Technical Note

Project: Cheswick Green Primary School

Subject: Transport Measures - Deliverability Statement

Client:	Solihull Metropolitan Borough Council (SMBC)	**Version:**	B
Project No:	05214	**Author:**	JO
Date:	20th December 2021	**Approved:**	CS

1 Introduction

1.1 Background

1.1.1 PJA has been commissioned by Solihull Metropolitan Borough Council (SMBC) to provide transport advice in relation to a planning application for a one form entry (1FE) expansion of Cheswick Green Primary School.

1.1.2 A planning application for the expansion was submitted in May 2021 (planning reference: PL/2021/01418/PPFL). PJA prepared a Transport Assessment (TA), dated May 2021, that was submitted with the application. A separate Travel Plan was prepared by SMBC on Modeshift STARS.

1.1.3 Within the TA, a transport strategy for the site was set out containing a series of mitigation measures. Together, the proposed package of measures seeks to achieve the following:

- Walking and cycling should be the first choice mode of travel for pupils and staff who live within acceptable walking/cycling distance of the school;
- For pupils residing in Blythe Valley Park, appropriate sustainable modes of travel will be made available to facilitate modal shift away from the private car; and
- Measures will facilitate a reduction in the concentration of parking demand within the direct vicinity of the school compared to current operation.

1.1.4 Since the application has been submitted, a series of comments have been provided by SMBC, in their capacity as local highway authority. In addition, a number of meetings have been held to discuss the transport and highways elements of the application. SMBC Highways have requested that additional information is provided in relation to the proposed mitigation

measures to demonstrate the feasibility and viability of these measures of achieving the desired outcomes.

1.2 Note Purpose

1.2.1 Within the submitted TA, and following subsequent discussions with SMBC Highways, the following measures are proposed to be implemented as part of the transport strategy for the expansion:

a Preparation of School Travel Plan;

b Implementation of staggered start/end times with wrap around care for siblings;

c Provision of dedicated school bus to Blythe Valley Park;

d Increase the frequency of the A7/A8 public bus service;

e Implementation of a Walking Bus around Cheswick Green;

f Expand provision of before/after school clubs and care;

g Implementation of Car Park Management Strategy; and

h Review of Traffic Regulation Orders (TROs) within the vicinity of the school.

1.2.2 This Note provides further details as to how the above measures will be delivered and funded by the applicant and the School. It is intended that this will demonstrate to SMBC Highways that the proposals are viable and will not result in a detrimental impact to highway safety or capacity, in NPPF terms.

1.2.3 The contents of this note have been agreed with both the school, and representatives from SMBC (in terms of funding provision).

1.3 Rate of Expansion

1.3.1 The expansion of Cheswick Green Primary School is primarily required to deliver additional primary school places for children residing in Blythe Valley Park. The demand generated for primary school places will span all year groups, and as a result, the number of additional pupils admitted each year is likely vary each academic year.

1.3.2 The mitigation measures set out below have been designed to accommodate this variation, and be flexible to the needs of the school whilst providing sufficient detail to demonstrate viability to SMBC Highways.

2 School Travel Plan

2.1.1 The School Travel Plan (STP) submitted with the application has started to be implemented by the school.

2.1.2 A Working Group at the school has been formed to ensure that the measures outlined within the STP are implemented, as follows:

- Carol Mason – Headteacher / STP Champion;
- Rachel Mitchell – Assistant Head Teacher;
- Simone Seickell – Assistant Head Teacher;
- Annabel Matharu – Local Authority Officer.

2.1.3 As set out within the STP, the Working Group will be:

"introducing measures to encourage families to travel actively and by studying any modal shift in family travel habits".

2.1.4 The measures and targets contained within the STP will be expanded to reflect the development proposals and areas from which additional pupils are drawn from, prior to occupation of new classrooms.

3 Implementation of staggered start/end times

3.1 Operational Requirements

Timings

3.1.1 It is proposed to implement staggered start/end times at the school, based on the following appropriate criteria:

- **Number of stagger periods** – 2;
- **Maximum number of year groups in each stagger** – 4; and
- **Minimum duration between stagger periods** – 20 minutes e.g. Stagger ending at 15:10 and Stagger 2 ending at 15:30.

Wrap Around Care

3.1.2 In order to ensure parents/carers do not have to wait on-site/ on surrounding highway network for pupils in different stagger groups, wrap around care will be provided by the school. Wrap

around care will be provided for 20 minutes at the start and end of the school day for the following groups of pupils:

- Families with siblings in different stagger groups which span different start/end times;
- Pupils utilising the Walking Bus (unless there is sufficient demand to run a service for each stagger group);
- Pupils travelling via dedicated school bus to Blythe Valley Park.

Staffing

3.1.3 The wrap around care will be staffed by the school. The number of staff required to provide this wrap around care will depend on number of siblings, and uptake of the Walking Bus and dedicated school bus, but will be provided in line with the required staff: pupil ratios for each age group.

3.2 Management

3.2.1 The school will be responsible for setting the staggered start/end times depending on operational requirements, and in line with the agreed criteria. The arrangements will be reviewed on a regular basis to ensure they reflect the needs of the school and the community.

3.2.2 The staggered start/end times will be implemented as outlined in this section, prior to occupation of any of the additional classrooms delivered as part of the expansion.

3.3 Funding

3.3.1 Wrap around care for the groups stated above will be provided free of charge to parents/carers, and be separate to any existing before, or after school activities.

3.3.2 The Council undertake to provide funding for 2 years from the Dedicated Schools Grant (Growth Fund) and beyond this from a corporate budget until such time as the provision becomes embedded and self-sustaining, in agreement with the school.

4 Dedicated School Bus to Blythe Valley Park

4.1 Operational Requirements

Route

4.1.1 The dedicated school bus is intended for use by pupils residing in Blythe Valley Park. It will therefore route between the school and Blythe Valley Park only. Blythe Valley Park has two

vehicular access points via A34 Stratford Road and Kineton Lane, connected via an internal spine road. Therefore, multiple routes to the school are available either via A34 Stratford Road, or Illshaw Heath Road.

Bus Stop Locations

4.1.2 At the school, it is proposed to provide a bus stop on the northern side of Cheswick Way to the east of the school access, as shown in Drawing 5214-A-0112 in **Appendix A**. The location of this stop has been identified to prevent pupils needing to cross the road, and to minimise interaction with private drives and existing bus stop on Cheswick Way. The bus stop will be restricted by a suitable TRO to prevent unauthorised parking during school peak periods.

4.1.3 The en-route bus stops will be determined once an operator has been appointed, to maximise accessibility and timing. The Transport Assessment submitted for Blythe Valley Park identifies indicative bus stop locations within the development within 400m (as the crow flies) of all residential units. These bus stops could be utilised, or specific alternative drop-off/pick-up locations could be identified by the operator.

Capacity

4.1.4 Within the Transport Assessment, it was assumed that 54% of pupils from Blythe Valley would travel via the dedicated school bus, based on data for a dedicated bus services provided by SMBC between Millisons Wood estate to Balsall Common. This equates to a total of 68 pupils.

4.1.5 There is currently a school transport minibus in place operating between the school and Blythe Valley Park, transporting 10 children on a regular basis. The capacity of the bus(es) will be expanded to match demand for spaces as the school expands – as with all school bus routes across the Borough the capacity will flex to suit demand each year. Therefore, if the demand for the service increases, so will the size and/or number of buses.

Service Timings

4.1.6 In the morning, the school bus would arrive prior to the first stagger timing, and in the afternoon, the bus would depart following the second stagger timing. This will ensure that the bus service is available for pupils across all year groups. Pupils who travel by school bus would therefore be eligible for the free wrap around care between stagger periods.

4.1.7 Parents/carers would be required to pick up their children following after school activities, or drop their children off at breakfast clubs, rather than making use of the dedicated school bus.

Staffing

4.1.8 The bus will operate as an escorted bus, using dedicated staff employed by the operator. The escort(s) on the bus will support the safe transfer of children to the school site, in partnership with the school.

4.2 Management

4.2.1 The school will promote the bus service to all families from Blythe Valley Park when pupils start at the school, and regularly throughout each school year through the schools existing communication channels e.g. newsletters, and through the STP.

4.2.2 A dedicated school bus is already running and will continue to expand to meet demand.

4.3 Funding

4.3.1 The school bus is currently provided free of charge to pupils residing in Blythe Valley Park in accordance with the Home to School Transport Policy approved by the CPH for Children, Education & Skills on an annual basis.

4.3.2 The provision and funding of the school bus was approved by the Cabinet Member for Education and Children in March 20211. Funding of the School bus will be from the Home to School Transport Budget.

5 Cheswick Green Walking Bus

5.1 Operational Requirements

Route & Stops

5.1.1 The Walking Bus will follow a fixed route, picking up children who live within Cheswick Green and Cheswick Place from fixed "bus stops" along the route. At the outset, a letter will be sent out to parents to identify families who will be interested in joining the scheme. This will help to identify suitable route(s) to maximise demand.

5.1.2 To ensure that the Walking Bus route is of an appropriate length, it is recommended that two routes are provided for north Cheswick Green/Cheswick Place, and southern Cheswick Green. Provision of both of these routes would be subject to demand. Indicative routes are provided in Figure 1.

[1] Cabinet Member Report - https://eservices.solihull.gov.uk/mgInternet/ieListDocuments.aspx?CId=552&MId=8420

Figure 1: Indicative Walking Bus Routes

5.1.3 Guidelines provided by the Institution of Highways and Transportation (IHT) in their publication 'Guidelines for Providing for Journeys on Foot' (2000) suggests that in terms of walking to school; distances of up to 2,000m can be considered a preferred maximum with 'desirable' and 'acceptable' distances being 500 and 1,000m respectively. It should be noted that journeys of a longer length are often undertaken. Both of these indicative routes are approximately 660m, which equates to an 8 minute walk, based on 1.4m/s[2] walking speed. Assuming each route will have a maximum of 3 "stops", and a dwell time at each "stop" of 3 minutes, this equates to an indicative total journey time of 17 minutes for each route. It is considered that this is an appropriate length for a walking bus.

5.1.4 Any route taken by the Walking Bus will need to be subject to a comprehensive risk assessment by the SMBC Safe and Active Travel Team. At this stage, a route cannot be defined as demand is

[2] CIHT, Guidelines for Providing for Journeys on Foot (2000)

unknown, however, a high level audit of the condition and suitability of these indicative routes has been undertaken using the Walking Route Audit Tool (WRAT). The full assessment of these routes are provided in **Appendix B.** National guidance states that a score of 70% (i.e. a score of 28 out of a potential 40 points) should normally be regarded as a minimum level of provision overall. Routes which score less than this, and factors which are scored as zero should be used to identify where improvements are required. This scoring has been based on a site visit and desktop appraisal of routes. This analysis shows that on both indicative routes, at least minimum walking provision is in place, and on this basis, it is concluded that no further improvements are required in order for these routes to be suitable for pupils/parents to walk to/from Cheswick Green Primary School.

5.1.5 The above table shows that whilst these routes are indicative, based on a high level review of pedestrian amenity and infrastructure, there are routes that are suitable for use as Walking Bus routes. Should the detailed risk assessment identify that the chosen routes require physical improvements, this will be discussed with and funded by SMBC, if no suitable alternative routes are available.

Service Timings

5.1.6 The Walking Bus will operate in the morning and afternoon, providing a pick-up and drop-off service for parents.

5.1.7 The school will ascertain take-up for the Walking Bus by year group to ensure there is suitable provision to tie in with staggered start and end times; one for each stagger group may be operated if there is sufficient take up.

5.1.8 Parents would be required to pick up their children following each of the clubs/after school activities rather than making use of the Walking Bus.

Staffing

5.1.9 The Walking Bus will be supervised by staff employed by the school. These members of staff will have a Solihull DBS/CRB check, and all members of the Bus will wear hi-visibility waistcoats for safety and easy identification. Equipment and background checks will be supplied by SMBC[3].

5.1.10 The staffing will be provided in line with the minimum ratio of adults: children as stated within the SMBC guide to implementing a Walking Bus:

[3] A Guide to The Walking Bus (SMBC) - https://www.solihull.gov.uk/sites/default/files/migrated/ParkingTravelRoads_The_Walking_Bus.pdf

- **Key Stage 2 –** 1 adult : 8 children;
- **Key Stage 1 –** 1 adult : 4 children; and
- **Mixed Key Stages** – 1 adult : 6 children.

5.2 Management

5.2.1 In line with the SMBC guide to implementing a Walking Bus, the school will follow the process set out in Table 1 to implement the Walking Bus.

Table 1: Process for Setting Up Walking Bus

Action	Timescales	Responsibility
Identify a co-ordinator to oversee setting up and running the Walking Bus Service	At least one school term prior to additional classrooms being occupied.	Cheswick Green Primary School
Co-ordinator to send out letter to parents to see families that would be interested in using the Bus.		Cheswick Green Primary Walking Bus Co-Ordinator
Co-ordinator to utilise information from families, to identify a suitable route and drop-off points (indicative routes shown in Figure 1)		Cheswick Green Primary Walking Bus Co-Ordinator
Co-ordinator to contact SMBC Safe and Active Travel Team		Cheswick Green Primary Walking Bus Co-Ordinator
Once demand for service has been ascertained, staff to operate the service will be recruited (which could include existing staff based at the school e.g. lunchtime supervisors)		Cheswick Green Primary School
Ensure all staff members hold a current DBS check.		Cheswick Green Primary Walking Bus Co-Ordinator
SMBC Safe and Active Travel Team to organise training for staff, carry out risk assessment for the route and provide equipment for adults and children to wear to ensure it is covered by Insurance policies.		SMBC Safe and Active Travel Team
Families to formally register to utilise Walking Bus, including agreed behaviour and consent form.		Cheswick Green Primary Walking Bus Co-Ordinator
Walking Bus starts to operate	Prior to additional classrooms being occupied.	Cheswick Green Primary Walking Bus Co-Ordinator with support from SMBC Safe and Active Travel Team, as required.

5.2.2 A register will be kept by staff to record which children have used the Bus each day.

5.3 Funding

5.3.1 The funding for the employment of staff to set up a walking bus was approved by the Cabinet Member for Education and Children in March 2021 . The Council undertakes to provide funding

for 2 years from the DSG (Growth Fund) and beyond this from a corporate budget until such time as the provision becomes embedded and self-sustaining, in agreement with the school.

6 Review of Traffic Regulation Orders (TROs)

6.1.1 SMBC Highways have requested that further information is provided regarding potential TROs that could be implemented to reduce travel to school by private car and improve highway safety. Implementation of these will be subject to a separate consultation process undertaken and funded by the applicant. This information has therefore been provided to demonstrate what could be delivered.

6.1.2 Following discussions with SMBC Highways, the following improvements have been identified, subject to further appropriate consultation:

- Implementation of single yellow lines along one side of Cheswick Way between Creynolds Lane and Saxon Wood Road to limit parking during school peak periods and create natural chicanes to control vehicle speeds. This would allow residents to continue to park on-street outside of school peak periods;
- Provision of double yellow lines at junctions between Cheswick Way and Saxon Wood Road, Badger Close, Foxland Close and Creynolds Lane to ensure pedestrian visibility at crossing points is unobstructed and parking doesn't restrict turning movements in/out of these junctions;
- Reducing the kerb radii at Cheswick Way / Foxland Close to restrict the ability for vehicles to undertake u-turn manoeuvres within vicinity of pedestrian access to the school, increase highway safety for vehicles and pedestrians;
- Implementation of a zebra crossing with high friction surfacing to the east of Foxland Close to formalise existing crossing provision and improve highway safety;
- Provision of tactile paving across Cheswick Way / Foxland Close to improve crossing facilities for pedestrians;
- Provision of dedicated bay for school bus on northern side of Cheswick Way, adjacent to pedestrian access to the school, with suitable TRO to prohibit parking by other vehicles during school peak periods;
- Provision of H-Bar Markings across private drives to the west of the main school entrance to ensure vehicles do not block access for residents, mirroring existing provision on southern side of carriageway;

- Removal of existing bus stop on southern side of Cheswick Way which is currently not served by any public bus services; and
- Implementation of yellow hatching across school access to ensure vehicles do not block vehicle access to the school.

6.1.3 The location of the above potential TROs are shown on the drawings contained in **Appendix A.**

6.1.4 Subject to the appropriate consultation, the above measures will be delivered and funded by the applicant.

7 Car Park Management Strategy

7.1 Staff

7.1.1 An on-site Car Park Management Strategy will be implemented by the school to ensure that staff utilise tandem parking spaces appropriately. The below strategy has been defined based on feedback provided by other schools across Solihull that operate tandem parking provision, as provided in **Appendix C.**

7.1.2 The school will undertake a survey with all staff to pair staff to use tandem parking spaces, based on working days/hours. In addition, staff regularly based at the site would be allocated specific parking spaces. This strategy ensured that part-time staff utilising the tandem spaces would be paired with those who work similar hours i.e. those who leave at lunchtime park together. A record of registration numbers will be kept in the school office, including for visitors, in case these is a need to move any vehicles, however, if managed effectively, the risk of being "blocked in" is reduced considerably. This strategy will be reviewed on an annual basis.

7.1.3 Additional classrooms provided by the expansion, will not be occupied until the additional staff car parking is provided.

7.2 Parents/Carers

7.2.1 The other mitigation measures outlined within this Note seek to encourage all those who are able to walk, cycle or utilise public transport to do so. For families who have no alternative to the private car, the following strategies will be implemented by the school to encourage appropriate parking behaviour:

- Continue to remind parents in newsletters of appropriate locations to park within the vicinity of the school; and

- Encourage parents to car share with other families, as an alternative to single occupancy vehicle trips.

7.2.2 The indicative TRO and signage outlined in Chapter 7 of this note will complement the softer measures outlined above, to encourage appropriate parking by parents/carers in school peaks.

8 A7/A8 public bus service

8.1.1 The A7/A8 bus service is supported with funding from the Blythe Valley S106 which outlined that:

"the enhanced service should provide a 30 minute service between the development Solihull Town Centre, Cheswick Green and Dorridge Village Centre, Monday to Saturday, or such other bus service serving the development as the Council determines".

8.1.2 Initial discussions with officers at TfWM have been undertaken via email, however a full response has not been provided at the time of writing this report. TfWM have confirmed that any alterations to these services need take into account the use of the A7/A8 service for journeys to other educational establishments, and that a full response will be provided in due course.

8.1.3 The applicant will continue to undertake discussions with TfWM to seek that the A7/A8 bus service will operate at 30 minute frequency, in line with the signed S106 agreement which supports the use of the bus service for those attending after-school activities, nursery and the proposed staggered timings.

9 Expand provision of before/after school clubs

9.1.1 As set out within the Transport Assessment, the schools currently operate a series of before and after school activities. These will be expanded in line with the expansion of the school.

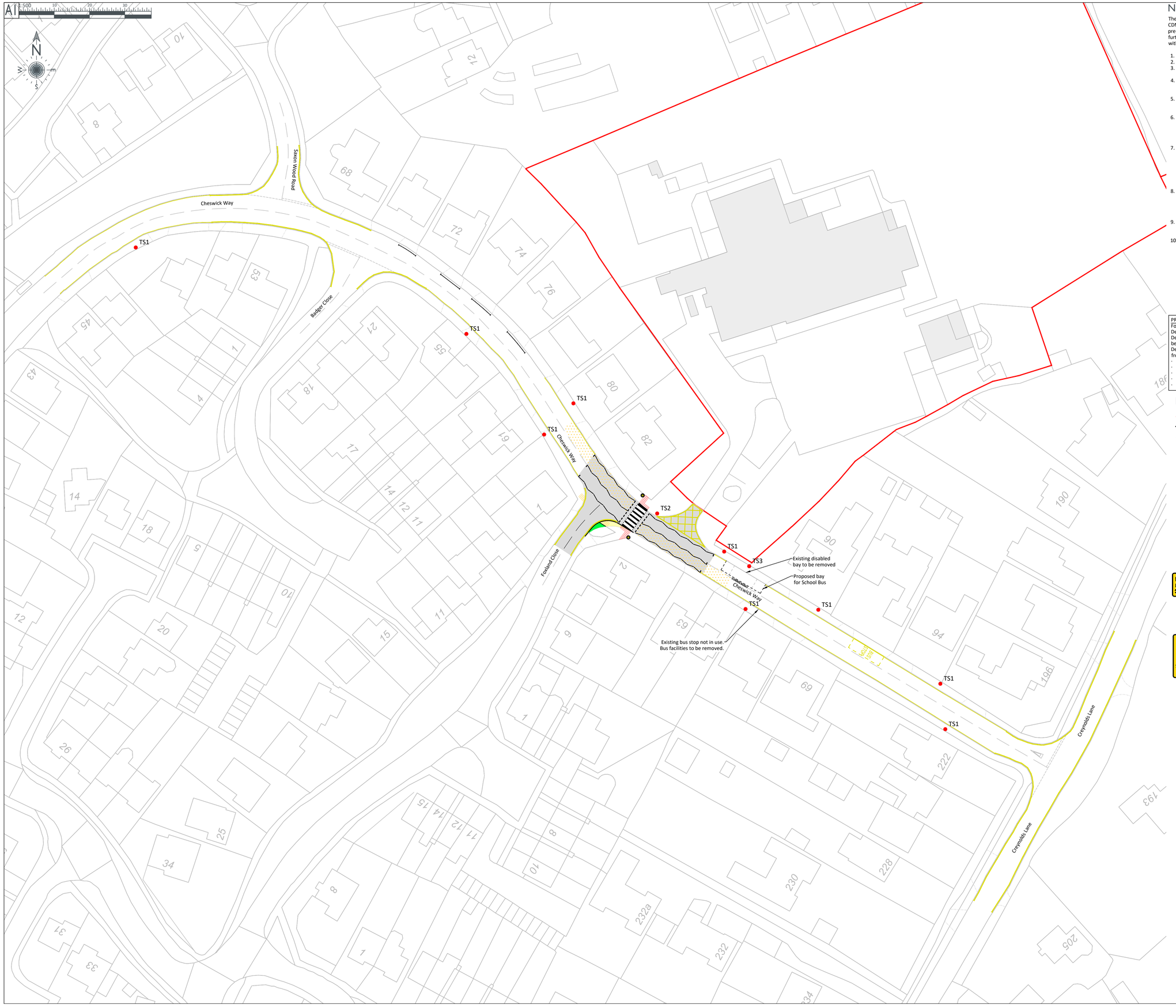
9.1.2 This provision is separate from the free 20 minutes of wrap around care provided by the school to families to account for the implementation of staggered start/end times.

10 Conclusion

10.1.1 For each of the proposed mitigation measures, this Note has set out further details in terms of operation, management, and funding. These details illustrate that the proposed measures are viable, and will ensure that the proposed development will not result in a detrimental impact to highway safety or capacity in NPPF terms.

Appendix A Drawings

A1 1:500



NOTES

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7. Site specific detailed surveys need to be carried out to confirm design information which may impact the outline design proposals. These include, but are not limited to, ground conditions (geotechnical and geo-environmental), groundwater levels, buried services, remnant obstructions, ecology, tree protection and topography.
8. Impacts relating to other civils features; namely; fencing, road restraint systems, drainage, pavement, kerbing, pedestrian crossing facilities (other than those displayed), footway construction, street lighting, have not been detailed and are subject to detailed design.
9. The design speed of the existing roads is 30mph. However, this is subject to a speed survey to verify the design speed of the road.
10. The existing road widths are based upon ordinance survey information.
11. The proposals outlined proposals are subject to a Road Safety Audit.
12. The proposal has been designed in accordance with Manual for Streets 2 and Local Authority Standards, these are listed below;
    - Manual for Streets 2 - Junction visibility requirements
13. Road markings have been designed in accordance with the Traffic Signs Regulation and General Directions 2016 and Traffic Signs Manual Chapter 5.
14. The design is preliminary and subject to discussion with the planning and highway authority.
15. This drawing is to be read in conjunction with all other relevant Engineering and Architect's details.
16. The Engineer shall be notified immediately, in writing, should any errors or discrepancies be found prior to the commencement or continuation of any works.
17. Visibility should not be restricted by by vegetation.
18. Works within Highway are subject to Section 278 Agreement.

PRELIMINARY SCHEME
For comment and review only.
Design is based upon information available at the time.
Design is subject to full review as additional information becomes available.
Design is subject to full review upon receipt of comments from
- Development Control
- LA Planning Authority
- Environment Agency
- LA Highways Department
- Sewerage Undertaker

Until Technical Approval has been obtained from the relevant Local Authorities or Statutory Bodies, it should be understood that all drawings are issued as preliminary and NOT for Construction. Should the Contractor and / or Employer commence work prior to approval being given, it is entirely at their own Risk

KEY

- Site Boundary
- Proposed Kerbline
- Proposed Road Markings
- Existing Road Markings
- Indicative Existing Crossover
- Tactile Paving Buff (Uncontrolled)
- Tactile Paving Red (Controlled)
- Proposed Belisha Beacon
- Proposed Footway
- Proposed Verge
- Proposed High Friction Surfacing (Buff)
- Proposed Resurfacing Works

Mon - Fri 8 - 10 am 2.30 - 4.30 pm — TS1

No stopping on entrance markings — TS2

No stopping Mon - Fri 8 - 10 am 2.30 - 4.30 pm except buses — TS3

REV	DATE	REVISION NOTE	BY
P1	17.12.21	Updated to SMBC comments	JAL

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CLIENT
Solihull Metropolitan Borough Council

PROJECT
Cheswick Green Primary School

DRAWING TITLE
Highway Improvement General Arrangement

DRAWING ISSUE STATUS
INFORMATION

PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
05214	A	0101	P1

Revision Letter :- P - Prelim / A - Approval / T - Tender / C - Construction

BIM DRAWING REFERENCE

SCALE	DRAWN	REVIEWED	DATE
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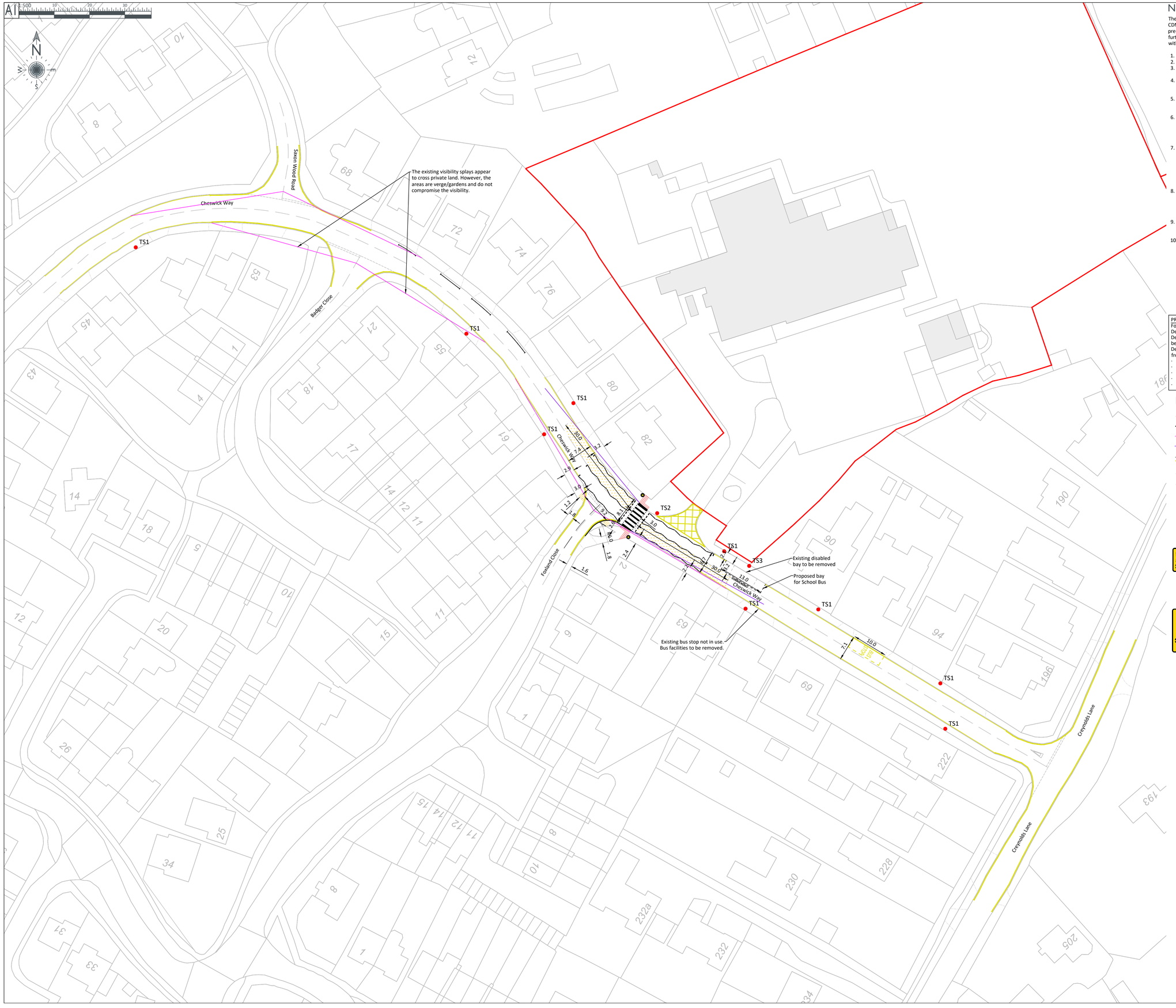
A1 1:500



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Design Parameters

Major Road
- Design standard applied - MfS2
- Road classification - Access Road
- Speed limit - 30mph
- Visibility - 41m (43m adjusted for bonnet length to MfS1)
- Setback - 2.4m
- Entry radii 6m corner radii

PRELIMINARY SCHEME
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KEY

- Site Boundary
- Proposed Kerbline
- 2.4x43m Junction Visibility (30mph MfS)
- 43m Forward Visibility (30mph MfS)
- Proposed Road Markings
- Existing Road Markings
- Indicative Existing Crossover
- Tactile Paving Buff (Uncontrolled)
- Tactile Paving Red (Controlled)
- Proposed Belisha Beacon
- Proposed High Friction Surfacing (Buff)

Mon - Fri 8 - 10 am 2.30 - 4.30 pm

No stopping on entrance markings

No stopping Mon - Fri 8 - 10 am 2.30 - 4.30 pm except buses

TS1
TS2
TS3

REV	DATE	REVISION NOTE	BY
P1	17.12.21	Updated to SMBC comments	JAL

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Exeter - London - Reading
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CLIENT
Solihull Metropolitan Borough Council

PROJECT
Cheswick Green Primary School

DRAWING TITLE
Highway Improvement Geometry Plan

DRAWING ISSUE STATUS
INFORMATION

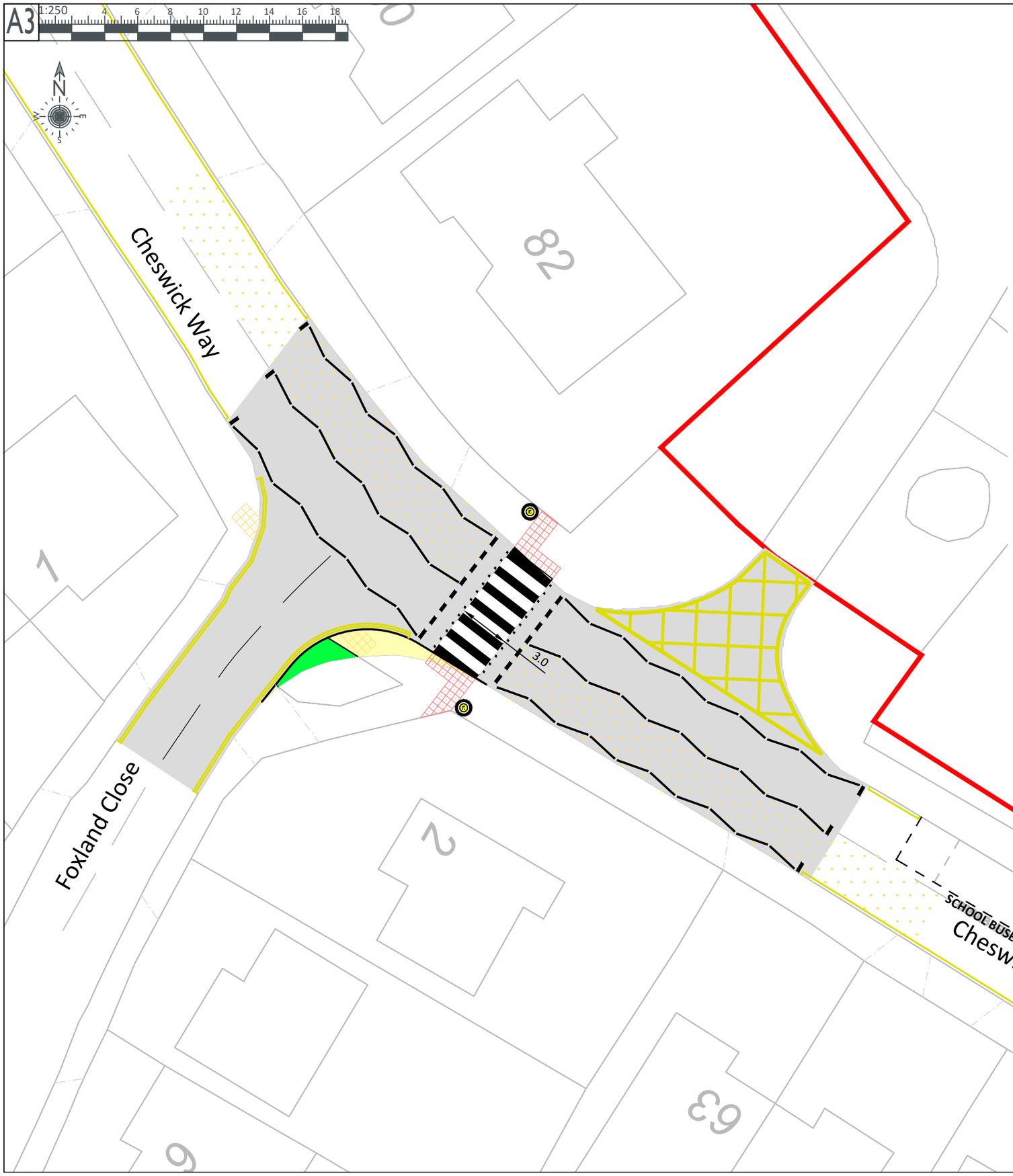
PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
05214	A	0102	P1

Revision Letter : P - Prelim / A - Approval / T - Tender / C - Construction

BIM DRAWING REFERENCE

SCALE	DRAWN	REVIEWED	DATE
A1@1:500	JAL	AN	08.12.21

A3 1:250



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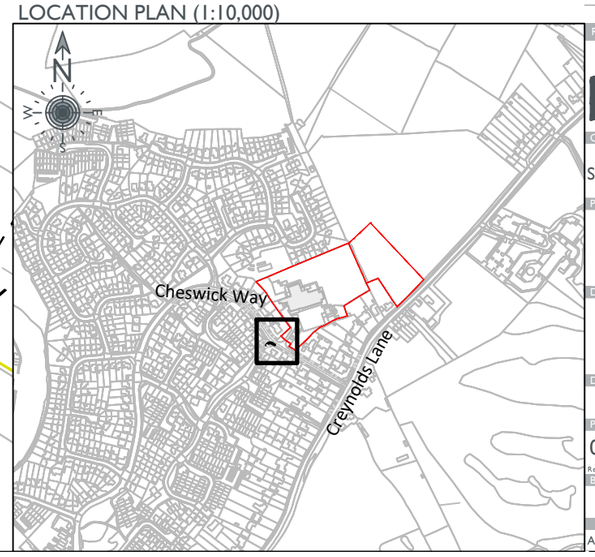
6. The drawing details have been composed for highway improvement purposes only. The drawing should not be used for tendering or construction purposed. The information is subject to change during the detailed design.
7. Site specific detailed surveys need to be carried out to confirm design information which may impact the outline design proposals. These include, but are not limited to, ground conditions (geotechnical and geo-environmental), groundwater levels, buried services, remnant obstructions, ecology, tree protection and topography.
8. Impacts relating to other civils features; namely; fencing, road restraint systems, drainage, pavement, kerbing, pedestrian crossing facilities (other than those displayed), footway construction, street lighting, have not been detailed and are subject to detailed design.
9. The design speed of the existing roads is 30mph. However, this is subject to a speed survey to verify the design speed of the road.
10. The existing road widths are based upon ordinance survey information.
11. The proposals outlined proposals are subject to a Road Safety Audit.
12. The proposal has been designed in accordance with Manual for Streets 2 and Local Authority Standards, these are listed below;
    - Manual for Streets 2 - Junction visibility requirements
13. Road markings have been designed in accordance with the Traffic Signs Regulation and General Directions 2016 and Traffic Signs Manual Chapter 5.
14. The design is preliminary and subject to discussion with the planning and highway authority.
15. This drawing is to be read in conjunction with all other relevant Engineering and Architect's details.
16. The Engineer shall be notified immediately, in writing, should any errors or discrepancies be found prior to the commencement or continuation of any works.
17. Visibility should not be restricted by by vegetation.
18. Works within Highway are subject to Section 278 Agreement.

KEY

- Site Boundary
- Proposed Kerbline
- Proposed Road Markings
- Existing Road Markings
- Indicative Existing Crossover
- Tactile Paving Buff (Uncontrolled)
- Tactile Paving Red (Controlled)
- Proposed Belisha Beacon
- Proposed Footway
- Proposed Verge
- Proposed High Friction Surfacing (Buff)
- Proposed Resurfacing Works

LOCATION PLAN (1:10,000)



PRELIMINARY SCHEME
For comment and review only.
Design is based upon information available at the time.
Design is subject to full review as additional information becomes available.
Design is subject to full review upon receipt of comments from
- Development Control
- LA Planning Authority
- Environment Agency
- LA Highways Department
- Sewerage Undertaker

Until Technical Approval has been obtained from the relevant Local Authorities or Statutory Bodies, it should be understood that all drawings are issued as preliminary and NOT for Construction. Should the Contractor and / or Employer commence work prior to approval being given, it is entirely at their own Risk

REV	DATE	REVISION NOTE	BY

PJA
Seven House · High Street
Longbridge · Birmingham
B31 2UQ · Tel: 0121 475 0234
Birmingham · Bristol
Exeter · London · Reading
pja.co.uk

CLIENT
Solihull Metropolitan Borough Council

PROJECT
Cheswick Green Primary School

DRAWING TITLE
Proposed Zebra Crossing General Arrangement

DRAWING ISSUE STATUS
INFORMATION

PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
05214	A	0103	P0

Revision Letter : P - Prelim / A - Approval / T - Tender / C - Construction

BIM DRAWING REFERENCE

SCALE	DRAWN	REVIEWED	DATE
A3 @ 1:250	JAL	AN	17.12.21

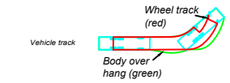
A3 1:250

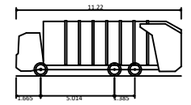
NOTES

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9

1. This drawing is to be read in conjunction with all other relevant Engineering and Architect's details.
2. The purpose of this drawing is to display the various design vehicle swept paths manoeuvering through the modified junction. The drawing is for discussion purposes only, with the design subject to further design development, modelling assessment, data collection and consideration of constraints.
3. The design geometrical parameters are presented on the supporting geometry plan with drawing reference 05214-A-0102.
4. The design vehicles that have been considered in the swept path analysis have been listed below and the relevant vehicle profiles are included to highlight the vehicle dimensions. The vehicle profiles selected below have the most onerous swept path criteria for both British and European standards. Therefore, the swept paths presented are robust and provide comfort that the junction manoeuvers for the typical vehicles below can be satisfied.
   - European Design Vehicles
   - *Large Sized Vehicles*
   - · Refuse vehicle - Phoenix Duo 2 Recycler (P2-15W with Elite 6x4 chassis)*
   - **design vehicles to be confirmed with the client and local authority and alternative vehicles may need to be used.*
5. The vehicle swept paths has been tracked at 5mph
6. Clearance to the channel is minimum 0.5m *subject to approving authority.*
7. Design approach/summary/assumptions;
   - · Large vehicle movements into and out of the proposed access junction intrude into the opposing lanes. The vehicle movements of these large vehicles are predicted to be infrequent and gaps in the traffic will need to be negotiated to carry out the movements into or out of the proposed junction.

KEY





Phoenix 2 Duo Recycler (P2-15W with Elite 6x4 chassis)

Overall Length	11.220m
Overall Width	2.530m
Overall Body Height	3.756m
Min Body Ground Clearance	0.309m
Track Width	2.530m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	11.550m

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CLIENT

Solihull Metropolitan Borough Council

PROJECT

Cheswick Green
Primary School

DRAWING TITLE

Refuse
Swept Path Analysis

DRAWING ISSUE STATUS

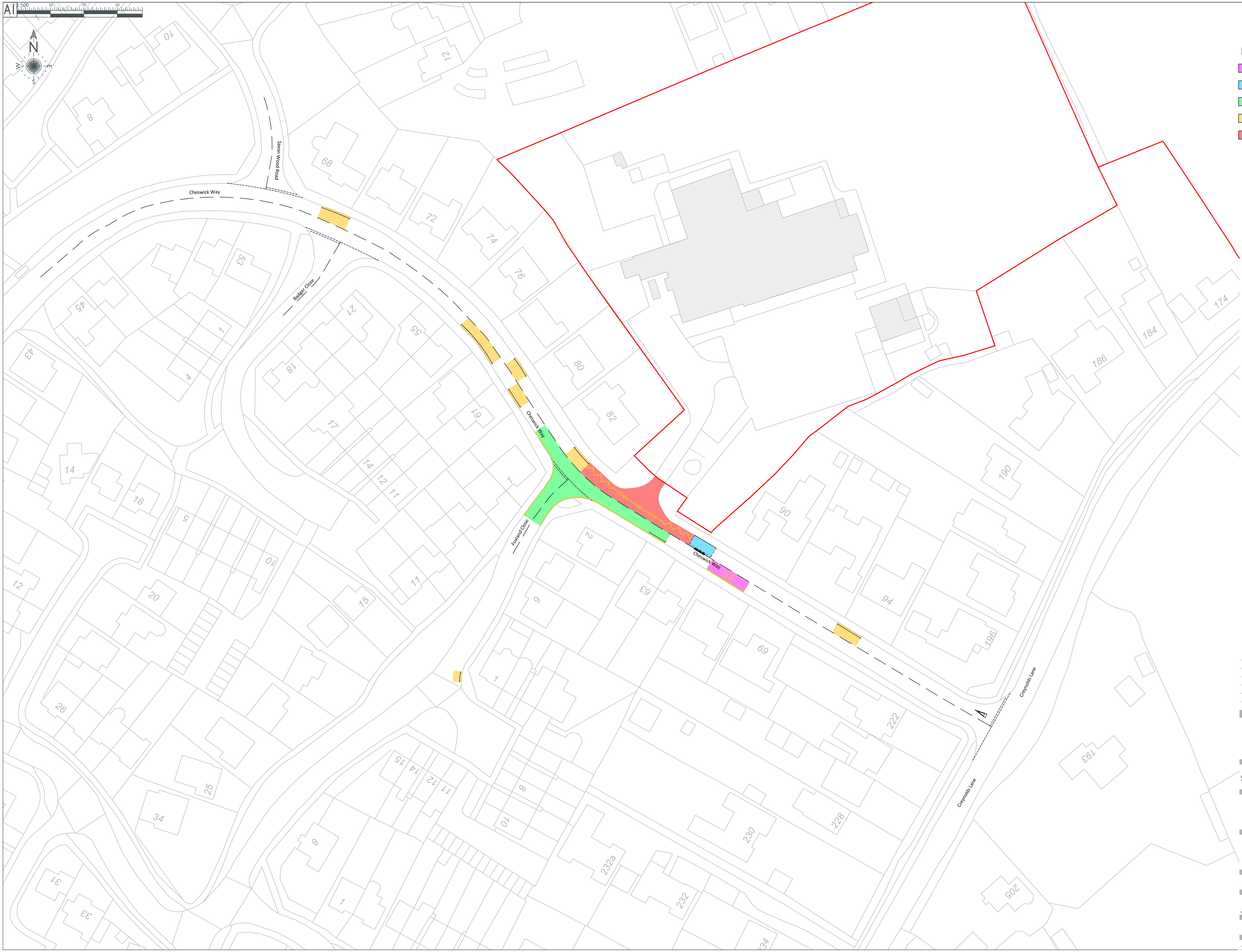
INFORMATION

PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
05214	A	0104	P0

Revision Letter : P - Prelim / A - Approval / T - Tender / C - Construction

BIM DRAWING REFERENCE

SCALE	DRAWN	REVIEWED	DATE
A3@1:250	JAL	AN	17.12.21



NOTES

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9

KEY

🟪	Area of carriageway reserved for buses. Waiting of other vehicles prohibited at all times Existing Bus Stop Box (TRO)
🟦	Area of carriageway reserved for disabled parking Waiting of other vehicles prohibited at all times Existing Disabled Parking Bay (TRO)
🟩	Waiting of vehicles prohibited at all times Existing Double Yellow Marking (TRO)
🟨	Existing H-Mark - Keep Clear Markings (TRO)
🟥	Part of the carriageway outside an entrance where vehicles should, or must, not stop Existing School - Keep Clear Markings (TRO)

REV	DATE	REVISION NOTE	BY
P1	17.12.21	Updated to SMBC comments	JAL

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Solihull Metropolitan Borough Council

PROJECT

Cheswick Green
Primary School

DRAWING TITLE

Existing Permanent
Traffic Regulation Order

DRAWING ISSUE STATUS

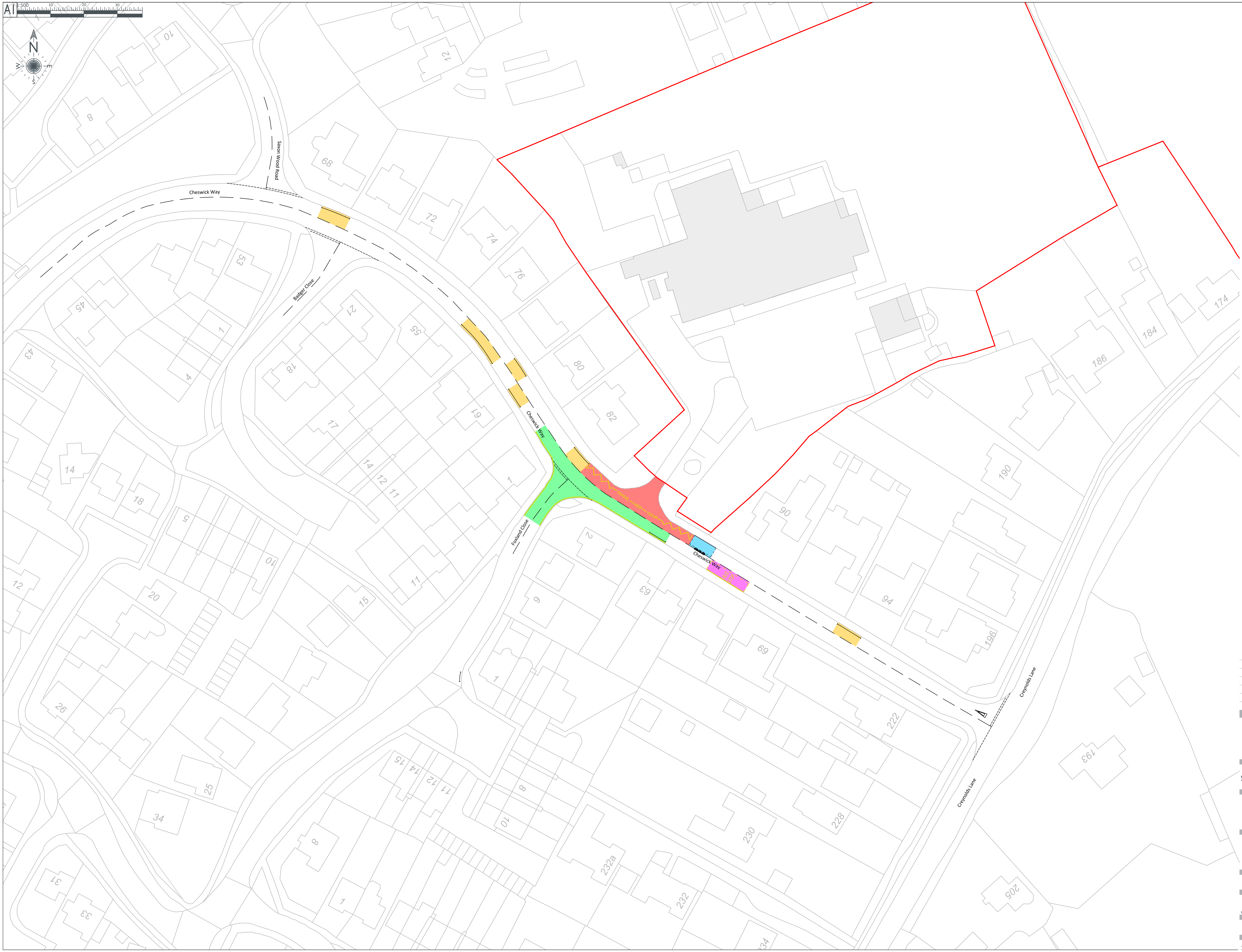
INFORMATION

PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
05214 -	A -	0110 -	P1

Revision Letter : P - Prelim / A - Approval / T - Tender / C - Construction

BIM DRAWING REFERENCE

SCALE	DRAWN	REVIEWED	DATE
A1@1:500	JAL	AN	08.12.21



NOTES

These drawings have been produced with reference to the CDM Regulations 2015. Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9

KEY

🟪 Revoked Bus Stop Box (TRO)
🟦 Revoked Disabled Parking Bay (TRO)
🟩 Revoked Double Yellow Line (TRO)
🟨 Revoked H-Mark - Keep Clear Markings (TRO)
🟥 Revoked School - Keep Clear Markings (TRO)

REV	DATE	REVISION NOTE	BY
P1	17.12.21	Updated to SMBC comments	JAL

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PROJECT
Cheswick Green
Primary School

DRAWING TITLE
Revoked Permanent
Traffic Regulation Order

DRAWING ISSUE STATUS
INFORMATION

PJA JOB No.	SUB-CODE	DRAWING NO.	REVISION
05214 -	A -	0111 -	P1

Revision Letter : P - Prelim / A - Approval / T - Tender / C - Construction

BIM DRAWING REFERENCE

SCALE	DRAWN	REVIEWED	DATE
A1@1:500	JAL	AN	08.12.21

Appendix B WRAT Outputs

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments	Actions
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**	Footways on both sides of the carriageway are well maintained.Vegetation is well maintained.	X
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**2**	No signs of vandalism. Well lit footways. Route is continuously fronted by residential properties providing natural surveillance, with good forward visibility for pedestrians.	X
3. ATTRACTIVENESS - traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**2**	Whilst route is adjacent to carriageway, traffic volumes and speeds are low due to residential nature of surrounding area.	X
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**2**	Guardrails are only present outside of school entrance, therefore not excessive. Refuse sacks/bins will block the carriageway on temporary basis, but assumed infrequent. All residential properties are well-maintained along route.	X
ATTRACTIVENESS				**8**		X
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**2**	Footways generally in good condition, with no major trip hazards along the route. Some trenching and patching but mostly minor.	X
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**2**	All users can be accommodated by all users with minimal 'give and take'. Widths generally in excess of 2m on at least one side of carriageway,	X
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**2**	No staggered crossings/refuges along route.	X
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	Footway parking was observed within vicinity of school during peak periods, but not on wider route Did not result in deviation from desire lines.	X
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**1**	There is a slight gradient along Cheswick Lane	X
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**1**	Some bus shelters are restrict clearance width by the village hall	X
COMFORT				**9**		X
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**2**	Footway provisions caters for pedestrain desire lines - present on both sides of carriageway along whole route.	X
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**2**	Dropped kerbs to aid crossings provided on all priority junctions with side roads, and at regular intervals to aid crossing east-west on Cheswick Way.	X
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	Traffic volumes are low and so crossing of road is easy, direct and comfortable without delay.	X
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**2**	No controlled crossings on route.	X
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**	No controlled crossings on route.	X
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**2**	No steps restricting access for users, and route is clear and coherent.	X
DIRECTNESS				**12**		X
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	Traffic volume low along Cheswick Way.	X
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds.	Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.	**2**	Traffic speeds low due to residential nature of road, presence of parked vehicles during peak periods.	X
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	**1**	Generally good visiblity - could be restricted within vicinity of the school during peak periods, however this is unlikely to compromise pedestrian safety along this route.	X
SAFETY				**5**		X
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**	Adequate dropped kerb provision, limited tactile paving provision.	X
COHERENCE				**1**		X
			Total Score	**35**		X

ROUTE SUMMARY

Route Name	Cheswick Way
Length	700m
Name of Assessor(s)	Matthew O'Connor
Date of Assessment	05 March 2021

Criterion	Performance Scores
Attractiveness	8
Comfort	9
Directness	12
Safety	5
Coherence	1
Total	35

0.875

Local Cycling and Walking Infrastructure Plan: Walking Route Selection Tool

Walking Route Audit Tool

Audit Categories	2 (Green)	1 (Amber)	0 (Red)	Score	Comments	Actions
1. ATTRACTIVENESS - maintenance	Footways well maintained, with no significant issues noted.	Minor littering. Overgrown vegetation. Street furniture falling into minor disrepair (for example, peeling paint).	Littering and/or dog mess prevalent. Seriously overgrown vegetation, including low branches. Street furniture falling into major disrepair.	**2**	Footways and footpaths are well maintained with no significant issues noted. No littering or overgrown vegetation.	X
2. ATTRACTIVENESS - fear of crime	No evidence of vandalism with appropriate natural surveillance.	Minor vandalism. Lack of active frontage and natural surveillance (e.g. houses set back or back onto street).	Major or prevalent vandalism. Evidence of criminal/antisocial activity. Route is isolated, not subject to natural surveillance (including where sight lines are inadequate).	**1**	No evidence of vandalism. Short sections of route are footpaths with limited natural surveillance.	X
3. ATTRACTIVENESS - traffic noise and pollution	Traffic noise and pollution do not affect the attractiveness	Levels of traffic noise and/or pollution could be improved	Severe traffic pollution and/or severe traffic noise	**2**	Whilst route is adjacent to carriageway, traffic volumes and speeds are low due to residential nature of surrounding area. Section of route is off-street.	X
4. ATTRACTIVENESS - other	Examples of 'other' attractiveness issues include: - Evidence that lighting is not present, or is deficient; - Temporary features affecting the attractiveness of routes (e.g. refuse sacks). - Excessive use of guardrail or bollards			**2**	Guardrails are only present outside of school entrance, therefore not excessive. Refuse sacks/bins will block the carriageway on temporary basis, but assumed infrequent. All residential properties are well-maintained along route with lighting.	X
ATTRACTIVENESS				**7**		X
5. COMFORT - condition	Footways level and in good condition, with no trip hazards.	Some defects noted, typically isolated (such as trenching or patching) or minor (such as cracked, but level pavers). Defects unlikely to result in trips or difficulty for wheelchairs, prams etc. Some footway crossovers resulting in uneven surface.	Large number of footway crossovers resulting in uneven surface, subsided or fretted pavement, or significant uneven patching or trenching.	**2**	There are no trip hazards and some footways are new and the rest in good condition.	X
6. COMFORT - footway width	Able to accommodate all users without 'give and take' between users or walking on roads. Footway widths generally in excess of 2m.	Footway widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Footway widths of less than 1.5m (i.e. standard wheelchair width). Limited footway width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**1**	All users can be accommodated by all users with minimal 'give and take'. Widths generally 1.5-2m.	X
7. COMFORT - width on staggered crossings/ pedestrian islands/refuges	Able to accommodate all users without 'give and take' between users or walking on roads. Widths generally in excess of 2m to accommodate wheel-chair users.	Widths of between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads.	Widths of less than 1.5m (i.e. standard wheelchair width). Limited width requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay.	**2**	No staggered crossings on route.	X
8. COMFORT - footway parking	No instances of vehicles parking on footways noted. Clearance widths generally in excess of 2m between permanent obstructions.	Clearance widths between approximately 1.5m and 2m. Occasional need for 'give and take' between users and walking on roads due to footway parking. Footway parking causes some deviation from desire lines.	Clearance widths less than 1.5m. Footway parking requires users to 'give and take' frequently, walk on roads and/or results in crowding/delay. Footway parking causes significant deviation from desire lines.	**1**	Footway parking was observed within vicinity of school during peak periods, but not on wider route. Did not result in deviation from desire lines.	X
9. COMFORT - gradient	There are no slopes on footway.	Slopes exist but gradients do not exceed 8 per cent (1 in 12).	Gradients exceed 8 per cent (1 in 12).	**1**	There is a slight slope along the Saxon Wood Road footpath	X
10.COMFORT - other	Examples of 'other' comfort issues include: - Temporary obstructions restricting clearance width for pedestrians (e.g. driveway gates opened into footway); - Barriers/gates restricting access; and - Bus shelters restricting clearance width. - Poorly drained footways resulting in noticeable ponding issues/slippery surfaces			**2**	There are no bus shelters restricting clearance width. No barriers or gates to private driveways that restrict access.	X
COMFORT				**9**		X
11.DIRECTNESS - footway provision	Footways are provided to cater for pedestrian desire lines (e.g. adjacent to road).	Footway provision could be improved to better cater for pedestrian desire lines.	Footways are not provided to cater for pedestrian desire lines.	**2**	Footway provisions caters for pedestrain desire lines - present on both sides of carriageway along whole route.	X
12.DIRECTNESS - location of crossings in relation to desire lines	Crossings follow desire lines.	Crossings partially diverting pedestrians away from desire lines.	Crossings deviate significantly from desire lines.	**2**	Dropped kerbs to aid crossings provided on all priority junctions with side roads, and at regular intervals to aid crossing east-west on Cheswick Way.	X
13.DIRECTNESS - gaps in traffic (where no controlled crossings present or if likely to cross outside of controlled crossing)	Crossing of road easy, direct, and comfortable and without delay (< 5s average).	Crossing of road direct, but associated with some delay (up to 15s average).	Crossing of road associated indirect, or associated with significant delay (>15s average).	**2**	Traffic volumes are low and so crossing of road is easy, direct and comfortable without delay.	X
14.DIRECTNESS - impact of controlled crossings on journey time	Crossings are single phase pelican/puffin or zebra crossings.	Crossings are staggered but do not add significantly to journey time. Unlikely to wait >5s in pedestrian island.	Staggered crossings add significantly to journey time. Likely to wait >10s in pedestrian island.	**2**	No controlled crossings on route.	X
15. DIRECTNESS - green man time	Green man time is of sufficient length to cross comfortably.	Pedestrians would benefit from extended green man time but current time unlikely to deter users.	Green man time would not give vulnerable users sufficient time to cross comfortably.	**2**	No controlled crossings on route.	X
16.DIRECTNESS - other	Examples of 'other' directness issues include: - Routes to/from bus stops not accommodated; - Steps restricting access for all users; - Confusing layout for pedestrians creating severance issues for users.			**2**	Clear routes to nearby bus routes, no steps restricting access.	X
DIRECTNESS				**12**		X
17.SAFETY - traffic volume	Traffic volume low, or pedestrians can keep distance from moderate traffic volumes.	Traffic volume moderate and pedestrians in close proximity.	High traffic volume, with pedestrians unable to keep their distance from traffic.	**2**	Traffic volume low along Cheswick Way, and some of route is off-road.	X
18.SAFETY - traffic speed	Traffic speeds low, or pedestrians can keep distance from moderate traffic speeds.	Traffic speeds moderate and pedestrians in close proximity.	High traffic speeds, with pedestrians unable to keep their distance from traffic.	**2**	Traffic speeds low due to residential nature of road, presence of parked vehicles during peak periods, and some of route is off-road.	X
19.SAFETY - visibility	Good visibility for all users.	Visibility could be somewhat improved but unlikely to result in collisions.	Poor visibility, likely to result in collisions.	**1**	Generally good visiblity - could be restricted within vicinity of the school during peak periods, however this is unlikely to have a detrimental impact on highway safety.	X
SAFETY				**5**		X
20. COHERENCE - dropped kerbs and tactile paving	Adequate dropped kerb and tactile paving provision.	Dropped kerbs and tactile paving provided, albeit not to current standards.	Dropped kerbs and tactile paving absent or incorrect.	**1**	Dropped kerbs at regular intervals, not all crossing points have tactile paving provision.	X
COHERENCE				**1**		X
			Total Score	**34**		X

ROUTE SUMMARY

Route Name	Kingfisher Way/ Saxon Wood Road/ Cheswick Way
Length	720m
Name of Assessor(s)	Matthew O'Connor
Date of Assessment	05 March 2021

Criterion	Performance Scores
Attractiveness	7
Comfort	9
Directness	12
Safety	5
Coherence	1
Total	34

Appendix C Feedback from Schools with Tandem Parking

School	Tandem Parking Provision	Feedback
Greswold Primary School	10 tandem spaces = 20 spaces	• All day staff are encouraged to use the rear parking space and half day staff are encouraged to use the front parking space so that no day staff are blocked in when they leave; and • Role modelling by senior members of staff is useful to demonstrate the best way to use the spaces.
Sharmans Cross Primary School	5 tandem spaces = 10 spaces	• Spaces are available on a first-come, first-serve basis; • Tandem parking bays work well, and they are monitored by the Site Manager on a regular basis to ensure that all staff are parked appropriately; and • The office maintains a list of car registrations to resolve any vehicles that are blocked in.
Blossomfield Infant and Nursery School	4 tandem spaces = 8 spaces	• Spaces are available for use primarily by staff, on a first-come, first-serve basis; • Staff are provided with a laminated car number which is displayed on their windscreen. If anyone is blocked in, staff can use this number to locate the relevant member of staff with the office who keep a corresponding list of car numbers and owners; and • The above system rarely causes problems.
Coleshill Heath School	Tandem parking implemented on temporary basis during construction works	• Staff sent a form to complete to find out what times they arrived and departed school • Parking zones are allocated based on staff that fall within each category; • The above system works well.