 ppmm	A : 4 ppmm	A+ : 2 ppmm	A : 5 ppmm	A- : 6 ppmm
	Total Width Required for PCL B+	3.70	4.90	3.70	3.40	3.90
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.50	1.50
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	B+ : 10 ppmm	A- : 7 ppmm	A : 4 ppmm	A- : 8 ppmm	B+ : 11 ppmm
	Total Width Required for PCL B+	3.82	5.02	3.82	3.52	4.02
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.
Impact	Notes					
Impact	Mitigation					

Sign Off		Assessed By		Date		
		Reviewed By		Date		
Summary Info	Location Name	6	7	8	9	10
	Location Type	Street Furniture (Single)	Street Furniture (Single)	Street Furniture (Multiple)	Street Furniture (Single)	Full Footway Width
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	4.17m	4.27m	5.0554m	5.7676m	5.7554m
	Clear Footway Width	3.77m	2.77m	2.6554m	5.3676m	3.5554m
	Total Street Furniture Impact	0m	1.1m	2m	0m	1.8m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A : 3 ppmm	A : 4 ppmm	A : 4 ppmm	A+ : 2 ppmm	A : 3 ppmm
	Total Width Required for PCL B+	1.90	3.00	3.90	1.9	3.7
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.5	1.5
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	A : 5 ppmm	A- : 7 ppmm	A- : 7 ppmm	A : 4 ppmm	A : 5 ppmm
	Total Width Required for PCL B+	2.02	3.12	4.02	2.02	3.82
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.
Impact	Notes					
Impact	Mitigation					

Sign Off		Assessed By		Date		
		Reviewed By		Date		
Summary Info	Location Name	11	12	13	14	15
	Location Type	Street Furniture (Multiple)	Full Footway Width	Full Footway Width	Full Footway Width	Full Footway Width
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	5.9578m	6.2079m	6.1846m	5.7433m	5.5191m
	Clear Footway Width	2.5578m	5.8079m	5.7846m	5.3433m	5.1191m
Total Street Furniture Impact		3m	0m	0m	0m	0m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A : 4 ppmm	A+ : 2 ppmm	A+ : 2 ppmm	A+ : 2 ppmm	A+ : 2 ppmm
	Total Width Required for PCL B+	4.90	1.90	1.90	1.90	1.90
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.50	1.50
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	A- : 8 ppmm	A : 3 ppmm	A : 3 ppmm	A : 4 ppmm	A : 4 ppmm
	Total Width Required for PCL B+	5.02	2.02	2.02	2.02	2.02
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.
Impact	Notes					
Impact	Mitigation					

Sign Off		Assessed By		Date		
		Reviewed By		Date		
Summary Info	Location Name	16	17	18	19	20
	Location Type	Full Footway Width	Full Footway Width	Full Footway Width	Full Footway Width	Street Furniture (Single)
	Area Type	High Street	High Street	High Street	High Street	High Street
	Average Flow (PPH)	387	387	387	387	387
	Peak Hour Flow (PPH)	668	668	668	668	668
	Total Footway Width	5.6978m	5.5184m	5.3362m	5.297m	5.309m
	Clear Footway Width	5.2978m	4.0184m	2.9362m	4.897m	3.509m
Total Street Furniture Impact		0m	1.1m	2m	0m	1.6m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A+ : 2 ppmm	A : 3 ppmm	A : 4 ppmm	A+ : 2 ppmm	A : 3 ppmm
	Total Width Required for PCL B+	1.90	3.00	3.90	1.9	3.3
	Clear Width Required For PCL B+	1.50	1.50	1.50	1.5	1.5
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	A : 4 ppmm	A : 5 ppmm	A- : 7 ppmm	A : 4 ppmm	A- : 6 ppmm
	Total Width Required for PCL B+	2.02	3.12	4.02	2.02	3.42
	Clear Width Required For PCL B+	1.62	1.62	1.62	1.62	1.62
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.
Impact	Notes					
Impact	Mitigation					

Sign Off		Assessed By		Date	
		Reviewed By		Date	
Summary Info	Location Name	21	22		
	Location Type	Street Furniture (Single)	Street Furniture (Single)		
	Area Type	High Street	High Street		
	Average Flow (PPH)	387	387		
	Peak Hour Flow (PPH)	668	668		
	Total Footway Width	5.29m	4.26m		
	Clear Footway Width	4.89m	2.66m		
	Total Street Furniture Impact	0m	1.2m		0m
Pedestrian Comfort (At peak hour flow levels)	Pedestrian Comfort Level (PCL)	A+ : 2 ppm	A : 4 ppm		
	Total Width Required for PCL B+	1.90	3.10		
	Clear Width Required For PCL B+	1.50	1.50		
Pedestrian Comfort (Average of Maximum Activity)	Pedestrian Comfort Level (PCL)	A : 4 ppm	A- : 7 ppm		
	Total Width Required for PCL B+	2.02	3.22		
	Clear Width Required For PCL B+	1.62	1.62		
Impact	Pedestrian Comfort at Peak Hour Flow	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.	The footway on this site should be comfortable for its intended use at most times. However, you may need to reassess the site in future.		#VALUE!
Impact	Pedestrian Comfort at Average of Maximum Activity	Even when under additional stress, the footway on this site should be comfortable.	Even when under additional stress, the footway on this site should be comfortable.		#VALUE!
Impact	Notes				
Impact	Mitigation				

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