

Taylor Wimpey UK Limited

Proposed Denybrook Garden Community,
Wyboston

Project Reference: 2002-007/TN03

Technical Note – Access Strategy



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1 Introduction

- 1.1 This technical note has been prepared to support discussions with Bedford Borough Council ("the Council") as part of an assessment of initial opportunities for access to a new settlement development known as Denybrook Garden Community, to the west of Wyboston and provide an initial indication of the proposed highway improvements to facilitate the allocation of land west of Wyboston for a development of up to 4000 dwellings.
- 1.2 Transport Planning Associates (TPA) has assessed the likely number of dwellings that might be developed at specific stages through the emerging Local Plan period and has provided the Council with an initial assessment of the level of traffic generation that might arise by 2040 associated with the development of up to 4000 homes. This scale of development will deliver an inclusive, cohesive and connected community development.
- 1.3 An exemplar sustainable settlement is proposed including a high-quality movement and mobility strategy that will, in conjunction with the development and juxtaposition of complimentary land-uses, minimise the need for vehicle trips beyond the local community. A residential-led mixed-use development including primary and secondary education facilities, local retail and community uses, sports and recreational land uses will be complimented by employment development (possibly in the technology sector) as well as local community hubs for remote working and a concierge type service to manage deliveries etc. The development will provide access to car club type services reducing levels of car ownership. Bringing this together, over time, will minimise the external impact of the development, reducing the need for off-site highway infrastructure that can increase vehicle trips.
- 1.4 The advancement of the East West Rail route between Bedford and Cambridge, will bring high-quality rail services close to the development although the preferred alignment is not yet known. The likely promotion

of active travel modes will provide genuine opportunities for sustainable, linked trips to be made to destinations such as Cambridge, Bedford, Milton Keynes and beyond.

- 1.5 A high-quality Travel Plan will cover many aspects of the need to travel as part of the daily life at Denybrook. Vouchers for season ticket travel, family travel cards and vouchers for the purchase of electric bikes are amongst the measures being considered. Together with services to manage a support of online shopping and deliveries, these initiatives will promote a genuinely sustainable community.
- 1.6 Collaborative working between officers at the Council and the Taylor Wimpey team has enabled agreement to be reached on the likely travel behaviour patterns of future residents at Denybrook Garden Community and this has helped to identify the likely main movement corridors that might be affected by the development. These are discussed in the following section of this technical note.

2 Movement and Access

Background and Emerging Proposals

- 2.1 In conjunction with the Highways England 'Phase 2' Road Investment Strategy (RIS 2) proposals for the construction of a new section of 10-mile dual-carriageway between the A1 / A421 (Black Cat inter-change) and the A428 / A1198 (Caxton Gibbet inter-change) new road infrastructure will be delivered to the west of the A1. This new road infrastructure will facilitate the closure of Chawston Lane and The Lane; two minor accesses to the A1 and will be in-situ prior to the new dual-carriageway opening to through traffic.
- 2.2 Additionally, the existing 'Black Cat' interchange will be reconstructed as a 3-tier 'grade separated junction allowing for continuous through movements of traffic, north-south along the A1 and east-west along the A428 / A421. West to north (A421 to A1) movements will be delivered through a new, free-flow, slip lane.

Principal Access

- 2.3 An indicative program for the delivery of dwellings at Denybrook has been shared with the Council and first occupation is not envisaged until the Highways England proposals are completed. The road infrastructure between Roxton Road, connecting to Chawston Lane and onward towards The Lane will be completed and an active travel access to the Denybrook settlement from the Highways England local road proposals will facilitate access to shared use footway / cycle track proposals.
- 2.4 The Roxton Road corridor will be upgraded to provide a 7.3m 'Principal' route standards highway to serve the development. To the north of Chawston Lane, where the existing carriageway has a left-hand bend at the access to the existing fishing lakes, the proposed access will extend northwards, forming a 'causeway' type entrance to the development, before re-joining the existing alignment of Roxton Road, to the south of the Roxton Road / The Lane junction. The proposed highway improvements are illustrated in the TPA drawing (number 2002-007/SK13) that comprises **Appendix A** to this report.
- 2.5 In addition, Colesden Road will be upgraded to provide for a secondary, southern exit from the development. This corridor will be circa 6.25m in width, complimented by a shared use footway / cycle track on the northern side to provide access to public Footpaths No. A11 and A10, part of the local Public Right of Way (PRoW) network. A priority (T-junction) is proposed. The proposed access arrangements and improvements to Colesden Road are presented in the TPA drawing (number 2002-007 SK14) contained in **Appendix B**.
- 2.6 Routes to the north will be accommodated along Staploe Road and Bushmead Road, with linear improvements proposed along these routes as the development progresses. Bushmead Road currently comprises of a circa 7.2m wide carriageway that will be improved through the future phases of the development beyond the period covered by the emerging Local Plan; 2040. The improvements proposed

along Bushmead Road are illustrated in the TPA drawing (number 2002-007 SK17) contained in **Appendix C**.

- 2.7 The analysis contained within the AECOM report 'Bedford Borough Transport Model: New Settlement West of Wyboston' demonstrates that the junctions upon the local highway network have adequate capacity to accommodate the traffic arising from a single assessment of 10,150 homes in 2050. Further analysis undertaken by TPA confirms that junctions along Roxton Road associated with the Highways England proposals are adequate and improvements at the Bedford Road junction with Roxton Road to provide a 50m Inscribed Circle Diameter (ICD) roundabout at the junction have sufficient capacity to accommodate the development.
- 2.8 The Scenario B analysis within the AECOM report examines the effect of 5,150 dwellings as a new settlement at Wyboston and the report clearly demonstrates that sufficient capacity exists on the local highway network.
- 2.9 Taylor Wimpey UK Limited propose that an allocation of 4000 should be included in the emerging Local Plan to 2040 to deliver a comprehensive, cohesive, connected development west of Wyboston.

Proposed Local Plan Highway Works

- 2.10 To facilitate the development of land to the west of Wyboston, the following access works are proposed:
- A 7.3m wide carriageway will be provided along Roxton Road.
 - The alignment of Roxton Road to the north of Chawston Lane will extend northwards forming a 'causeway' type entrance to the development;
 - Colesden Road will be widened to 6.25m with a new priority junction providing access.
 - Through a future planning application, localised traffic calming measures are likely to be proposed at a series of minor settlements / villages along routes to the west.
 - Traffic calming proposals and a 'Gateway' feature are proposed at the Bushmead Road approach to St Neots / Eaton Socon.
 - An internal hierarchy of roads will be developed with principal streets adopting a boulevard approach at 6.25m to accommodate public transport movements with wide, landscaped verges and associated footway and cycle route provision;
 - Secondary streets will be 5.5m.
 - Public footpaths, upgraded to Bridleways will be provided at 4m wide, as illustrated within drawing number 2002-007 SK21, contained in **Appendix D**.
 - A network of traffic free footways / cycle routes will be developed.
 - Localised traffic calming / traffic management measures, including village gateway treatments.
- 2.11 To compliment those works above, a high-quality mobility strategy comprising a series upgrades to existing Public Rights of Way, new footway / cycle track facilities and new demand responsive and diverted bus services will be developed. A non-exhaustive list of the Public Rights of Way to be upgraded is as follows:

- Public Footpath No. 9 and 44 to the north of Chawston Lane;
- Public Footpath No. 7 to the south of Chawston Lane;
- Public Footpath No. A11 and A10 to the south of Colesdon Road; and
- Public Footpath No. 37 to the east of Northfield Road.

Proposed Local Plan Mitigation works

- 2.12 To support the Local Plan allocations and to understand the likely associated impacts, the Borough Council commissioned AECOM to undertake strategic modelling using the Bedford Borough Transport Model (BBTM) which covers the whole of Bedford Borough and areas adjacent to the borough in neighbouring authorities. This model has been developed to assess the impact of growth set out in the new Local Plan through to 2040.
- 2.13 The result of modelling key to Denybrook Garden Community has been presented in two reports published by Bedford Borough Council which were entitled 'Bedford Borough Transport Model – New Settlement West of Wyboston' and 'Bedford Borough Transport Model – New Settlements and the Black Cat Junction'. The former report assesses the impact of the Denybrook Garden Community in isolation, whilst the later report assesses the impact of the Little Barford development, in addition to assessing the impact of the combined impact of both developments.
- 2.14 As part of the assessment undertaken, a number of additional measures were identified to be required as specific mitigation for the Denybrook development. These are presented within Table 2.6 of the 'New Settlement West of Wyboston' report and is represented within Table 2.1.

Table 2.1 Proposed Additional Mitigation Measures Defined by AECOM

Mitigation Measure	Description	Year ¹
A1 / A421 / A428 Black Cat Junction	Minor junction improvements including an additional 30m left-hand flare on the A1 southbound off-slip, the extension of the flare by 20m on the Bedford Road approach and alterations to the assumed lane markings to improve key movement of A1 southbound to A421 westbound	2050
Bedford Road / Roxton Road	New roundabout (single lane with flared approaches) to replace the existing priority junction	2040-2050 ²
Thurleigh Road / Mill Hill	Junction improvements including a new filter lane for right turn onto Mill Hill and the extension of the Mill Hill flare to 20m	2040-2050 ²
Brickhill Drive / Linnet Way	Conversion of existing mini-roundabout to a signalised junction <i>(Consideration of traffic calming measures along Linnet Way recommended but not modelled in this assessment)</i>	2040
A421 / Water End / St Neots Road / Green End	Alterations to the assumed lane markings to provide two lanes of traffic through the junction from south-westbound off-slip to St Neots Road exit towards Bedford, including addition of short two-lane section on St Neots Road exit from junction <i>[Additional to BBC mitigation scheme at this location]</i>	2040
Rerouting of the existing 905 service	Reroute 905 Bedford-Cambridge coach through development site, exiting A421 at new interchange and enter St Neots via Bushmead Road to resume current route	2040
New bus service to proposed East-West Rail Station at Tempsford	New bus service serving the proposed development and the interchange station at Tempsford between the East Coast Mainline and the new East-West Rail route	2040

1 – year of requirement of mitigation. 2 - The timing of these proposed mitigation measure depends on the phasing of the development. The modelling suggests that these measures may be required in 2040 Scenario B (representing 5,150 dwellings) but are not required in 2040 Scenario A (representing 2,500 dwellings)

2.15 The precise extents and the need for the mitigation presented within Table 2.1, will be defined through future, more detailed modelling using the Bedford Borough Transport Model.

3 Conclusion

- 3.1 This development should be founded upon strong sustainable transport principles, with funding towards local and personalised travel planning likely to deliver greater value than significant road infrastructure.
- 3.2 The principal access and mobility strategy highlighted within this note demonstrate that an appropriate access strategy is able to be implemented to support the development, with appropriate width road routes approaching from the site from the north and the south, supplemented by secondary / minor routes elsewhere.
- 3.3 The promotion of high-quality active travel strategies, to support public transport in this area can lead to a highly sustainable pattern of travel. Cycle routes linking to facilities along the proposed rail line can play a significant part in reducing the travel emissions associated with this development.

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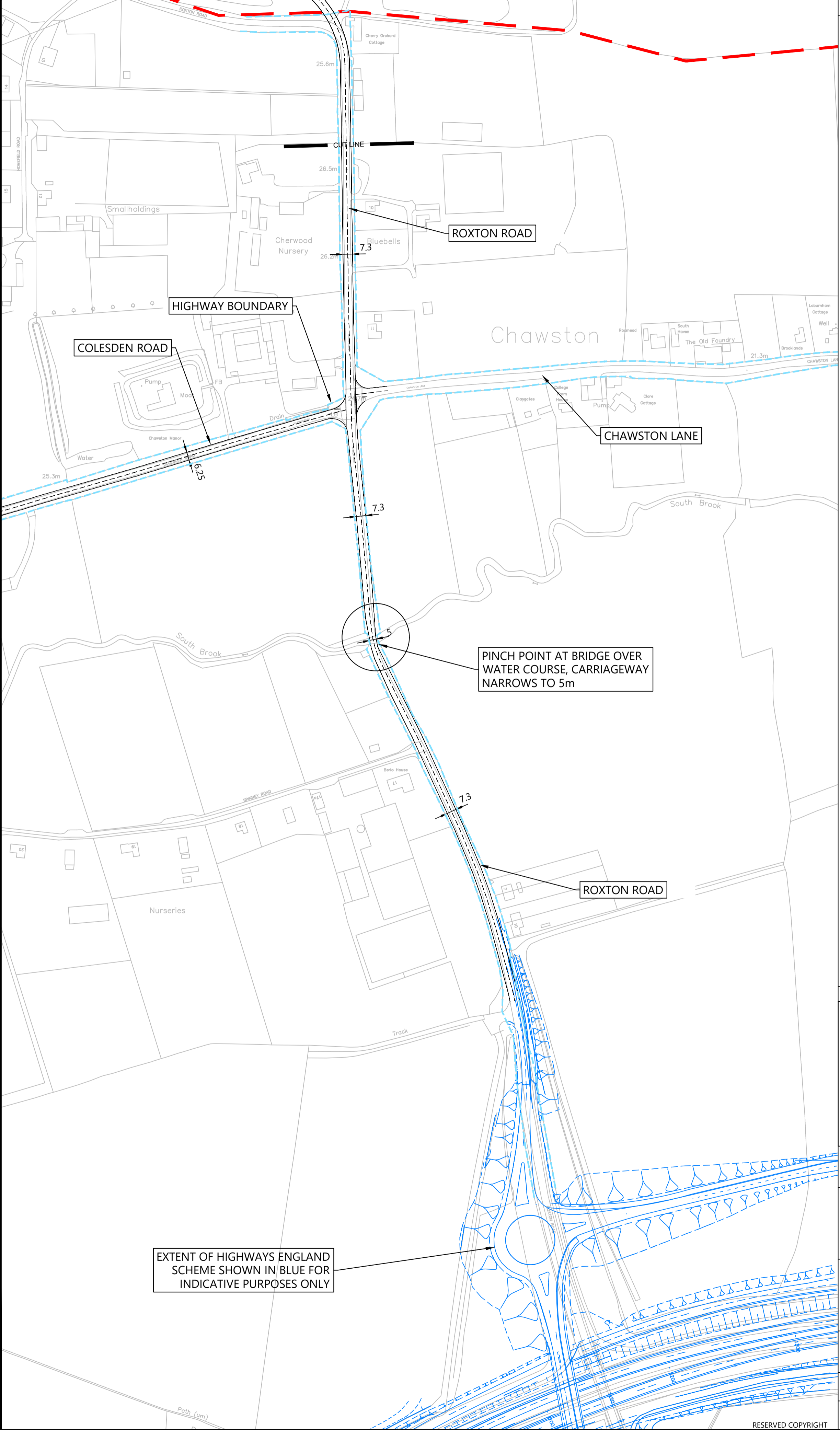
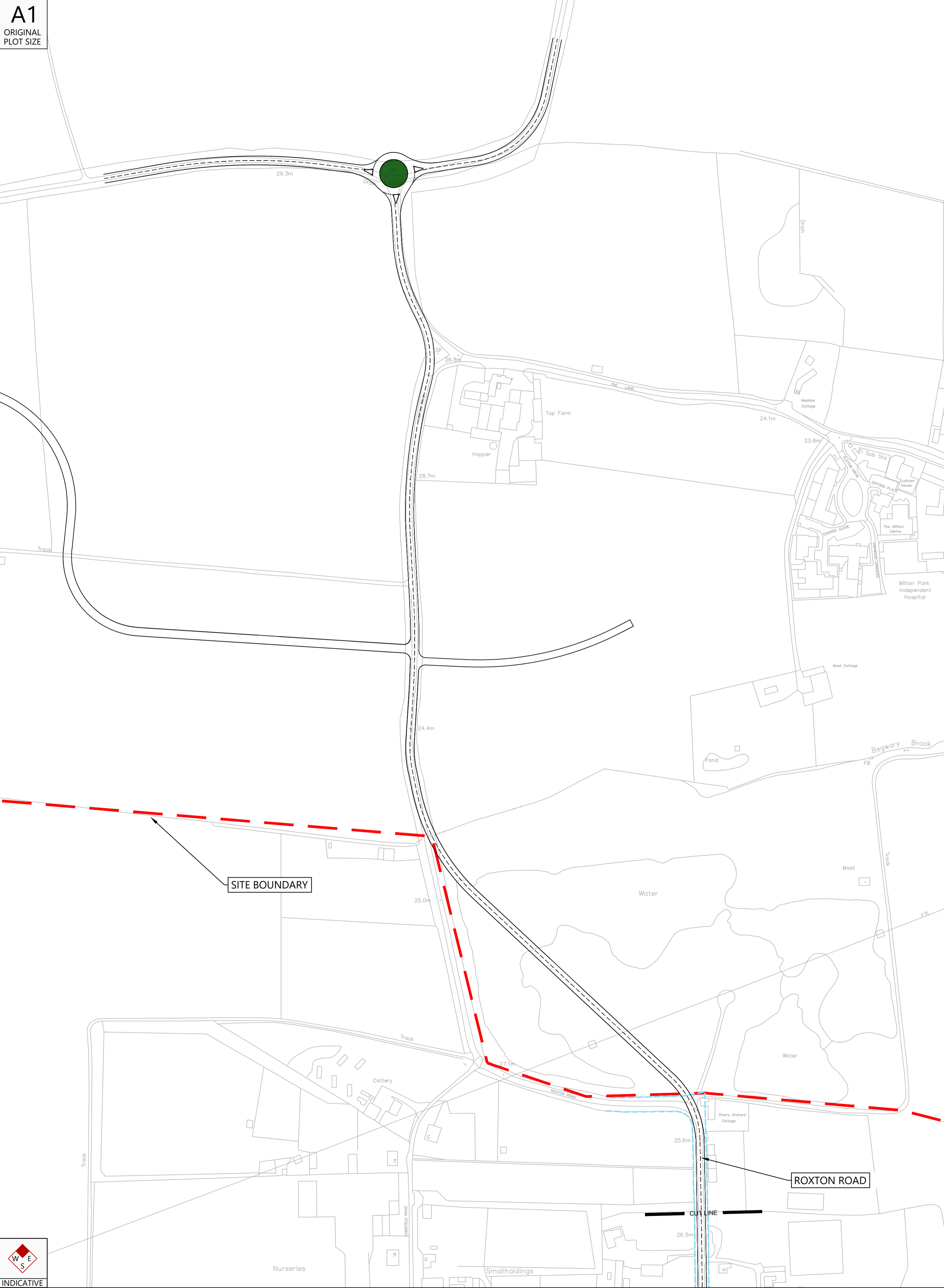
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Document Review

Document	Status	Author	Checker	Approver	Date
TN03	Draft	TH	JC	JC	27 08 21
-	Issue	TH	JC	JC	03 09 21

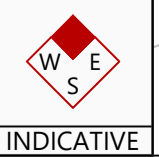
APPENDIX A

A1
ORIGINAL
PLOT SIZE



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- NOTES:
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CLIENT: TAYLOR WIMPEY

PROJECT: LAND NORTH OF A421 WYBOSTON

TITLE: PROPOSED IMPROVEMENTS TO COLESDEN ROAD / ROXTON ROAD

STATUS: FEASIBILITY

SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:2000	18.08.21	RC	RC	JC
JOB NO:	DRAWING NO:	REVISION:		
2002-007	SK13	-		

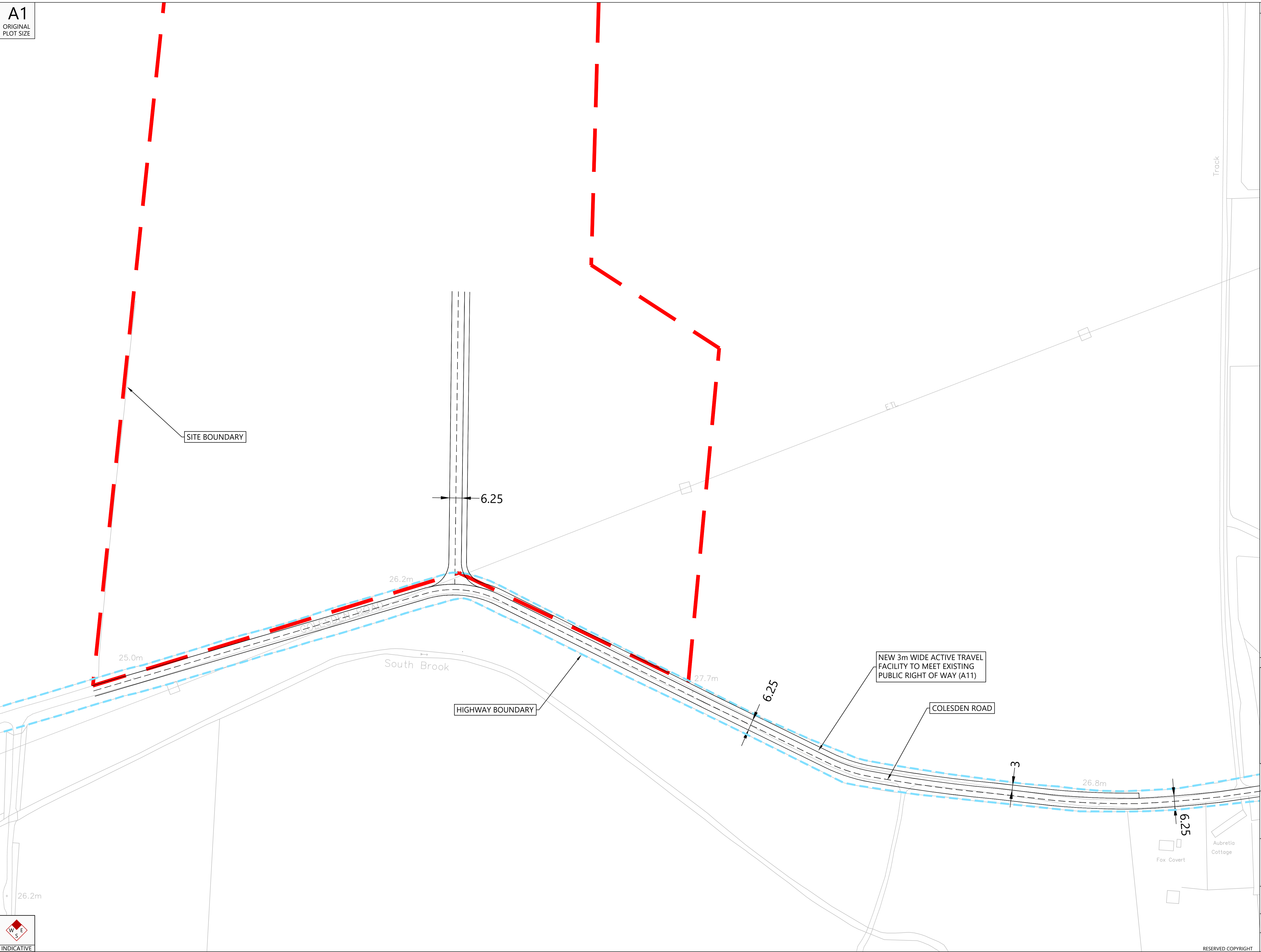
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APPENDIX B

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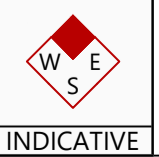
CLIENT:
TAYLOR WIMPEY

PROJECT:
**LAND NORTH OF A421
WYBOSTON**

TITLE:
**PROPOSED PRIORITY
JUNCTION SITE ACCESS
COLEDEN ROAD**

STATUS:
FEASIBILITY

SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
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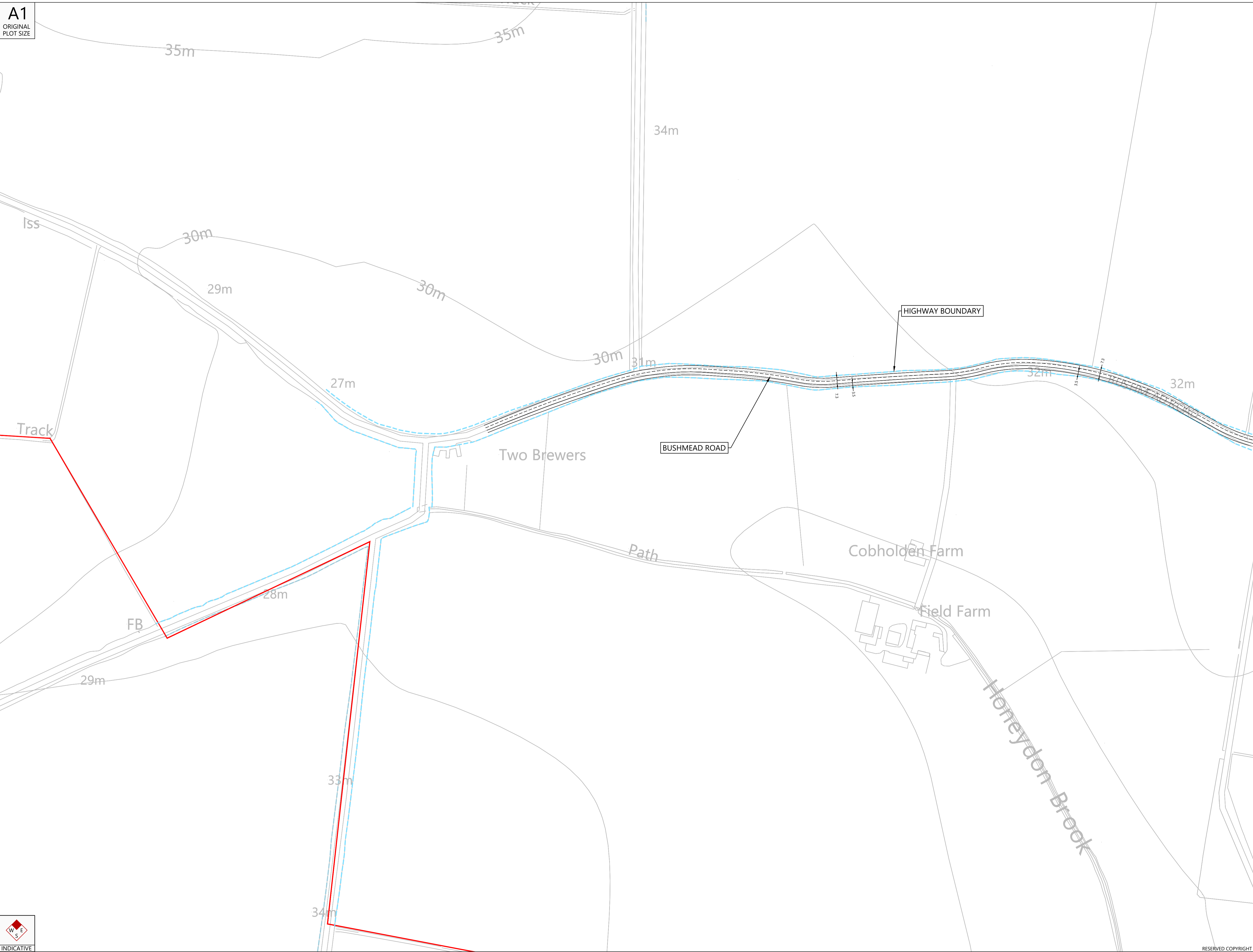
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CLIENT: TAYLOR WIMPEY

PROJECT: LAND NORTH OF A421 WYBOSTON

TITLE: PROPOSED IMPROVEMENTS TO BUSHMEAD ROAD

STATUS: FEASIBILITY

SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
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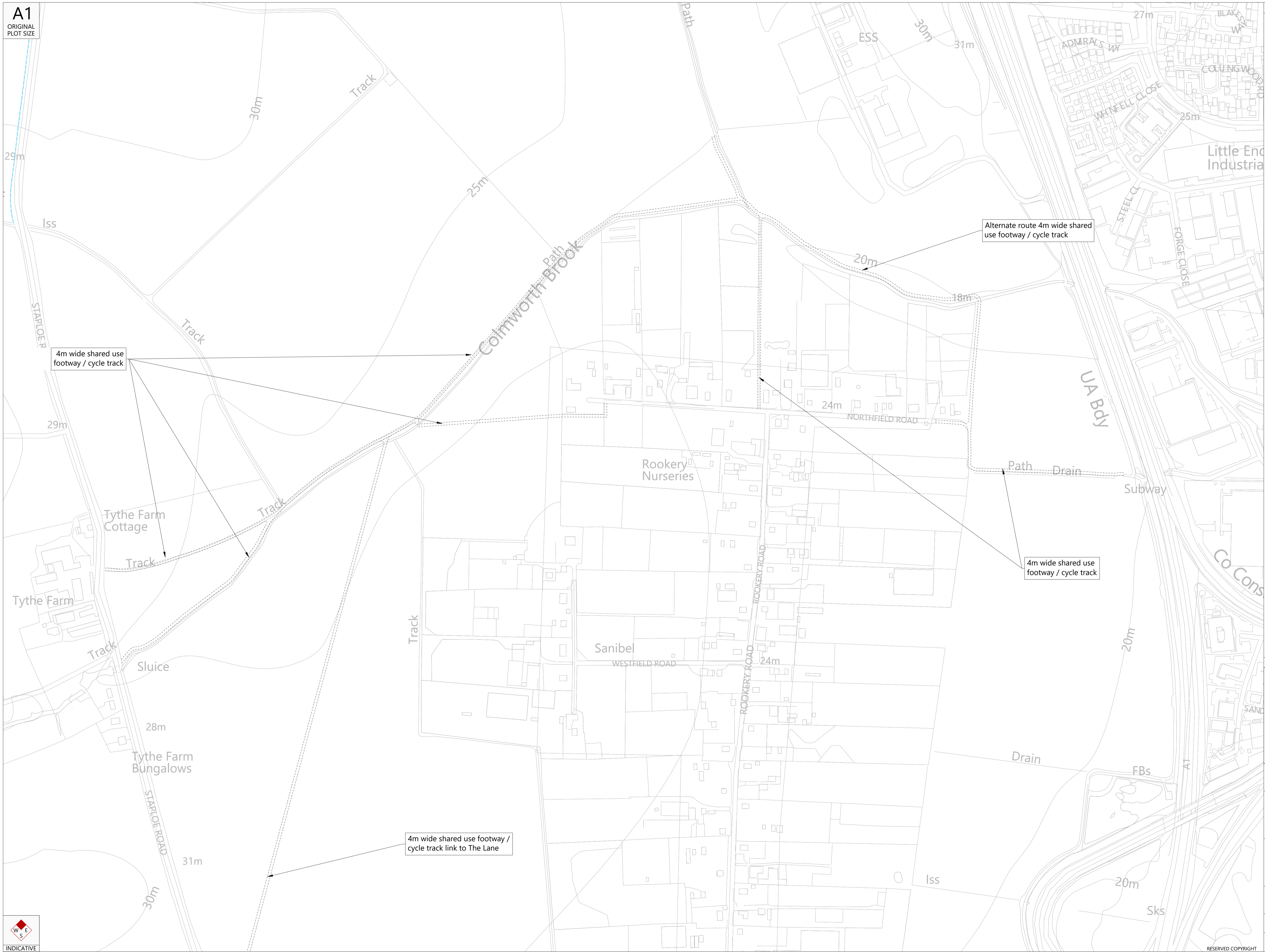


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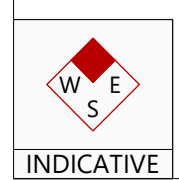
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CLIENT: TAYLOR WIMPEY

PROJECT: LAND NORTH OF A421 WYBOSTON

TITLE: INDICATIVE ACTIVE TRAVEL CORRIDOR IMPROVEMENTS - NORTH EAST

STATUS: FEASIBILITY

SCALE:	DATE:	DRAWN:	CHECKED:	APPROVED:
1:2500	20.08.21	JA	TH	JC
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