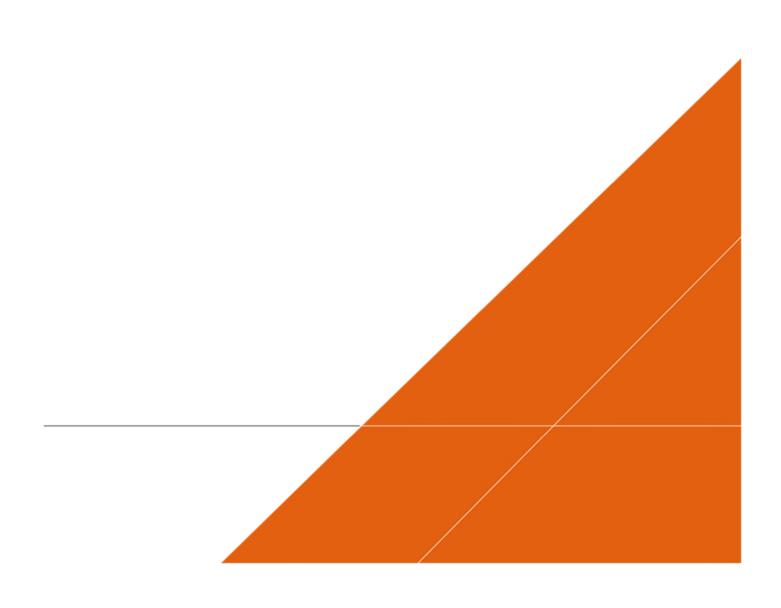


Transport Statement

National Grid Cotswold Visual Impact Provision (VIP) Project

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VERSION CONTROL

Version	Date	Author	Checker	Approver	Changes
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Contents

1	Introduction	3
2	Proposed Project	6
3	Site Access	9
4	Policy Review	13
5	Methodology	18
6	Baseline Situation	21
7	Traffic Generation	37
8	Construction Control Measures	40
9	Transport Appraisal	46
10	Conclusion	53
11	References	54
Ta	ables	
Tab	le 1 – PRoWs within Proposed Project	29
Tab	le 2 – 2028 Baseline Traffic AAWT Flows, 12hrs (07:00-19:00hrs), Both Directions	30
Tab	le 3 – Key Environmental Receptors and Sensitivity along the Construction Route	32
Tab	le 4 – Summary of Total Collisions by Severity on Road Links and Junctions (2020-2022)	34
Tab	ele 5 – Daily Indicative Maximum Construction Vehicle Movements	37
Tab	ele 6 – Daily Indicative Peak Construction Vehicle Movements which overlap	38
Tab	ele 7 – AIL Route Assessment, including TTC recommended mitigation measures	44
Tab	le 8 – Predicted Increase from Construction Traffic against 2028 Baseline Flows	46
Tab	le 9 – Predicted Increase from Construction Traffic against 2028 Baseline Flows with 100% of	:
Tab	le 10 – References	54
Fi	gures	
_	ure 1 – Site Location plan of the Proposed Project, CSEC redline boundaries, site access poin	
Figu	ure 2 – Construction Programme Summary	12
_	ure 3 – Advisory Freight Route Map (Primary route corridors by weighting) (source: ucestershire's Local Transport Plan, 2020-2041)	15

1

Figure 4 – Typical Cable Drum Transfer Vehicles (Road Transfer / Haul Road Transfer) (Source:	Ref
14 and 15)	39
Figure 5 – Cable Drum Transfer Vehicle: Lowbed Trailer (Source: Ref 16)	39

Appendices

Appendix A

Traffic and Transport Drawing (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01)

1 Introduction

1.1 Brief

- 1.1.1 This Transport Statement has been prepared on behalf of National Grid in support of two planning applications, one submitted to Tewkesbury Borough Council, and one submitted to Cotswold District Council, for two proposed Cable Sealing End Compounds (CSECs) to facilitate the Cotswolds Visual Impact Provision (VIP) Project ("the Proposed Project"). The Proposed Project will also be referred to as "the Site" in this Transport Statement.
- 1.1.2 The purpose of the Proposed Project is to underground a section of 400kV overhead electricity transmission lines, to mitigate the visual impact of existing electricity infrastructure through part of the Cotswolds National Landscape (previously known as Area of Outstanding Natural Beauty).
- 1.1.3 The Proposed Project is located immediately south of the B4632 and from Breakheart Plantation, runs in a south-westerly direction to the east of Cleeve Common Site of Special Scientific Interest (SSSI), past Wontley, Drypool and Wood Farms, towards Dowdeswell Wood. The location of the Scheme and the proposed construction routes are presented in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).
- 1.1.4 This report supports the two planning applications for the proposed construction of the CSECs to facilitate the connection between new underground cables and the existing overhead line (OHL) and associated permanent access roads (and bell-mouths) to the CSECs, in addition to temporary bell-mouths created to support the cable construction along classified roads. The rest of the works will be undertaken using Permitted Development rights under Schedule 2 of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended).

1.2 Scope of this Report

- 1.2.1 This report considers the traffic generation of the Proposed Project during the construction phase and how this will affect receptors which use or are located off the study area road network.
- 1.2.2 The main traffic and transport related environmental impact will be associated with the movement of Heavy Goods Vehicles (HGVs) traffic travelling to and from Site during construction of the Proposed Project. The assessment has taken into account the impact of construction traffic generation for the worst-case scenario in terms of volume.
- 1.2.3 The methodology for the appraisal has taken into account the Institute of Environmental Management and Assessment [IEMA], 2023, Environmental Assessment of Traffic and Movement [Ref 1].

1.3 Study Area

1.3.1 The Study Area comprises all roads that form the proposed construction routes from the Strategic Route Network (SRN) to the Site.

- 1.3.2 The Site will be accessible via the following two access points, both presented on Figure 1 below:
 - Northern access located on the B4632 within Winchcombe in the Borough of Tewkesbury; and
 - Southern access located on the A40 within Whittington in the Cotswold District.
- 1.3.3 New access junctions will be constructed and designed in accordance with Design Manual for Roads and Bridges CD 123 Geometric design of at-grade priority and signal-controlled junctions (Ref. to Section 2).
- 1.3.4 An Outline Construction Traffic Management Plan (CTMP) (Report Reference: PDD-101300-REP-025) has been prepared by The Transportation Consultancy (TTC) on behalf of National Grid. This document provides a framework for information and strategies that would be adopted within the final CTMP, which would be developed for the final stages of the development.
- 1.3.5 Initial engagement with the Local Highway Authority (LHA), Gloucestershire County Council (GCC), has been undertaken to agree in principle the proposed primary construction routes to the Site. Post consent and in advance of construction, further confirmation will be sought by GCC, Worcestershire County Council (WCC) and National Highways on both the proposed construction routes for HGV traffic, and for the proposed routeing of abnormal loads, to ensure the transfer routes are acceptable. Engagement with Gloucestershire Police will also be sought on the routing of abnormal loads.

Northern Access Route Options

- 1.3.6 Three potential construction route options from the M5 to the B4632 for the northern site access were identified and evaluated by TTC within the CTMP (Report Reference: PDD-101300-REP-025):
 - Construction Route 1a: B4632 Station Road Finlay Way A435 A46 M5.
 - Construction Route 1b: B4632 Southam Lane A435 A46 M5.
 - Construction Route 1c: B4632 High Street/Deep Street B4075 A435 A46 M5.
- 1.3.7 Construction Route 1c was the preferred route following the analysis and review undertaken by TTC, as this route does not have any known constraints, although it is acknowledged that the route traverses through the northern suburbs of Cheltenham and through the village of Prestbury. This route connects to the strategic road network; therefore, the effect of the additional traffic will be diluted at these points due to high baseline traffic flows.
- 1.3.8 The route options approach the site from the north have been discussed with Highways Officers at GCC and Route 1c was confirmed as the preferred option. Further details on the assessment undertaken by TTC can be found in the CTMP (Report Reference: PDD-101300-REP-025). The proposed construction route to the northern Site access is presented in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).

Southern Access Route Options

- 1.3.9 Two potential construction route options from the M5 to the A40 for the southern site access were identified and evaluated by TTC within the CTMP (Report Reference: PDD-101300-REP-025):
 - Construction Route 2a: A40 A436 A417 M5.
 - Construction Route 2b: A40 A429 A424 A44 A46 M5.

- 1.3.10 Route Option 2a will be used as the primary construction route to the Site. Route Option 2b is a secondary route providing access to/from the Farmington Quarry but also provides secondary access route for the southern site access. Route Option 2b could be used as a primary access route should there be any significant issues along Route 2a which would impact the movement of construction vehicles to/from the Site and the SRN.
- 1.3.11 Both routes connect to the SRN, therefore, the effect of the additional traffic will be diluted at these points due to high baseline traffic flows.
- 1.3.12 The proposed construction routes for the southern access to the Site are presented in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).

Abnormal Indivisible Loads

1.3.13 As the construction works would require the delivery of cable drums which are considered to be Abnormal Indivisible Loads (AILs), an Abnormal Load Assessment (ALA) (Report Reference: PDD-101300-REP-026) has also been prepared by TTC. Within the ALA, TTC have highlighted that the preferred route for AILs to the proposed haul road at the A40 would be Route 2a, and Route 1c to the proposed haul road at the B4632.

1.4 Report Structure

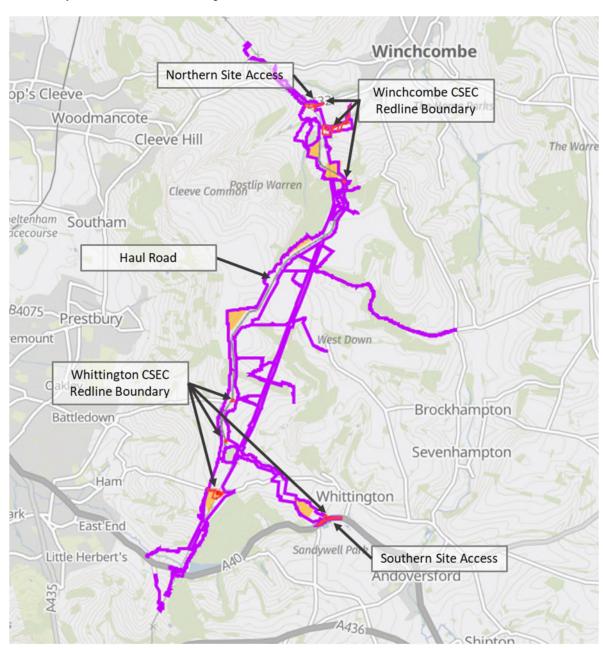
- 1.4.1 The report is set out as follows:
 - Wider and Proposed Project
 - Site Access
 - Policy Review
 - Methodology
 - Baseline Situation
 - Traffic Generation
 - Construction Control Measures
 - Transport Appraisal
 - Conclusion

2 Proposed Project

2.1 Proposed Project Location

2.1.1 The Proposed Project location is shown in Figure 1 below and is situated in the administrative boundary of Gloucestershire County Council, Cotswold District Council and Tewkesbury Borough Council. It is located immediately south of the B4632 and from Breakheart Plantation, runs in a south-westerly direction to the east of Cleeve Common SSSI, past Wontley, Drypool and Wood Farms, towards Dowdeswell Wood.

Figure 1 – Site Location plan of the Proposed Project, CSEC redline boundaries, site access points, Haul Road and the Laydown areas shown in orange.



2.2 Proposed Project Outline

- 2.2.1 The purpose of the Proposed Project is to underground a section of 400kV overhead electricity transmission lines, to mitigate the visual impact of existing electricity infrastructure through part of the Cotswolds National Landscape.
- 2.2.2 The Proposed Project will comprise:
 - The removal of a section of overhead lines (OHL), including the permanent removal of 16 pylons (18 pylons will be removed in total, however, two will be replaced under Permitted Development).
 - Underground cabling of approximately 7km in length.
 - Two new cable sealing end compounds (CSECs) at each end (north and south) and associated replacement terminal pylons (as mentioned above), to connect the new underground cables to the remaining existing overhead line.
 - Associated temporary works to facilitate construction, including temporary/permanent access junctions and roads, a temporary haul road, construction compounds, material storage and welfare facilities.
 - Ancillary off-site infrastructure (including installation of arcing horns and shunt reactor installation/connection).
- 2.2.3 The majority of the works will be undertaken using Permitted Development rights under Schedule 2 of the Town and Country Planning (General Permitted Development) (England) Order 2015 (as amended), however, the CSECs require planning permission.
- 2.2.4 The planning applications are for the construction of a CSEC at Winchcombe and a CSEC at Whittington, to facilitate the connection between new underground cables and the existing OHL and the associated permanent access roads (and bell-mouths) to the CSECs, in addition to temporary bell-mouths created to support the cable construction along classified roads.
- 2.2.5 The proposed works within the Winchcombe CSEC redline comprise:
 - Installation of a terminal pylon to connect the new underground cables to the remaining existing overhead line (note: the pylon is Permitted Development).
 - CSEC infrastructure.
 - Underground cabling from the Winchcombe CSEC towards the Whittington CSEC (note: this is Permitted Development).
 - A permanent access road to the CSEC, including a bell-mouth and turning area.
 - A hardstanding area where the overhead line meets with the new underground cables.
 - A retaining wall.
 - New screening comprising native trees, woodland and scrub planting.
 - Temporary bell-mouths with the B4632 and a classified road to facilitate construction.

- 2.2.6 The proposed works within the Whittington CSEC redline comprise:
 - · CSEC infrastructure.
 - Underground cabling from the Whittington CSEC towards the Winchcombe CSEC (note: this is Permitted Development).
 - A permanent access road to the CSEC, including a bell-mouth with Ham Road and a turning area.
 - A hardstanding area where the overhead line meets with the new underground cables.
 - New screening comprising native trees, woodland and scrub planting.
 - Temporary bell-mouths on three classified roads to facilitate construction.
- 2.2.7 The terminal pylon for the Whittington CSEC is located outside the CSEC redline (and is Permitted Development).

3 Site Access

- 3.1.1 The Site will be accessible via two access points:
 - Northern Site Access via the B4632 and situated within Winchcombe, within the Tewkesbury Borough Council boundary.
 - Southern Site Access via A40 and situated within Whittington, within the Cotswold District Council boundary.
- 3.1.2 Both site accesses are shown on Figure 1.

Northern Site Access

- 3.1.3 The northern site access is on the B4632, which will be approximately 80m to the west of an existing private access road to the paper mill and residential property, is an existing access road, accessible via a priority T-junction. The minority (30%) of traffic associated with the construction will use the northern access. In the vicinity of the Site access, the B4632 has a carriageway width of approximately 7m and is subject to the national speed limit. The Site access road will have a carriageway width of 7m, which will cater for HGVs/AlLs.
- 3.1.4 Images 1-3 show the proposed northern Site access junction and the B4632 (eastern and western section).

Image 1 - Proposed Site Access Road Drawing

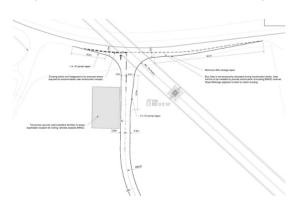


Image 2 - B4632 (West)



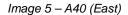
Image 3 - B4632 (East)



Southern Site Access

- 3.1.5 The southern site access will be located on the A40. At this location, there is currently no access available, therefore, a new access point will need to be designed and constructed to accommodate the Scheme. The majority (70%) of traffic associated with the construction will use the southern access. The proposed site access will be located where there currently is an existing layby. A priority T-Junction will be created, with a right turn bay into the site access from the A40 (east). The A40 has a carriageway width of approximately 9-10m and is subject to the national speed limit. The Site access road will have a carriageway width of 7m, which will cater for HGVs/AILs.
- 3.1.6 Images 4-6 show the existing southern Site access junction and visibility to/from the junction.

Image 4 - Proposed Site Access Road Drawing



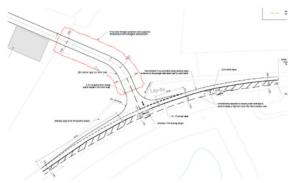




Image 6 – A40 (West)



Haul Road

3.1.7 In addition to the public highway access routes to the Proposed Project, there will also be an internal Haul Road which will serve the entirety of the route corridor. It is anticipated that the Haul Road will be used to transfer personnel, materials and waste between the route corridor and the laydown areas and compounds. As outlined in the CTMP (Report Reference: PDD-101300-REP-025), traffic will predominantly comprise of HGV movements transferring materials and waste. The Haul Road is shown in Figure 1.

3.2 Proposed Construction Route

3.2.1 It is anticipated that all construction HGV traffic would access the Site from the SRN. The existing strategic and local road network and proposed construction routes are presented in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).

Northern Site Access

- 3.2.2 The proposed construction route to the north is the shortest available route between the northern site access and the strategic road network and is as follows:
 - Construction Route 1c (construction route for northern access): B4632 High Street/Deep Street
 B4075 A435 A46 M5.

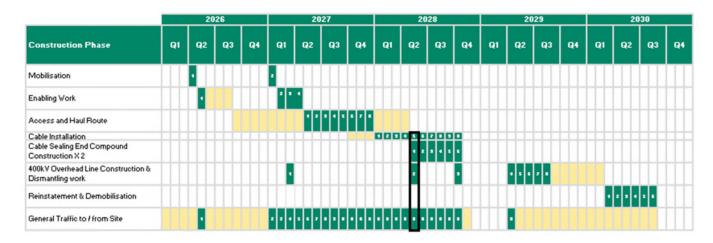
Southern Site Access

- 3.2.3 The proposed construction route to the south is the shortest available route between the southern site access and the strategic road network and is as follows:
 - Construction Route 2a (construction route for southern access): A40 A436 A417 M5.
 - Construction Route 2b (construction route for southern access): A40 A429 A424 A44 A46
 M5.

3.3 Construction Phase Duration and Working Hours

Based on the current construction programme shown in Figure 2 below, the first traffic associated with the construction phase/activity is anticipated to occur in 2026, with peak construction activity being in 2028. The peak construction activity where activities overlap has been highlighted in Figure 2 below.

Figure 2 – Construction Programme Summary



3.3.1 Core working hours onsite would be as follows:

- Monday to Friday 07:00am 07:00pm.
- Saturdays (at reduced hours).
- No Sunday, bank holiday or public holiday working.

4 Policy Review

4.1 National Policy Context

National Planning Policy Framework (December 2023) [Ref 2]

- 4.1.1 The National Planning Policy Framework (NPPF) sets out the Government's economic, environmental, and social planning polices for England. Taken together, these policies articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.
- 4.1.2 The NPPF first came into force on 27 March 2012, with an updated version published in 2018 and the most recent revised version in December 2023. The NPPF replaced all the previous Planning Policy Statements (PPSs) and Planning Policy Guidance (PPGs).
- 4.1.3 The NPPF clearly promotes sustainable transport as the document highlights the following:
 - Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives.
 - The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.
 - The Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.
 - The environmental impacts of traffic and transport infrastructure can be identified, assessed, and considered. Therefore, encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion.
- 4.1.4 Paragraph 115 of the NPPF indicates that a refusal of planning permission on transport grounds will only be defendable if there are severe impacts arising from the development. The NPPF states that plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people.
- 4.1.5 Considering development proposals, it should be ensured that:
 - Appropriate opportunities to promote sustainable transport modes can be or have been taken up, given the type of development and its location.
 - Safe and suitable access to the site can be achieved for all users.
 - Any significant impacts of the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

4.2 Local Policy Context

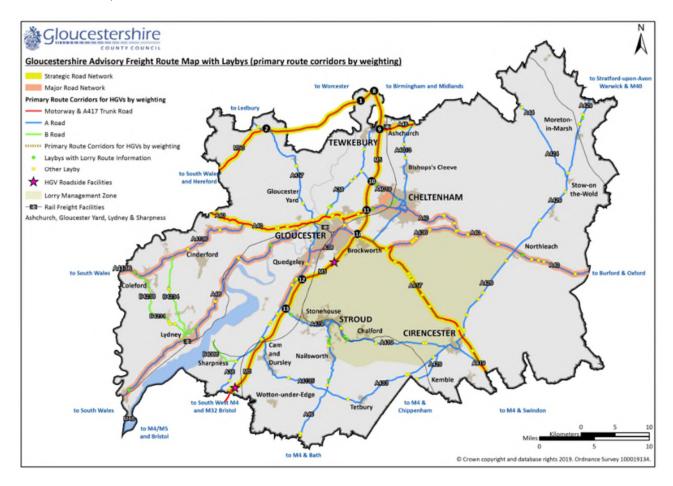
Gloucestershire's Local Transport Plan, 2020-2041 [Ref 3]

- 4.2.1 The Local Transport Plan (LTP) describes the council's strategy and policy framework for transport and transport infrastructure for Gloucestershire for 2020-2041, adopted in March 2021. It is used as a guide for investment priorities and influences other agencies when determining their planning or delivery decisions.
- 4.2.2 Gloucestershire's vision for transport is as follows:

"A resilient transport network that enables sustainable economic growth by providing travel choices for all, making Gloucestershire a better place to live, work and visit."

- 4.2.3 The four key objectives for the LTP are to:
 - Protect and enhance the natural and built environment.
 - Support sustainable economic growth.
 - Enable safe and affordable community connectivity.
 - Improve community health and wellbeing and promote equality of opportunity.
- 4.2.4 The LTP considers freight across different movement types, including those required for construction. Journey time and freight routing has been highlighted as a key issue, which Gloucestershire seek to address with the Gloucestershire Freight Network. It further highlights the need to mitigate and effectively balance and manage the impact of demand against community needs and the environmental impacts of freight transport.
- 4.2.5 This network broadly consists of a combination of the Strategic Road Network (SRN) and Major Road Network (MRN). The proposed construction route prioritises use of these roads where possible. GCC also enforces a Cotswold Lorry Management Zone which includes a number of Traffic Regulation Orders to reduce the number of HGVs using unsuitable roads for their journey. The proposed construction route avoids these roads.
- 4.2.6 The following policy forms part of the LTP:
 - Policy LTP PD3.1 Gloucestershire's Freight Network
 - Gloucestershire's County Council (GCC) will work with their partners "to maintain a
 functioning freight network by ensuring the safe and expeditious movement of goods
 vehicles using the highway and facilitate the decarbonisation of freight by 2045. It was
 adopted in July 2022, replacing the previous plan which was adopted in 2011. It is used as
 a guide for investment priorities and influences other agencies when determining their
 planning or delivery decisions."

Figure 3 – Advisory Freight Route Map (Primary route corridors by weighting) (source: Gloucestershire's Local Transport Plan, 2020-2041)



- The LTP highlights multiple policy proposals for GCC to achieve this. The following policy proposals are relevant to the Proposed Project:
 - "Work with national freight mapping companies to inform freight operating route planning systems.
 Ensure the freight primary route corridor map is reviewed periodically, and that freight transport use the primary route corridors wherever possible and avoid roads not included in corridors.
 - Work with Highways England and neighbouring highway authorities to ensure that freight routes are
 clearly identified on signs and maps and ensure updated or temporary route updates are shared with
 information portals accessed by the freight industry periodically, and that freight transport use the
 primary route corridors.
 - Ensure freight companies transporting abnormal loads greater than 4.95 metres high or 4.1 metres
 wide for non-motorway use and 4.6 metres for motorway use, contact Gloucestershire County
 Council and Gloucestershire Constabulary providing at least two days' notice before any planned
 travel.
 - Developers are required to submit through planning, Delivery and Servicing Plans and where appropriate, Construction Management Plans to; manage site traffic, and to reduce carbon emissions and other pollutants."

- Policy LTP PD 3.2 Freight Journey Routing Information
 - GCC will work with their partners to maximise the role of technology for the dissemination of freight journey routing information.
- Policy LTP PD 3.3 Driver Facilities
 - GCC will provide facilities for drivers to rest, which will be provided at suitable locations.
- Policy LTP PD3.4 Driving Better Practice
 - GCC will support improved codes of practice across the construction and logistics industry and require the production of Construction Management Plans for strategic development sites and planned events.
- Policy LTP PD 4.1 Gloucestershire's Highway Network
 - GCC will maintain a functioning highway network that supports Gloucestershire's transport network by ensuring the safe, accessible, and expeditious movement of highway users.
- Policy LTP PD 4.2 Highway Network Resilience
 - GCC will provide a resilient highway network that can withstand unforeseen events.
- Policy LTP PD 4.3 Highway Maintenance
 - GCC will manage the local highway asset management in line with the Highways Asset Management Framework and other guidance or policies.
- Policy LTP PD 4.4 Road Safety
 - GCC will contribute to improved safety, security, and health by reducing the risk of death, injury or illness arising from transport, working with partners to improve personal safety perceptions and the promotion of transport that contributes to good health and wellbeing.
- 4.2.7 Where possible, the construction route for this Project adheres to the advisory freight route. For Construction Route 1c (the northern site access), partial sections of the construction route are via the advisory freight route. Sections include the A435, A46 and the M5. All sections of both construction routes for the southern access follow the advisory freight route.

Cotswold District Council Local Plan, 2011-2031 [Ref 4]

- 4.2.8 The NPFF requires each local planning authority to produce a Local Plan which outline the development and infrastructure required for its area, including on plans for contributing to the achievement of sustainable development.
- 4.2.9 The Cotswold District Local Plan was adopted on 3rd August 2018, which outlines the vision, objectives, policies and proposals, providing guidance for future decisions on the use and development of land within Cotswold District, up to 2031. It covers a range of topics which include environment, housing, employment, transport, and infrastructure. The Local Plan is anticipated to be reviewed every five years, to ensure that it is kept up to date.
- 4.2.10 In the Local Plan, two policies link to transport and accessibility, and thus are relevant to this appraisal:
 - Policy INF2: Social and community infrastructure proposals must endure that the facility or service is well-linked and accessible to the local community by sustainable transport modes at present and must also take into consideration the development proposals contained in the Local Plan.

- Policy INF3: Sustainable Transport developments that assist in the delivery of the objectives of the LTP will be permitted, and in particular:
 - Those that actively support and prioritises sustainable transport modes to induce an uptake of sustainable transport modes, so that this is a travel choice.
 - Does not have detrimental effects on the environment beyond what is deemed as unacceptable levels of noise, vibration, or atmospheric pollution; and
 - Accommodate the efficient delivery of goods and supplies.
- 4.2.11 The Local Plan refers to the LTP, referring to the Local Highways Authority's policies on freight which is "to encourage smarter use of the existing road network, including the use of technology-based and operational solutions, to support sustainable economic growth, enable community connectivity and improve health and wellbeing through improved air quality and carbon emission reduction."

Tewksbury Borough Council Local Plan, 2011-2031 [Ref 5]

- 4.2.12 The NPFF requires each local planning authority to produce a Local Plan which outline the development and infrastructure required for its area, including on plans for contributing to the achievement of sustainable development.
- 4.2.13 The Tewkesbury Brough Council Local Plan outlines the vision, objectives, policies, and proposals, providing guidance for future decisions on the use and development of land within Cotswold District, up to 2031. It includes the Joint Core Strategy in addition to any Neighbourhood Development Plans that have been made.
- 4.2.14 The Local Plan highlights the need for an efficient and safe transport system for the success of Tewkesbury Borough, and for the quality of life of its residents and visitors. The Local Plan emphasises that to achieve this, travel choice for all different modes needs to be provided.
- 4.2.15 The Tewkesbury Brough Local Plan has an important role of providing support to the transport objectives outlined in the LTP. Their support is through providing more detailed guidance on the delivery of transport infrastructure and taking including transport within the necessary elements of new development designs. These policies should be read alongside the Manual for Gloucestershire Streets by Gloucestershire County Council.

5 Methodology

5.1 Assessment Methodology

- 5.1.1 This transport appraisal methodology is broadly based on assessment criteria developed for similar infrastructure projects and IEMA, Environmental Assessment of Traffic and Movement guidelines (2023) [Ref 1].
- 5.1.2 The appraisal has been undertaken to understand the changes in traffic flows on road and links along the proposed construction route to and from the Site; to determine potential environmental effects associated with construction traffic generated by the Proposed Project, if any; and to ensure that proposed construction control measures identified in Section 8 and the CTMP (Report Reference: PDD-101300-REP-025) are identified.
- 5.1.3 The IEMA guidelines [Ref 1] suggest two broad rules that can be applied to the screening process to identify the appropriate extent of the assessment:
 - Rule 1: include roads where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
 - Rule 2: include any specifically sensitive areas where traffic flows are predicted to increase by 10% or more.
- 5.1.4 Where traffic increases are less than the threshold, an assessment of traffic and transport related environmental effects are unlikely to be significant.
- 5.1.5 This transport appraisal is concerned with potential effects relating to impacts during the construction period and considers potential traffic and transport effects on:
 - Existing road users: drivers and passengers; pedestrians; cyclists; public transport users;
 operators and employees; commercial vehicle users; emergency vehicles users and freight users.
 - Sensitive receptors: such as schools, playgrounds, hospitals, tourist attractions etc.
 - Transport infrastructure: road network, and pedestrian and cycle networks.
- 5.1.6 This appraisal has been informed by a desk-based study which included a review of existing traffic baseline, transport policy/plans, potential future transport improvements and major development proposals. Discussions with National Grid and its Front-End Engineering Design (FEED) contactor were held, in particular around anticipated construction traffic movements and proposed mitigation measures. Initial engagement with the LHA GCC on the primary construction routes to/from the SRN and the Site has been undertaken during the development of the CTMP and their comments incorporated.
- 5.1.7 The assessment examines a robust case in terms of traffic and transport effects. The assessment of construction traffic was undertaken for 2028, as this is the year when the highest predicted levels of construction HGV traffic are expected to occur generated by the Proposed Project.
- 5.1.8 The assessment of the operational phase has been scoped out of the appraisal as it is understood that operational traffic would be limited to normal National Grid personnel attendance at Site and infrequent maintenance visits and is not anticipated to alter from current levels.

5.2 Sources of Baseline Data

- 5.2.1 The baseline data has been derived from multiple sources, and a desktop-review undertaken. Sources of baseline data are provided below:
 - Annual Average Daily Traffic (AADT) flows for year 2019 and 2022 have been obtained from Department for Transport (DfT) static traffic counters [Ref 6]. Location of the counters is shown on the plan in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).
 - Automatic Traffic Counter (ATC) counts on the B4075 have been provided by Gloucestershire County Council, for the year 2017.
 - Traffic surveys were commissioned and undertaken in October 2023 along the construction route, for the sections that do not have any traffic data available. The average weekday traffic flows (12-hour flows 07:00-19:00 hrs) were extracted from these surveys for the traffic analysis. The location of the counters is shown on the plan in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).
 - AADT flows from the DfT counts were converted into average weekday traffic flows. 12-hour flows (07:00-19:00 hrs) have been then derived from the DfT traffic data by applying an appropriate factor. This has been based on a standard daily profile over 24-hour period from the DfT's online road traffic statistics table TRA0307 [Ref 7].
 - The latest three-year personal injury collision data from CrashMap (2020-2022) [Ref 8].
 - Public Rights of Way (PRoW) mapping [Ref 9].
 - Information about public transport from the bus service companies [Ref 10,11].
 - Online mapping and aerial photograph from Google Maps.

5.3 Assumptions and Limitations

- 5.3.1 The following limitations and assumptions have been identified:
 - Construction traffic forecasts are based on an initial high-level estimate of construction materials
 and programme and are considered to provide a reasonable worst-case scenario. It is considered
 that these limitations do not affect the robustness of the assessment.
 - Traffic flows for year 2019 and 2022 have been obtained from DfT's static traffic counters and used to establish the future 2028 baseline. In some instances, the latest year for which traffic flows are available on the DfT website is 2020, as the result of the Covid-19 situation in 2020, this data represents atypical travel patterns and flows. As such, using the 2019 and 2022 traffic flow data to assess the potential impact from traffic associated with the Proposed Project is more robust. This methodology has been consulted with the Local Highway Authority and agreed upon as part of the CTMP, including the requirement and locations for the additional ATCs.
 - Construction personnel numbers are not expected to exceed one hundred personnel on-site at any one time.
 - An assessment has been undertaken to identify the likely percentage increase in HGV and in total traffic due to construction on the local road network using 2028 baseline traffic flow data. The predicted increase has been assessed against 12-hour weekday flows (07:00-19:00 hrs).
 - Based on infrastructure projects of similar size and complexity, it is anticipated that construction activities on Saturday would be a fraction of weekday activities. As such the assessment of predicted impacts from construction traffic against 12-hour weekday flows (07:00-19:00 hrs) represent the worst-case scenario.
 - It is anticipated that all construction HGV traffic would access the proposed construction routes from the SRN.

- It has been assumed that 70% of construction traffic will be accessing the Site via Construction Route 2a and potentially Construction Route 2b. The remaining 30% of construction traffic will be accessing the Site via Construction Route 1c.
- Construction Route 2b is used as a quarry route by Farmington Quarry. However, this route will also be a secondary construction route to the southern access.
- The Proposed Project is expected to require the movement of AlLs to transport the cable drums to the site. The transportation of the cable drums would require either a 4-axle Truck with a 4-axle Lowbed Trailer or a 4-axle Truck with a 5-axle Goose Neck Trailer. Further details can be found in the ALA (Report Reference: PDD-101300-REP-026).

6 Baseline Situation

6.1 Local Highway Network

6.1.1 The extent of highway network considered within this appraisal was informed by the proposed construction route identified for material and equipment delivery to the Site and by roads which will be used by construction staff traffic. The proposed construction route is shown on the plan in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).

Route to Northern Access

- 6.1.2 The proposed construction route to the north is the shortest available route between the northern site access and the SRN and is as follows:
 - Construction Route 1c: B4632 High Street/Deep Street B4075 A435 A46 M5.
- 6.1.3 The baseline conditions of the local highway network for Construction Route 1c is outlined below.

B4632

- 6.1.4 The B4632 is a rural B-road, with a carriageway width of approximately 6.8m in the vicinity of the site access. It is a single carriageway, with a lane in each direction, catering for northbound and southbound traffic.
- 6.1.5 There is a horse rider warning sign through Cleeve Hill settlement. A footway is present predominantly on the western side of the carriageway through Cleeve Hill settlement, although there are footways present on both sides along sections of the route. Through Southam, a footway is only present on the western side of the carriageway and continues to the south of Southam, however narrows considerably. Through Prestbury, a footway is only present on the western side of the carriageway.
- 6.1.6 National speed limit reduces to 50mph on both approaches to Cleeve Hill settlement, reducing further to 40mph through the settlement, and a maximum speed of 30mph on the bend. The bend may impact visibility, and there are warning signs for hill/gradients (10%). Through Southam, the speed limit remains at 50mph and increases to the national speed limit for the section to the south of Southam. The section of the B4632 that goes through Prestbury has a speed limit of 30mph.
- 6.1.7 The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). Note that along the route there is overhanging foliage which will potentially need to be cut back to allow HGVs access (to the east to Dryfield Joinery).

High Street / Deep Street

6.1.8 High Street/Deep Street is located in the town of Prestbury. It is a single carriageway, with a lane in each direction, catering for traffic from both directions. Footways are present on both sides of the carriageway and have lighting present throughout. This section has a speed limit of 30mph and is fronted by residential and commercial properties.

B4075

6.1.9 The B4075 goes through the town of Prestbury. It is a single carriageway, with a lane in each direction, catering for traffic from both directions. Footways are predominantly present on both sides of the carriageway and have lighting present throughout. There is a sign warning the drivers of elderly in the area. This section has a speed limit of 30mph and is fronted by residential properties.

A435

- 6.1.10 The A435 is a major road, forming part of the advisory freight route. It is a single carriageway, with a lane in each direction, catering for northbound and southbound traffic.
- 6.1.11 There is a narrow footway present on the eastern side of the carriageway between Prestbury and Bishops Cleeve settlements. On either side of the carriageway, north of A435/Cheltenham Road roundabout, there is a shared use path. On the eastern side, a shared use path is only present for approximately 220m but continues on the western side of the carriageway. To the north of the A435/Voxwell Lane roundabout, there is a shared use path present on either side of the carriageway which end at the A435/Sapphire Road roundabout. To the north of the junction with Evesham Road, there is a footway on the western side of the carriageway up to junction with Malleson Road, although along some sections, a footway is present on both sides.
- 6.1.12 National speed limit applies between settlements, and 30mph through/approaching Bishops Cleeve. To the north of this settlement, the speed limit increases to 50mph and then to the national speed limit.
- 6.1.13 The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).

A46

- 6.1.14 The A46 is a major road, forming part of the advisory freight route. It is a single carriageway, with a lane in each direction, catering for eastbound and westbound traffic.
- 6.1.15 No walking or cycling provision is present along the rural section of the route. Through Aston Cross, there is a footway on the southern side of the carriageway leading to the bus stop, and there is a shared use path on the northern side. The shared use path continues through Ashchurch for the remainder of the route. A footway is present on the southern side on the rail overbridge and between M5 junction and Cotswold Designer Outlet.
- 6.1.16 National speed limit applies for half of the route, for the section, which is rural in nature, and decreases to 40mph though Aston Cross, and 30mph through Ashchurch.
- 6.1.17 The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). Through Ashchurch, there is a child warning sign, coinciding with the location of Ashchurch Primary School.

Routes to Southern Access

- 6.1.18 The proposed construction route to the south is the shortest available route between the southern site access and the strategic road network and is as follows:
 - Construction Route 2a (Primary): A40 A436 A417 M5.
 - Construction Route 2b (Secondary): A40 A429 A424 A44 A46 M5.
- 6.1.19 The baseline conditions of the local highway network for Construction Routes 2a and 2b are outlined below.

Construction Route 2A

A40

- 6.1.20 The A40 is a major road, forming part of the advisory freight route. Some sections of this route are a single carriageway, with a lane in each direction, and other sections are a dual carriageway with two lanes in each direction.
- 6.1.21 On the dual carriageway section, south of the junction with Gloucester Road, there is a narrow footway present on the western side of the carriageway, alternating to the eastern side of the carriageway. Additionally, to the north of the route, there is a horse-riding warning sign.
- 6.1.22 National speed limit applies to the route assessed, with a maximum speed of 40mph on the bend south of the junction with Gloucester Road.
- 6.1.23 The character of the road is predominantly rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) although through Andoversford it becomes more urban.

A436

- 6.1.24 The A436 is a major road, forming part of the advisory freight route. It is a single carriageway, with a lane in each direction. There is a 50mph speed limit for most of the route, with a national speed limit on the approach to each of the junctions at either end of the route.
- 6.1.25 A footway is present on the southern side of the carriageway, from the junction with the A40 leading to a bus stop. Additionally, on several occasions, there are horse-riding warning signs.
- 6.1.26 The character of the road is rural in nature, fronted by agricultural fields and farms. Note that along the route there is overhanging foliage which will potentially need to be cut back to allow HGVs access and improve visibility.

Construction Route 2B

A40

6.1.27 The A40 is a major road, forming part of the advisory freight route. Some sections of this route are a single carriageway, with a lane in each direction, and other sections are a dual carriageway with two lanes in each direction. To the south of the junction with the A436, the route is a single carriageway

with two lanes for southbound traffic, and one lane for northbound traffic, then converting into a dual carriageway with two lanes in each direction. The route changes again to a single carriageway with one lane in each direction.

- 6.1.28 On the dual carriageway section, south of the junction with Gloucester Road, there is a narrow footway present on the western side of the carriageway, alternating to the eastern side of the carriageway. South of the junction with the A436, there is a short footway leading to homes fronting the carriageway. Additionally, to the north of the route, there is a horse-riding warning sign.
- 6.1.29 National speed limit applies to the route assessed, with a maximum speed of 40mph on the bend south of junction with Gloucester Road.
- 6.1.30 The character of the road is predominantly rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) although through Andoversford it becomes more urban.

A429

- 6.1.31 The A429 is a major road, forming part of the advisory freight route, and is currently being used by lorries as it leads to Farmington Quarry. It is a single carriageway, with a lane in each direction, with a national speed limit for the majority of the route. The speed limit decreases to 50mph for approximately 500m on a portion of the route south of the junction leading to 'The Wildings Campsite' up to Perryfield Farm access, reverting to the national speed limit up to approximately 100m south of Phoenix Rose at Beechwood Park (Retirement Village), where the speed limit reduces to 40mph. On the A429 north of the junction with the A424, it is a single carriageway, with two lanes for northbound traffic for approximately 760m.
- 6.1.32 The character of the road is predominantly rural in nature, fronted by agricultural fields, although there are some settlements fronting small sections of the route.
- 6.1.33 A footway is present on the northbound side of the carriageway leading to properties fronting the A429 Whiteshoots Hill to the south of the junction with Lansdowne. North of the A429/Lansdowne junction, the footway continues on the southbound side of the carriageway connecting to PROWs up to the bus stop opposite Fosseway Station. Footways are present on both sides of the carriageway approximately 100m south of Phoenix Rose at Beechwood Park (Retirement Village) for a duration, although it is predominantly present on the southbound side of the carriageway for the remainder of the route (up to junction with the A424).
- 6.1.34 There is an advanced stop line for cyclists located at the junction with Station Road on the northbound and southbound side of the carriageway.

A424

6.1.35 The A424 is a major road, forming part of the advisory freight route. It is a single carriageway, with a lane in each direction, with a 40mph speed limit for the section going through Stow-on-the-Wold, increasing to the national speed limit and 50mph for the remainder of the A424.

- 6.1.36 Footways are present on both sides of the carriageway for the southern section through Stow-on-the-Wold settlement. Equestrian warning sign along section going along Sezincote.
- 6.1.37 The character of the road is predominantly rural in nature, fronted by agricultural fields, although there are some settlements fronting small sections of the route.

A44

- 6.1.38 The A44 is a major road, forming part of the advisory freight route. It is predominantly a single carriageway for the majority of the route, with a lane in each direction although on the bends located to the west of the junction with Buckle Street, there are two lanes for southbound traffic up to approximately 420m south of the roundabout with Leamington Road. The A44 is a dual carriageway north of Wickamford for 800 yards. This road is subject to a national speed limit which reduces to 20/25/30mph on the beds west of the junction with Buckle Street. A speed limit of 40mph applies to section through Wickamford.
- 6.1.39 There is a pedestrian crossing warning sign at the junction with Buckle Street and a cyclist warning sign on the section along Broadway, followed by a shared use path sign to Broadway. Additionally, there is an elderly and equestrian warning sign through Wickhamford.
- 6.1.40 A footway is present along the southbound side of the carriageway, north of the path connecting to Evesham Road leading into Wickhamford, although sections are narrow due to vegetation overgrowth. Through Wickhamford, there are footways present on both sides of the carriageway. Exiting Wickhamford to the north, a footway continues on the southbound side of the carriageway.
- 6.1.41 It is important to note that there is a warning sign stating "A44 39 casualties on this road in 3 years drive carefully".
- 6.1.42 The character of the road is predominantly rural in nature, fronted by agricultural fields, although there are some settlements fronting sections of the route, some of which are close to the carriageway.

A46 (Section between the A44 and A435)

- 6.1.43 The A46 is a major road, forming part of the advisory freight route. The section between the roundabout with the A46 and roundabout with Millennium Way, predominantly has the national speed limit, although reduces to 40mph on approach to the roundabout with Millennium Way, increasing to 50mph and national speed limit to the roundabout with Cheltenham Road. The speed limit reduces to 40mph on the approach to Hinton Cross (north of junction with Bevans Lane) for approximately 1.4km. On the approach to Beckford settlement, there is a 50mph speed limit.
- 6.1.44 There is a segregated pedestrian and cycleway at the A44/ Millennium Way roundabout. A shared use pathway is present to the south of the A46/Cheltenham Road roundabout, on the southbound side of the carriageway, ending approximately 700m south of the junction with Broadway Road. On the section through Hinton Cross there is also a pathway on the northbound side of the carriageway for a small section. A footway is present on the northbound side of the carriageway opposite the Shell petrol station leading to Long Carrant Views. A footway is present on the northbound side of the carriageway, south of junction with Beckford Road, continuing through Beckford settlement, with additional footways southbound on some sections through Beckford where residential property fronts the carriageway.

6.1.45 The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements).

A46 (Section between the A435 and M5)

- 6.1.46 The A46 is a major road, forming part of the advisory freight route. It is a single carriageway, with a lane in each direction, catering for eastbound and westbound traffic.
- 6.1.47 No walking or cycling provision is present along the rural section of the route. Through Aston Cross, there is a footway on the southern side of the carriageway leading to the bus stop, and there is a shared use path on the northern side. The shared use path continues through Ashchurch for the remainder of the route. A footway is present on the southern side on the rail overbridge and between M5 junction and Cotswold Designer Outlet.
- 6.1.48 National speed limit applies for half of the route, for the section, which is rural in nature, and decreases to 40mph though Aston Cross, and 30mph through Ashchurch.
- 6.1.49 The character of the road changes between being rural in nature (when it routes between settlements and is fronted by agricultural fields and farms) and more urban (when it passes through settlements). Through Ashchurch, there is a child warning sign, coinciding with the location of Ashchurch Primary School.

6.2 Public Transport

6.2.1 The following bus services are in the vicinity of the Site accesses:

Northern Access:

- Service no. C52 is operated by Stagecoach, providing a service/connection between Winchcombe
 Old Police Station and Cirencester College Grounds. One bus service runs in the morning and one
 in the afternoon, Monday to Friday, aligning with the college starting and finishing times. This bus
 stop is located on the B4632, under 50m from the access. This bus stop is to be temporarily
 relocated during construction works.
- Approximately 1.08km to the east of the site on the B4632 Cheltenham Road, Service no. W is operated by Stagecoach, providing a service/connection between Winchcombe, Prestbury and Cheltenham. Typically, there is a bus service once an hour, Monday to Friday.
- Approximately 1.08km to the east of the site on the B4632 Cheltenham Road, Service no. 656 is operated by Pulhams Coaches, providing a service/connection between Dumbleton- Alderton -Gretton - Winchcombe - Woodmancote - Bishop's Cleeve. Typically, it departs once a day at 12:15 twice a week (Monday and Friday).

Southern Access:

- Service no. 801 is operated by Pulhams Coaches, providing a service/connection from Cheltenham Spa to Moreton-in-Marsh. Typically, there is a bus service once an hour, Monday to Saturday, with some services available during the Summer on Sundays. This bus stop is located on the A40, approximately 180m to the east of the site access.
- Service no. S2 is operated by Stagecoach, providing a service/connection between Cheltenham to Witney and Oxford. Bus frequency is low, with a service every hour / two hours Monday to Saturday.

- 6.2.2 The closest bus stops to the northern site access, which is not a school service, is approximately 1.08km to the east of the site access on the B4632 Cheltenham Road.
- 6.2.3 The closest bus stops to the southern site access, which is not a school service, is approximately 180m to the east of the site access on the A40.

6.3 Cycle, Pedestrian and Equestrian Provision

6.3.1 The following section highlights the walking and/or cycling provision available along the assessed sections of the construction route.

Route to Northern Access

Construction Route 1C

- B4632 There is a footway present predominantly on the western side of the carriageway through Cleeve Hill settlement, although there are footways present on both sides along sections of the route. Through Southam, a footway is only present on the western side of the carriageway and continues to the south of Southam, however it narrows considerably. Through Prestbury, a footway is only present on the western side of the carriageway.
- High Street/Deep Street Footways are present on both sides of the carriageway and have lighting present throughout.
- B4075 Footways are predominantly present on both sides of the carriageway and have lighting present throughout.
- A435 There is a narrow footway present on the eastern side of the carriageway between Prestbury and Bishops Cleeve settlements. On either side of the carriageway, north of A435/Cheltenham Road roundabout, there is a shared use path. On the eastern side, a shared use path is only present for approximately 220m but continues on the western side of the carriageway. To the north of the A435/Voxwell Lane roundabout, there is a shared use path present on either side of the carriageway which ends at the A435/Sapphire Road roundabout. To the north of the junction with Evesham Road, there is a footway on the western side of the carriageway up to the junction with Malleson Road, although along some sections, a footway is present on both sides.
- A46 Through Aston Cross, there is a footway on the southern side of the carriageway leading to
 the bus stop, and there is a shared use path on the northern side. The shared use path continues
 through Ashchurch for the remainder of the route. A footway is present on the southern side on the
 rail overbridge and between M5 junction and Cotswold Designer Outlet.

Routes to Southern Access

Construction Route 2A

- A40 On the dual carriageway section, south of the junction with Gloucester Road, there is a
 narrow footway present on the western side of the carriageway, alternating to the eastern side of
 the carriageway.
- A436 A footway is present on the southern side of the carriageway, from the junction with the A40 leading to a bus stop. Additionally, on several occasions, there are horse-riding warning signs.
- A417 A footway is present on the eastbound side of the carriageway between Dog Lane and junction with the A46.

Construction Route 2B

- A40 On the dual carriageway section, south of the junction with Gloucester Road, there is a
 narrow footway present on the western side of the carriageway, alternating to the eastern side of
 the carriageway. South of the junction with the A436, there is a short footway leading to homes
 fronting the carriageway. Additionally, to the north of the route, there is a horse-riding warning sign.
- A429 A footway is present, on the northbound side of the carriageway leading to properties fronting the A429 Whiteshoots Hill to the south of the junction with Lansdowne. North of the A429/Lansdowne junction, the footway continues on the southbound side of the carriageway connecting to PROWs up to the bus stop opposite Fosseway Station. A footway is present on both sides of the carriageway approximately 100m south of Phoenix Rose at Beechwood Park (Retirement Village) for a duration, although it is predominantly present on the southbound side of the carriageway for the remainder of the route (up to junction with the A424). Additionally, there is an advanced stop line for cyclists located at the junction with Station Road on the northbound and southbound side of the carriageway.
- A424 Footways are present on both sides of the carriageway for the southern section through Stow-on-the-Wold settlement. An equestrian warning sign is located along the section going along Sezincote.
- A44 There is a pedestrian crossing warning sign at the junction with Buckle Street and a cyclist warning sign on the section along Broadway, followed by a shared use path sign to Broadway. Additionally, there is an elderly and equestrian warning sign through Wickhamford. A footway is present along the southbound side of the carriageway, north of the path connecting to Evesham Road leading into Wickhamford, although sections are narrow due to vegetation overgrowth. Through Wickhamford, there are footways present on both sides of the carriageway. Exiting Wickhamford to the north, a footway continues on the southbound side of the carriageway.
- A46 (section between the A44 and A435) There is a segregated pedestrian and cycleway at the A44/ Millennium Way roundabout. A shared use pathway is present to the south of the A46/Cheltenham Road roundabout, on the southbound side of the carriageway, ending approximately 700m south of the junction with Broadway Road. On the section through Hinton Cross there is also a pathway on the northbound side of the carriageway for a small section. A footway is present on the northbound side of the carriageway opposite the Shell petrol station, leading to Long Carrant Views. A footway is present on the northbound side of the carriageway south of the junction with Beckford Road, continuing through Beckford settlement, with additional footways southbound on some sections through Beckford where residential property fronts the carriageway.
- A46 (section between the A435 and M5) Through Aston Cross, there is a footway on the
 southern side of the carriageway leading to the bus stop, and there is a shared use path on the
 northern side. The shared use path continues through Ashchurch for the remainder of the route. A
 footway is present on the southern side on the rail overbridge and between M5 junction and
 Cotswold Designer Outlet.

- 6.3.2 As highlighted within the PRoW Management Strategy (Document Ref. PDD-101300-REP-027), which has been prepared by TTC, the proposed construction corridor crosses the Cotswold Way, multiple restricted bridleways and multiple footpaths. A total of 15 points have been identified where PRoWs will be impacted by the Proposed Project. All PRoWs, including the Cotswold Way, will remain open during the whole construction period, with some being potentially temporarily rerouted where necessary. The PRoW Management Strategy (Document Ref. PDD-101300-REP-027) is a 'live' document, and engagement with GCC PRoW Officials on this is ongoing. Therefore, the 'live' document is subject to change as a result of any alternative mitigation measure which are required or recommended through engagemennt with GCC.
- 6.3.3 The PRoW Management Strategy (Document Ref. PDD-101300-REP-027) highlights the potential impact of the Proposed Project on the PRoW network, as well as identifying temporary mitigation measures and minimising the impacts on the PRoW network. Within the PRoW Management Strategy, Figure 4.2 highlights the 15 PRoWs affected by the Proposed Project.
- 6.3.4 Table 1 below lists the PRoWs impacted by the construction period.

Table 1 – PRoWs within Proposed Project

PRoWs Impacted

GCC PRoW Name

Proposed Project Activity

Cotswold District Council				
Southam Restricted Byway 140	Proposed Underground Cable Route			
Stevenhampton Restricted Byway 23	Destringing of Existing Overhead Line			
Track between Southam Bridleway 68 and Southam Footpath 50	Destringing of Existing Overhead Line			
Track between Southam Bridleway 68 and Southam Footpath 50	Proposed Underground Cable Route			
Southam Restricted Byway 64	Proposed Underground Cable Route			
Southam Restricted Byway 64	Destringing of Existing Overhead Line			
Tewkesbury Bo	rough Council			
Winchcombe Footpath 70	Destringing of Existing Overhead Line			
Winchcombe Footpath 70	Proposed Underground Cable Route			
Winchcombe Footpath 31	Proposed Underground Cable Route			
Winchcombe Footpath 31	Destringing of Existing Overhead Line			
Winchcombe Footpath 23	Temporary Access / Haul Road			
Winchcombe Footpath 22	Temporary Access / Haul Road			
Winchcombe Footpath 63	Destringing of Existing Overhead Line			
Winchcombe Footpath 24	Destringing of Existing Overhead Line			
Winchcombe Footpath 24	Destringing of Existing Overhead Line			

6.4 Traffic Flows

- 6.4.1 AADT flow data has been obtained from the DfT website. The traffic count locations are shown on a plan in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01). In the interests of providing a more robust assessment, which takes account of the traffic flows during the assessed construction period (07:00-19:00hrs), the AADT data was used to calculate traffic flows within this period for a typical weekday. This has been based on a standard daily profile over 24-hour period, from the DfT's online statistics tables [Ref 6]. The data indicates that as a proportion, the period 07:00 19:00hrs, equates to 81.8% of daily weekday traffic.
- 6.4.2 Background traffic growth is anticipated to occur between 2017 and 2023 (for which existing traffic flows are available) and 2028 (when peak HGV movements are predicted to occur). To account for this growth, an appropriate growth factor derived from Trip End Model Presentation Program TEMPro [Ref 12] has been applied to the traffic flow data.
- 6.4.3 The resultant predicted 2028 future baseline annual average weekday traffic (AAWT) 12-hour (07:00-19:00hrs) on road links along the construction routes are shown in Table 2.

Table 2 – 2028 Baseline Traffic AAWT Flows, 12hrs (07:00-19:00hrs), Both Directions

DfT Counter Ref. / ATC Ref.

Road

Two-way 12h (07:00-19:00hrs) flows

ATC Rei.		HGVs	Total Vehicles			
Construction Route 1c – Northern Access						
90334	A46	2087	19411			
73531	A46	1545	20232			
37191	A435	445	12297			
17096	A435	305	13566			
ATC 1	A435	680	21755			
ATC 10623	B4075	156	7788			
806853	B4632	142	9040			
947163	B4632	113	7254			
ATC 2	B4632	141	6404			
	Construction Route	2a – Southern Access				
17042	A417	3961	48659			
57116	A417	3363	33136			
17098	A436	929	12228			
37192	A436	627	8755			
38276	A436	632	6565			

DfT Counter Ref. /	Road	Two-way 12h (07	Two-way 12h (07:00-19:00hrs) flows		
ATC Ref.		HGVs	Total Vehicles		
57150	A40	227	5338		
6435	A40	199	7870		
ATC 3	A40	195	8534		
ATC 4	Unnamed Road	5	571		
	Construction Route 2	2b – Southern Access			
90334	A46	1991	18520		
73531	A46	1433	18763		
99322	A46	1044	18389		
18475	A44	412	6193		
36477	A44	332	6958		
99500	A424	177	3725		
37181	A429	525	8333		
27154	A429	766	16455		
57159	A429	640	13408		
26441	A40	835	10241		
57150	A40	211	4954		
6435	A40	226	8926		
ATC 3	A40	188	8211		

Northern Access

Construction Route 1C

6.4.4 As can be seen from Table 2, the average weekday 12h (07:00-19:00hrs) HGV flows on the roads that form construction route 1c, are between 113 HGVs (on the B4632) and 2,087 HGVs (on the A46). Average weekday 12h (07:00-19:00hrs) total vehicle flows are between 6,404 vehicles (on the B4632) and 21,755 (on the A435).

Southern Access

Construction Route 2A

- 6.4.5 As can be seen from Table 2, the average weekday 12h (07:00-19:00hrs) HGV flows on the roads that form construction route 2a, are between 195 HGVs (on the A40) and 3,961 HGVs (on the A46). Average weekday 12h (07:00-19:00hrs) total vehicle flows are between 5,338 vehicles (on the A40) and 48,659 (on the A417).
- 6.4.6 Even though the unnamed road, north of the A40 access, is not part of the construction routes, traffic flows have been obtained and included in this assessment as it is located on the Cleeve Common access road crossing. Therefore, it has been noted on this road, the average weekday 12h (07:00-19:00hrs) is 5 HGVs and 571 total vehicle flows.

Construction Route 2B

6.4.7 As can be seen from Table 2, the average weekday 12h (07:00-19:00hrs) HGV flows on the roads that form construction route 2b, are between 177 HGVs (on the A424) and 1,991 HGVs (on the A46). Average weekday 12h (07:00-19:00hrs) total vehicle flows are between 3,725 vehicles (on the A424) and 18,763 (on the A46).

6.5 Sensitive Receptors

Receptor type

Table 3 provides a summary of key potential sensitive receptors and their sensitivity within 150m of the construction routes, which are shown on a plan in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01). This is based Fron the IEMA guidance [Ref 1].

Table 3 – Key Environmental Receptors and Sensitivity along the Construction Route

Name

		construction route (m)	Receptor
	Construction Route 1a – Norther	n Access	
Open Space/Recreational	Cleeve Hill Golf Club	Within 100m	Low
Assisted living residence	Bay Tree Court care home	Within 50m	High
Place of Worship	St Mary's Church	Within 100m	Low
Place of Worship	United Reformed Church	Within 50m	Low
Community centre	Prestbury WI Hall	Within 50m	Low
Library	Prestbury Library	Within 50m	Low
Open Space/Recreational	Prestbury Tennis Club	Within 50m	Low
University	University of Gloucester, Pittville Student Village	Within 50m	High
Manor house	Lower Field Court	Within 100m	Low
Doctors	Spa Private Medical	Within 50m	High
Open Space/Recreational	Cheltenham Racecourse	Within 50m	Low

Distance from

Sensitivity of

Receptor type	Name	Distance from construction route (m)	Sensitivity of Receptor
Open Space/Recreational	Cheltenham Tigers Rugby Football Club	Within 50m	Low
Open Space/Recreational	Newlands Park	Within 50m	Low
Open Space/Recreational	Bishops Cleeve Parish Sports Field	Within 50m	Low
Open Space/Recreational	Finlay Way play area	Within 50m	High
Nursing home	Barchester – Ashchurch View Care Home	Within 50m	High
Primary school	Ashchurch Primary School	Within 50m	High
Playgroup	Ashchurch Playgroup	Within 100m	High
Place of Worship	St Nicholas Church	Within 150m	Low
Pre-school	Mary P's Day Nursery Ltd	Within 150m	High
	Construction Route 2a – Southern	Access	
Historical landmark	Whittington Court	Within 50m	Low
Parish Council	Andoversford Parish Council	Within 50m	Low
Open Space/Recreational	Shipton Golf Course	Within 50m	Low
Open Space/Recreational	Kilkenny Nature Reserve	Within 50m	Low
Open Space/Recreational	Barber wood	Within 50m	Low
Open Space/Recreational	Ullenwood Manor Golf Course	Within 50m	Low
Open Space/Recreational	Ullenwood Bharat Cricket Club	Within 50m	Low
Open Space/Recreational	Crickley Hill Country Park	Within 50m	Low
	Construction Route 2b – Southern	Access	
Historical landmark	Whittington Court	Within 50m	Low
Parish Council	Andoversford Parish Council	Within 50m	Low
Leisure	Bourton Leisure Centre - Freedom Leisure	Within 50m	Low
Leisure/Campsite	College Farm Leisure	Within 50m	High
Retirement village	Phoenix Rose at Beechwood Park - Retirement village	Within 100m	High
Place of Worship	St Edward's Church	Within 100m	Low
Council	Stow-On-The-Wold Town Council	Within 50m	Low
Retirement village	Newlands of Stow - Retirement village	Within 50m	High
Leisure	Fish Hill Picnic Area - Picnic ground	Within 50m	High
Tutoring (classroom)	Minnie Minds Tutoring Service - Tutor	Within 50m	High
Playground	Jupiter Play Park	Within 50m	High
Leisure	PureGym Evesham - Gym	Within 50m	Low
Leisure	Rbtrainme - Gym	Within 50m	Low

Receptor type	Name	Distance from construction route (m)	Sensitivity of Receptor
Leisure/ Recreational	Evesham United Football Club	Within 50m	Low
Childrens club	Rhythm Time Baby and Toddler Classes	Within 50m	High
Nursing home	Barchester – Ashchurch View Care Home	Within 50m	High
Primary school	Ashchurch Primary School	Within 50m	High
Playgroup	Ashchurch Playgroup	Within 100m	High
Place of Worship	St Nicholas Church	Within 150m	Low
Pre-school	Mary P's Day Nursery Ltd	Within 150m	High

- 6.5.2 Table 3 shows that sensitive receptors on those roads that form the proposed construction routes consist of both high and low sensitivity links. The majority of the construction routes have been classified as Not Sensitive given as they are major connector roads carrying a high volume of traffic. However, along construction route 1c, sections of the A46, and the B4075 have been classified as being Sensitive based on the proximity of the sensitive receptors and adjacent land use.
- 6.5.3 Along construction route 2a, the entirety of the route has been classified as Not Sensitive, as all the sensitive receptors along the route are of low sensitivity and follows the advisory freight route contained in Gloucestershire's Local Transport Plan [Ref 3].
- 6.5.4 Furthermore, along construction route 2b, there are sections which are Sensitive which includes the A46, A44, A424 and the A40, whilst the remainder has been classified as Not Sensitive. Even though sections of the route have been regarded as being Sensitive, all these roads are main roads, the majority of which follow the advisory freight route contained in Gloucestershire's Local Transport Plan [Ref 3].

6.6 Collision Data

- 6.6.1 The latest three-year personal injury collision data (2020-2022) was obtained from Crashmap.co.uk [Ref 8] for the roads forming the construction route and for the Site access junction.
- 6.6.2 Table 4 provides a summary of all collisions by severity for each road link and junctions on the construction route. Location plans showing all collisions along the proposed construction route are presented in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).

Table 4 – Summary of Total Collisions by Severity on Road Links and Junctions (2020-2022)

Location		Severity					
	Slight	Serious	Fatal	Total			
Construction Route 1a – Northern Access							
B4632	8	3	1	12			
High Street/Deep Street	0	0	0	0			

Location		Severi	ty	
	Slight	Serious	Fatal	Total
B4075	6	3	0	9
A435	12	5	0	17
A46	7	3	1	11
Total	33	14	2	49
Construction Route 2a – So	outhern Acc	ess		
A40	4	2	0	6
A436	14	10	3	27
A417	4	5	0	9
Total	22	17	3	42
Construction Route 2b – Se	outhern Acc	cess		
A40	7	7	1	15
A40/A429 Roundabout	4	2	0	6
A429	12	7	1	20
A424	3	2	1	6
A44	8	8	0	16
A44/A46 Roundabout	1	1	0	2
A46	23	11	3	37
Total	58	38	6	102

6.6.3 The analysis of the collision data identified the following:

Route to Northern Site Access

Construction Route 1c

- A total of 49 collisions were recorded along this route. Of these, 67% of recorded collisions were
 'slight' in severity, 29% were 'serious' in severity, and 4% were 'fatal'. A total of 14 'serious'
 collisions were reported, which occurred on the B4632, B4075, A435 and A46. There were two
 'fatal' collisions, one on the B4632 to the north of Southam, and the other on the A46 to the west of
 the A46/B4077 roundabout.
- A total of nine collisions resulted in a pedal cyclist casualty. Five of these were 'slight' in severity, three were 'serious' in severity, and one was 'fatal'. Two of the 'serious' collisions were on the B4632, one of which was to the east of the junction with Wakefield Lane, and the other at the junction with Old Road. The remaining 'serious' collision was on the A435/B4075/Swindon Lane roundabout. The fatal collision occurred on the B4632 to the north of Southam.
- There is a cluster of pedal cyclist casualties at the A435/B4075/Swindon Lane roundabout, with a total of four collisions, three of which were 'slight' in severity, and one 'serious.

- A total of two collisions involved a pedestrian casualty, both of which were 'slight' in severity. One
 occurred on the A46 to the west of Cotswold Designer Outlet, and the other was on the
 B4075/Lexington Square roundabout.
- No collisions are recorded on High Street/Deep Street.

Route to Southern Site Access

Construction Route 2a

- A total of 42 collisions were recorded along this route. Of these, 52% of recorded collisions were
 'slight' in severity, 40% were 'serious' in severity, and 7% were 'fatal'. A total of 17 'serious'
 collisions were reported, which occurred on the A40, and the A436. There were three 'fatal'
 collisions, all of which occurred on the A436 (two of which were to the northeast of Seven Springs,
 and one to the south of Seven Springs, all within 2.3km of each other).
- One collision resulted in a pedal cyclist casualty. This was of 'slight' severity and occurred on the A417 to the west of the A417/A36 roundabout.
- One collision resulted in a pedestrian casualty. This was of 'serious' severity and occurred on the A40, to the north of the junction with the A436.

Construction Route 2b

- A total of 102 collisions were recorded along this route. Of these, 57% of recorded collisions were 'slight' in severity, 37% were 'serious' in severity, and 6% were 'fatal'. A total of 38 'serious' collisions were reported, with at least two 'serious' collisions being recorded on the assessed roads. The majority of 'serious' collisions recorded occurred on the A46 with a total of 11 collisions, followed by the A44 with a total of eight 'serious' collisions. A total of six 'fatal' collisions were recorded, three of which occurred on the A46, and the remaining on the A40, A429, and the A424.
- It is important to note that on the A44, there are multiple warning signs stating ""A44 39 casualties on this road in 3 years drive carefully". In the most recent three years of data, there has been a total of 16 collisions recorded, 50% of which were 'slight' in severity, and the remainder 'serious'.
- There is a cluster of collisions on the A40/A429 roundabout, with a total of six collisions, four of which were 'slight' in severity, and two 'serious'.
- There is a cluster of collisions on the A44/B4081 junction, with a total of four collisions, three of which were 'serious' in severity, and one 'slight'.
- A total of three collisions resulted in a pedestrian casualty. Two of these collisions were 'slight' in severity, and one was classified as 'serious'. Two of these collisions occurred on the A429, and one 'slight' collision occurred on the A46.
- A total of three collisions involved a pedal cyclist casualty. Two of these collisions were 'slight' in severity, and one was classified as 'serious'. All three collisions occurred on the A46 section of the construction route.

7 Traffic Generation

7.1 Construction Phase

7.1.1 Table 5 shows the estimated maximum HGV movements associated with construction activities and car/van movements associated with construction staff travelling to and from the Site.

Table 5 – Daily Indicative Maximum Construction Vehicle Movements

Vehicle Type	Total Movements (in and out of site)	Average Two- way movements per day	Peak Two-way movements per day
HGVs	120	6	9
Cars and Light Goods Vehicles (LGVs)	400	20	30
HGVs	300	4	6
Cars and LGVs	1650	20	30
HGVs	5000	31	47
Cars and LGVs	10500	66	98
HGVs	2500	12	20
Cars and LGVs	8500	42	63
HGVs	3000	19	28
Cars and LGVs	7000	44	65
HGVs	500	4	6
Cars and LGVs	5500	45	68
HGVs	1000	2	3
Cars and LGVs	9500	20	30
	HGVs Cars and Light Goods Vehicles (LGVs) HGVs Cars and LGVs	HGVs 120 Cars and Light Goods Vehicles (LGVs) 400 HGVs 300 Cars and LGVs 1650 HGVs 5000 Cars and LGVs 10500 HGVs 2500 Cars and LGVs 8500 HGVs 3000 Cars and LGVs 7000 HGVs 500 Cars and LGVs 5500 HGVs 1000	Movements (in and out of site) way movements per day HGVs 120 6 Cars and Light Goods Vehicles (LGVs) 400 20 HGVs 300 4 Cars and LGVs 1650 20 HGVs 5000 31 Cars and LGVs 10500 66 HGVs 2500 12 Cars and LGVs 8500 42 HGVs 3000 19 Cars and LGVs 7000 44 HGVs 500 4 Cars and LGVs 5500 45 HGVs 1000 2

7.1.2 Table 6 shows worst case with regards to HGV and total traffic movements resulting from overlapping construction activities. As highlighted in Table 6 below, the maximum daily construction movements travelling to/from Site would equate to 70 HGVs and 208 cars/LGVs. The maximum peak construction traffic movements will occur in 2028. Even though for the purposes of this assessment, the worst-case has been assumed, the probability of peak vehicle movement of the different activities covered in Table 6 is unlikely, therefore, the average flows may be more representative.

Table 6 - Daily Indicative Peak Construction Vehicle Movements which overlap.

Overlapping Construction Phase	Vehicle Type	Total Movements (in and out of site)	Average Two- way movements per day	Peak Two-way movements per day
Cable Installation	HGVs	2500	12	20
_	Cars and LGVs	8500	42	63
Cable Sealing End	HGVs	1500	12	19
Compound Construction X 2	Cars and LGVs	4000	33	50
400kV Overhead Line	HGVs	3000	19	28
Construction & Dismantling work	Cars and LGVs	7000	44	65
General Traffic to / from Site	HGVs	1000	2	3
	Cars and LGVs	9500	20	30
Combined Movements	HGVs	8000	45	70
	Cars and LGVs	29000	139	208

7.2 AIL Deliveries

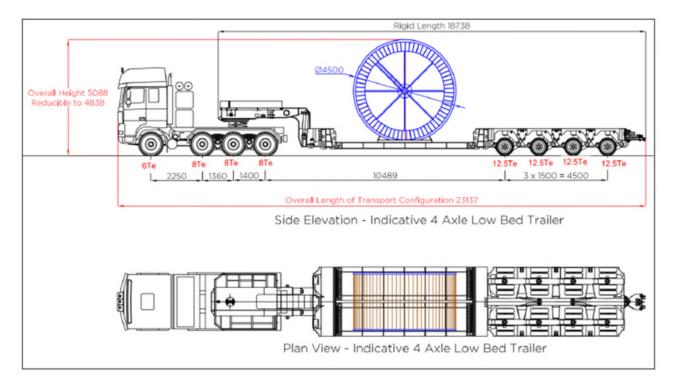
- 7.2.1 The construction works will require the delivery of cable drums to Site. The types of transfer vehicles being considered by TTC within the ALA (Report Reference: PDD-101300-REP-026) are as follows:
 - 4-axle Truck with a 4-axle Lowbed Trailer.
 - 4-axle Truck with a 5-axle Goose Neck Trailer.
- 7.2.2 The transportation and delivery of cable drums to the site compounds, where the cables will be stored, shall be via the existing local road network, along the construction routes assessed within this Transport Statement. Within the ALA, TTC have assumed that the low loader vehicles will transport the cable drums by road and offload them via a mobile crane into the drum storage area, where they will be loaded onto a tractor and drum trailer for deployment along the route corridor via the temporary Haul Road.
- 7.2.3 Images of the typical vehicle configuration for the transfer vehicles using the local road network and the haul road are illustrated below in Figure 4 and Figure 5.

Figure 4 – Typical Cable Drum Transfer Vehicles (Road Transfer / Haul Road Transfer) (Source: Ref 14 and 15)





Figure 5 – Cable Drum Transfer Vehicle: Lowbed Trailer (Source: Ref 16)



7.2.4 Further information is available within the ALA (Report Reference: PDD-101300-REP-026).

7.3 Operational Phase

7.3.1 It is understood that operational traffic would be limited to normal National Grid personnel attendance at Site and infrequent maintenance visits and is not anticipated to alter from current levels. For this reason, operational traffic assessment has been scoped out of the appraisal of transport and traffic effects.

8 Construction Control Measures

- 8.1.1 The control measures listed in this section will be applied during the construction phase of the Proposed Project. National Grid is committed to implementing the identified control measures to reduce or avoid any potential effects that may occur during the construction of the Proposed Project.
- 8.1.2 The identified control measures will be included in the CTMP (Report Reference: PDD-101300-REP-025) updated by the FEED contractor. The CTMP is a live document, which will be updated to include any relevant developments and results of evaluation of its effectiveness, which occur during the execution of the FEED stage of the Proposed Project. It is anticipated that the CTMP will form the basis of considerations of the Main Works Contractor Traffic Management Approach.
- 8.1.3 Control measures to be applied during the construction phase of the Proposed Project are as follows:
 - Site Access Control
 - A Traffic Marshal will be appointed to control access to and from each site where required and ensure drivers have been through the site induction process.
 - Site Security Measures
 - Appropriate security fencing will be established around the sites including compounds, works
 areas and areas used for the storage of plant and machinery and hazardous substances. These
 will be subject to regular inspection.
 - Where necessary, Closed-Circuit Television (CCTV) will be installed within construction areas.
 Remote cameras will be installed at compounds for security purposes when items of value are left, with permanent CCTV being installed at the primary compounds.
 - Access to working areas will be restricted to approved personnel only, with the Site Supervisor to monitor and manage traffic and site visitors.

Personnel Access

- Security gates will be used to ensure that only authorised personnel and deliveries can enter
 and will remain closed at all other times on access to the CDM work area (gates within the site
 may remain open).
- Personnel requiring access to the site for reasons other than carrying out physical construction
 work will be treated as a site visitor. All visitors will be granted access by appointment only and
 must in all cases be authorised by a senior manager at each site and be required to attend a
 site induction session to maintain health and safety.
- All visitors, except for authorised collection or delivery drivers, shall always be the responsibility
 of the permanent pass holder whilst on site and must sign in at security.
- Visitors must always use the pedestrian walkways and access gates provided for safe and easy
 access to site office.
- Compounds will be segregated into non-PPE and PPE areas. Personnel will not be allowed access into PPE areas without the appropriate equipment as per construction standards.

Pedestrian Routes

Safe pedestrian access routes between car parking locations, access points, work areas, site
offices and welfare facilities will be provided. Where pedestrian and vehicle routes interact,
appropriate crossing points and segregation will be provided.

HGV Booking

- A booking system (Delivery Management System DMS) will be used to ensure deliveries to the sites will be spread across the whole day where possible.
- Dedicated members of staff will travel on the construction routes and monitor LGV and HGV traffic using the routes associated with the Proposed Project. Staff will be trained to conduct this monitoring process, collect, and collate data.
- Delivery vehicle dwell times will be kept to a minimum; vehicle engines will also be turned off to reduce noise and air pollution. Appropriate traffic management including clear and visible construction works signage will be implemented and used when/where required; this will be submitted by the Contractor prior to commencement, as requested. Banksmen will also be in position as and when required.

Traffic Marshal

• Trained personnel (Traffic Marshal) will be in place at key locations when necessary, during the construction of the Proposed Project.

HGV Emissions

 All vehicles used in the construction of the Proposed Project will be to Euro standard V class or better.

Parking and Loading

- Appropriate loading/unloading and parking areas for construction vehicles will be designated to avoid the need for parking or waiting on the highway.
- Upon arrival to each site compound, all deliveries will report to the coordinated delivery contact.
 This will be communicated to all suppliers and subcontractors at their site induction for all new drivers.
- Whilst on-site, the delivery operation will be controlled by a trained Traffic Marshal, from the
 point of guiding a vehicle to its designated off-loading area to guiding the vehicle back onto the
 Local Road Network. Both the Traffic Marshal and drivers will follow relevant safety procedures
 and operate the same signalling systems.
- Adequate parking will be provided to ensure that the safety and efficient operation of the public highway is not reduced. At no time will construction personnel, including contractors and suppliers, be authorised to park outside of the site boundaries, including on the public highway, unless prior permission has been granted by either the relevant landowner or the LHA.
- On-site parking will be managed to ensure safety of all personnel. Parking terms and regulations will be clearly displayed using signage displayed in the immediate vicinity of the parking provision.

Road Safety

- Suitable space within the works site will be provided for all vehicles to park, unload and
 manoeuvre, therefore enabling all egressing vehicles to exit onto the access road in a forwardfacing direction. Reversing onto any public highway will not be permitted.
- A 'Near Miss' reporting system will be implemented for all highways incidents. The contractor
 will ensure that all accidents and near misses are recorded within this system and that drivers
 are instructed to report all issues recorded through the system. Any accidents or near misses
 involving vehicles travelling to / from the site will be recorded, investigated, and reported
 internally and to the client referring specific incidents to the LHA as deemed necessary.
- The contractor will retain records of all incidents (e.g. speeding and driver hours) and submit to the relevant authorities upon request. If emerging issues are identified, the contractor and the LHA will initiate discussions with relevant stakeholders.

Road Condition Surveys

- Each access point to the Local Road Network by any access road or track used by the
 Proposed Project will be inspected. These inspections shall take place before first use, regularly
 during use and following final use, to ensure that the surface of the highway altered for the
 Proposed Project remains in good repair and safe for the public traffic using the highway. Any
 repairs that are required to maintain the altered highway throughout the construction period will
 be carried out in a timely manner.
- Regular inspections will be carried out in all locations where the works corridor passes over a
 public highway, private road, or PRoW. These will be recorded, and remedial action will be
 taken to remove any dirt and debris resulting from construction operations. Any damage to the
 surface will be scheduled for repair at the earliest opportunity.
- The haul road will be surveyed weekly to ensure its integrity is maintained and any remedial work completed as necessary.

Wheel Washing/Dry Rumble

When leaving the CDM construction site, all vehicles exiting the site either via the A40 or B4632 will be checked and cleaned if required prior to using the Local Road Network. If required, a road sweeper will be utilised to further ensure that the Local Road Network remains safe and clear of debris.

Tipper Covers

It is expected that all tippers importing or removing loose material will be covered if required and
it is the responsibility of the Traffic Marshal to ensure vehicles do not leave site without the
appropriate covers. Any vehicles arriving to site without appropriate covers will be reported
immediately to ensure the supplier is informed and appropriate action taken.

Vehicle Identification

- Vehicles dedicated to the Proposed Project long term, i.e. staff cars, Site Supervisor commercial LGVs, will also be inducted and their registrations stored on record.
- If the public have any issues with the vehicles travelling to/from Site, they will be able to report this to a free phone line, which will then be investigated.

Pedestrian Access Routes

- Safe pedestrian access routes between car parking locations, access points, work areas, site
 offices and welfare facilities will be provided within the car park, laydown areas and compounds,
 where possible. Pedestrian access along the haul road will not generally be permitted, though
 all personnel will be afforded PPE, and all construction vehicle drivers will be instructed to travel
 no more than 15 mph along the haul road. Where pedestrian and vehicle routes interact,
 appropriate crossing points and segregation will be provided.
- Pedestrians accessing the construction compounds and other work areas are always required to wear the mandatory PPE.

Vehicle Holding Area

 There is no intention in providing a remote HGV holding area, therefore a vehicle call up procedure is not required.

Information Packs

Information packs will be provided to all contractors, which will form part of the contractual
agreement between the contractors and National Grid. The information pack may contain the
details of the following CTMP requirements:

- Site induction.
- HGV restrictions.
- Construction routes.
- Non-compliance guidance.
- Complaints procedure.
- CTMP protocols and indications required for all contractors including a code of good practice.
- · Guidance on standard communication procedures between contractors and site; and
- CTMP contacts (emergency and non-emergency).
 - Information packs and communications details will be shared with relevant Local Planning Authorities (LPAs) and LHAs ahead of any construction works.

Staff Travel Plan

- The construction personnel numbers are not expected to exceed one hundred personnel on-site at any one time. In addition, the remote work areas and varied work activities may make it impracticable for construction teams to commute to site other than in a van or LGV. Therefore, it is not considered necessary to produce a travel plan for the Proposed Project.
- Notwithstanding the above, if deemed possible and appropriate, construction teams would be transported to the site from local accommodation or agreed pick-up points in personnel transport vans. These vans will only be parked on site within the defined working areas, and only while construction staff are on site during work hours. Outside of working hours there will be no parking of personnel vans on site.

Events

Discussions will be held with the LHA to discuss potential mitigation for scheduled events which
are anticipated to generate an increase in the typical daily traffic flows such as Gold Cup week.
Temporary measures may be necessary for the duration of the event(s). Mitigation could
include not allowing construction traffic flow to travel during the anticipated busy times, or not
allowing construction traffic to go via the affected route on the event day.

AIL Deliveries

- Within the ALA (Report Reference: PDD-101300-REP-026), TTC have undertaken a route appraisal which included the identification and auditing of constraints along Construction Routes 1a, 2a and 2b. Constraints included constrained widths, sharp turns, conflict with street furniture, and constrained junction geometry. Based on the outcome of the route appraisal, TCC undertook a Swept Path Analysis (SPA) at each of the 'pinch points' to inform mitigation measures that may be required.
- Table 7 details the mitigation measures TTC have recommended within the ALA, for AIL deliveries using the LRN.

Table 7 – AIL Route Assessment, including TTC recommended mitigation measures.

Constraint	Escort Banksman Recommended (Yes / No)	TTC Recommended Mitigation Measures
Constr	ruction Route 1c –	Northern Site Access
Roundabout with central island	Yes	Re-grading of the roundabout's central island is recommended for both routeing to and from the site.
Mini Roundabout with central traffic island on exit arm	Yes	Temporary traffic management should be deployed throughout the manoeuvre. Vehicle body overrun means temporary kerb protection may be required for the route from the site.
Narrow pinch point on entrance to Double Mini-Roundabout	Yes	No physical constraints were identified as a result of the SPA. However, narrow carriageway widths mean temporary traffic management is recommended.
Sharp left turn onto the B4632	Yes	Temporary traffic management should be deployed throughout the manoeuvre. Vehicle body overrun means temporary kerb protection may need to be required for both aspects of the route.
Constr	ruction Route 2a –	Southern Site Access
Sharp right turn at Roundabout on the A436	Yes	No physical constraints were identified as a result of the SPA. However, narrow carriageway widths mean the AIL Vehicle overruns multiple lanes. Therefore, temporary traffic management is recommended.
Sharp left turn onto the A40 at Signalised junction	Yes	On the route to the site, vehicle wheels overrun a kerbed central island which houses a traffic signal and bollards. The signal will need to be socketed. For both aspects of the route, temporary traffic management is recommended.
Constr	ruction Route 2b –	Southern Site Access
Limited turning manoeuvrability at Roundabout junction (A429 / A40)	Yes	No physical constraints were identified as a result of the SPA. Temporary traffic management is unlikely to be required, but an

Yes

Narrow right turn onto the A429

at Signalised junction

escort banksman is recommended.

Minor physical constraints were identified as

a result of the SPA, such as minimal vehicle

Constraint	Escort Banksman Recommended (Yes / No)	TTC Recommended Mitigation Measures
		body overhang. The degree of overhang does not require any mitigation; however, narrow carriageway widths mean temporary traffic management is recommended.
Limited turning manoeuvrability at Ghost-Island right-turn junction.	Yes	No physical constraints were identified as a result of the SPA. However, narrow carriageway widths mean the AIL Vehicle overruns multiple lanes. Therefore, temporary traffic management is recommended.

Transport Appraisal

9.1 Construction Traffic Assessment

- 9.1.1 To assess the worst-case scenario with regard to the volume of traffic during the construction phase, it has been assumed that peak construction HGVs and staff traffic, identified previously in Table 6, will coincide and occur in 2028. It has also been assumed that all construction staff travelling to the Site will use the proposed construction routes identified on the plan in Appendix A (Drawing Number: 30167905-ARC-EGN-ZZ-DR-ZZ-00023-S2-P01).
- 9.1.2 It has been assumed that 70% of construction traffic will be accessing the Site via Construction Route 2a and potentially Construction Route 2b. The remaining 30% of construction traffic will be accessing the Site via Construction Route 1c.
- 9.1.3 Table 8 presents the predicted increase in HGV and total traffic on road links that form the proposed construction route.

Table 8 - Predicted Increase from Construction Traffic against 2028 Baseline Flows

DfT Counter Ref. / ATC	Road		ay 12h ne (07:00- rs) flows	0- Traffic I		% Increase baseline flo 19:00)	Road Sensitivity	
Ref.		HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	
			Constructio	n Route	1a – North	ern Access		
90334	A46	2087	19411	70	278	3.4%	1.4%	Sensitive
73531	A46	1545	20232	21	83	1.4%	0.4%	Not Sensitive
37191	A435	445	12297	21	83	4.7%	0.7%	Not Sensitive
17096	A435	305	13566	21	83	6.9%	0.6%	Not Sensitive
ATC 1	A435	680	21755	21	83	3.1%	0.4%	Not Sensitive
ATC 10623	B4075	156	7788	21	83	13.5%	1.1%	Sensitive
806853	B4632	142	9040	21	83	14.8%	0.9%	Not Sensitive
947163	B4632	113	7254	21	83	18.6%	1.1%	Not Sensitive
ATC 2	B4632	141	6404	21	83	14.9%	1.3%	Not Sensitive

DfT Counter Ref. / ATC	Road		ay 12h ne (07:00- rs) flows	Constr Traffic Moven day		% Increase baseline flo 19:00)	in 12h ows (07:00 -	Road Sensitivity
Ref.		HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	
		(Constructio	n Route	2a – Soutl	nern Access		
17042	A417	3961	48659	49	195	1.2%	0.4%	Not Sensitive
57116	A417	3363	33136	49	195	1.5%	0.6%	Not Sensitive
17098	A436	929	12228	49	195	5.3%	1.6%	Not Sensitive
37192	A436	627	8755	49	195	7.8%	2.2%	Not Sensitive
38276	A436	632	6565	49	195	7.8%	3.0%	Not Sensitive
57150	A40	227	5338	49	195	21.6%	3.6%	Not Sensitive
6435	A40	199	7870	49	195	24.6%	2.5%	Not Sensitive
ATC 3	A40	195	8534	49	195	25.1%	2.3%	Not Sensitive
ATC 4	Unnamed Road	5	571			0.0%	0.0%	Not Sensitive
		(Construction	n Route	2b – Soutl	nern Access		
90334	A46	2087	19411	70	278	3.4%	1.4%	Sensitive
73531	A46	1545	20232	49	195	1.4%	0.4%	Not Sensitive
99322	A46	895	15766	49	195	5.5%	1.2%	Not Sensitive
18475	A44	412	6193	49	195	11.9%	3.1%	Sensitive
36477	A44	285	5965	49	195	17.2%	3.3%	Sensitive
99500	A424	177	3725	49	195	27.7%	5.2%	Sensitive
37181	A429	463	7347	49	195	10.6%	2.6%	Not Sensitive
27154	A429	766	16455	49	195	6.4%	1.2%	Sensitive
57159	A429	640	13408	49	195	7.7%	1.5%	Sensitive

DfT Counter Ref. / ATC	Road	Baselii	Two-way 12h Baseline (07:00- 19:00hrs) flows		Baseline (07:00- Traffic b		% Increase in 12h baseline flows (07:00 - 19:00)		Road Sensitivity
Ref.		HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles		
26441	A40	875	10734	49	195	5.6%	1.8%	Sensitive	
57150	A40	227	5340	49	195	21.5%	3.6%	Not Sensitive	
6435	A40	199	7870	49	195	24.6%	2.5%	Not Sensitive	
ATC 3	A40	195	8534	49	195	25.1%	2.3%	Not Sensitive	

- 9.1.4 As can be seen from Table 8, the predicted increase for 12-hour HGV flows (07:00-19:00 hrs) exceeds the 10% threshold (sensitive roads) on the B4075, forming part of Construction Routes 1c, and the A44 and A424 forming part of Construction Route 2b.
- 9.1.5 In the unlikely event that it would be necessary to route 100% of construction traffic via one of the routes, a traffic assessment has been undertaken to identify the likely impact.
- 9.1.6 Table 9 presents the predicted increase in HGV and total traffic if 100% of traffic was to be routed via one of the routes.

Table 9 – Predicted Increase from Construction Traffic against 2028 Baseline Flows with 100% of Construction Traffic Routed via One Route

DfT Counter Ref. / ATC	Road	baselir	ay 12h ne (07:00- rs) flows	e (07:00- Traffic		% Increase 12h flows ((Road Sensitivity	
Ref.		HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	
			Соі	nstructio	on Route 1a	n – Northern /	Access	
90334	A46	2087	19411	70	208	3.4%	1.1%	Sensitive
73531	A46	1545	20232	70	208	4.5%	1.0%	Not Sensitive
37191	A435	445	12297	70	208	15.7%	1.7%	Not Sensitive
17096	A435	305	13566	70	208	22.9%	1.5%	Not Sensitive
ATC 1	A435	680	21755	70	208	10.3%	1.0%	Not Sensitive

DfT Counter Ref. / ATC	Road	baselir	way 12h Construction line (07:00- Traffic thrs) flows Movements, per day			e in baseline (07:00 - 19:00)	Road Sensitivity	
Ref.		HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	
ATC 10623	B4075	156	7788	70	208	44.9%	2.7%	Sensitive
806853	B4632	142	9040	70	208	49.3%	2.3%	Not Sensitive
947163	B4632	113	7254	70	208	61.9%	2.9%	Not Sensitive
ATC 2	B4632	141	6404	70	208	49.8%	3.2%	Not Sensitive
			Construction	on Route	e 2a – Sout	hern Access	i	
17042	A417	3961	48659	70	208	1.8%	0.4%	Not Sensitive
57116	A417	3363	33136	70	208	2.1%	0.6%	Not Sensitive
17098	A436	929	12228	70	208	7.5%	1.7%	Not Sensitive
37192	A436	627	8755	70	208	11.2%	2.4%	Not Sensitive
38276	A436	632	6565	70	208	11.1%	3.2%	Not Sensitive
57150	A40	227	5338	70	208	30.8%	3.9%	Not Sensitive
6435	A40	199	7870	70	208	35.1%	2.6%	Not Sensitive
ATC 3	A40	195	8534	70	208	35.9%	2.4%	Not Sensitive
ATC 4	Unnamed Road	5	571	-	-	0.0%	0.0%	Not Sensitive
			Construction	on Route	2b – Sout	hern Access	•	
90334	A46	2087	19411	70	208	3.4%	1.1%	Sensitive
73531	A46	1545	20232	70	208	4.5%	1.0%	Not Sensitive
99322	A46	895	15766	70	208	7.8%	1.3%	Not Sensitive

DfT Counter Ref. / ATC	Road	Two-way 12h baseline (07:00- 19:00hrs) flows		00- Traffic		% Increase i 12h flows (0	Road Sensitivity	
Ref.		HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	
18475	A44	412	6193	70	208	17.0%	3.4%	Sensitive
36477	A44	285	5965	70	208	24.6%	3.5%	Sensitive
99500	A424	177	3725	70	208	39.6%	5.6%	Sensitive
37181	A429	463	7347	70	208	15.1%	2.8%	Not Sensitive
27154	A429	766	16455	70	208	9.1%	1.3%	Sensitive
57159	A429	640	13408	70	208	10.9%	1.6%	Sensitive
26441	A40	875	10734	70	208	8.0%	1.9%	Sensitive
57150	A40	227	5340	70	208	30.8%	3.9%	Not Sensitive
6435	A40	199	7870	70	208	35.1%	2.6%	Not Sensitive
ATC 3	A40	195	8534	70	208	35.9%	2.4%	Not Sensitive

9.1.7 As can be seen in Table 9, the predicted increase for 12-hour HGV flows (07:00-19:00 hrs) exceeds the 30% threshold (non-sensitive roads) on the B4632, forming part of Construction Routes 1c, and the A40 forming part of Construction Route 2a and 2b. The predicted increase for 12-hour HGV flows (07:00-19:00 hrs) exceeds the 10% threshold (sensitive roads) on the B4075, forming part of Construction Routes 1c, and the A44, A424, and A429 forming part of Construction Route 2b. However, the impacts this would result in would be short-term as this would only occur in instances where one of the accesses is not accessible, or issues along the Construction Routes.

9.2 Assessment of Residual Effects

- 9.2.1 As indicated in Section 9, the predicted increase for 12-hour HGV flows (07:00-19:00 hrs) exceeds the 30% threshold (for non-sensitive roads) on the A40, forming part of Construction Routes 2a and 2b. Additionally, the predicted increase for 12-hour HGV flows (07:00-19:00 hrs) also exceeds the 10% threshold (sensitive roads) on the B4075, forming part of Construction Routes 1c.
- 9.2.2 Even though routing 100% of construction traffic via one route would result in thresholds being exceeded on all construction routes, the impacts would only be short-term since this would only occur if one of the routes or accesses is inaccessible. Therefore, typically, 70% of construction traffic will be accessing the Site via Construction Route 2a and potentially Construction Route 2b. The remaining 30% of construction traffic will be accessing the Site via Construction Route 1c.

Route to Northern Access

B4075 (Pittville)

- 9.2.3 The B4075 is connected to the High Street going through Pittville settlement. Due to the proximity of the houses fronting the road, in addition to the sensitive receptors including a student village, it was assessed as sensitive road in accordance with the IEMA guidance.
- 9.2.4 As shown in Table 8, the predicted maximum construction HGV traffic on the B4075 would equate to 21 vehicle movements over 12-hour, or one to two vehicles per hour, or one HGV every 30 minutes. Car and van movements associated with staff travelling to and from the site would equate to 83 movements per day with most occurring in the morning in the evening at the beginning and end of the shift. The increase in traffic on the B4075 will be limited for the duration of the construction phase and will equate to the maximum of 1.1% increase in total traffic from the baseline traffic.
- 9.2.5 Furthermore, appropriate control measures aiming to reduce adverse effects from traffic associated with the Proposed Project will be included in the CTMP (Report Reference: PDD-101300-REP-025) and are outlined in Section 8.
- 9.2.6 Taking the above into account it is judged that the predicted effects on other road users and receptors are unlikely to be significant.

Routes to Southern Access

A44

- 9.2.7 The A44 goes through Wickhamford settlement. Due to the proximity of the houses fronting the road, in addition to the sensitive receptors including a classroom for children tutoring, it was assessed as sensitive road in accordance with the IEMA guidance.
- 9.2.8 As shown in Table 8, the predicted maximum construction HGV traffic on the A44 would equate to 49 vehicle movements over 12-hour, or approximately four to five vehicles per hour. Car and van movements associated with staff travelling to and from the site would equate to 195 movements per day with most occurring in the morning in the evening at the beginning and end of the shift. The increase in traffic on the A44 will be limited for the duration of the construction phase and will equate to the maximum of 3.3% increase in total traffic from the baseline traffic.
- 9.2.9 Furthermore, appropriate control measures aiming to reduce adverse effects from traffic associated with the Proposed Project will be included in the CTMP (Report Reference: PDD-101300-REP-025) and are outlined in Section 8.
- 9.2.10 Taking the above into account it is judged that the predicted effects on other road users and receptors are unlikely to be significant.

A424

9.2.11 The A424 goes through Longborough settlement. Due to the proximity of the houses fronting the road, in addition to the sensitive receptors including a classroom for children tutoring, it was assessed as sensitive road in accordance with the IEMA guidance.

- 9.2.12 As shown in Table 8, the predicted maximum construction HGV traffic on the A424 would equate to 49 vehicle movements over 12-hour, or approximately four to five vehicles per hour. Car and van movements associated with staff travelling to and from the site would equate to 195 movements per day with most occurring in the morning in the evening at the beginning and end of the shift. The increase in traffic on the A424 will be limited for the duration of the construction phase and will equate to the maximum of 5.2 % increase in total traffic from the baseline traffic.
- 9.2.13 Furthermore, appropriate control measures aiming to reduce adverse effects from traffic associated with the Proposed Project will be included in the CTMP (Report Reference: PDD-101300-REP-025) and are outlined in Section 8.
- 9.2.14 Taking the above into account it is judged that the predicted effects on other road users and receptors are unlikely to be significant.

10 Conclusion

- 10.1.1 The main traffic and transport related environmental effects will be associated with the construction phase and will occur in 2028. The increases in traffic flows would be associated with the enabling works, access and haul route, 400kV overhead line construction and dismantling work, general traffic to/from Site, and construction employee vehicle movements.
- 10.1.2 To minimise any potential impact from construction HGV traffic, mitigation measures outlined in Section 8 and within the CTMP (Report Reference: PDD-101300-REP-025) and ALA would be employed.
- 10.1.3 The assessment of the future 2028 baseline and traffic generated during construction of the Proposed Project identified that under a worst-case scenario, the increase in traffic on those roads that form the proposed construction routes will be below the 30% and 10% increase threshold at which effects on highway links are to be assessed as recommended in the IEMA Guidelines [Ref 1], on the majority of the roads assessed. For those below the threshold, the level of traffic generation during the construction of the Proposed Project will not have a material impact on the road network and the effects are judged unlikely to be significant.
- 10.1.4 However, the predicted increase for 12-hour HGV flows (07:00-19:00 hrs) exceeds the 10% threshold (sensitive roads) on the B4075, forming part of Construction Routes 1c, and the A44 and A424 forming part of Construction Route 2b. As such, an assessment of potential effects has been undertaken. The assessment determined that the predicted effects associated with construction traffic on the assessed links are unlikely to be significant.
- 10.1.5 Once construction works are completed, the volume of traffic generated for the operation and routine maintenance is not anticipated to alter from current levels, so no detailed assessment of the operational traffic flows is required.

11 References

Table 10 – References

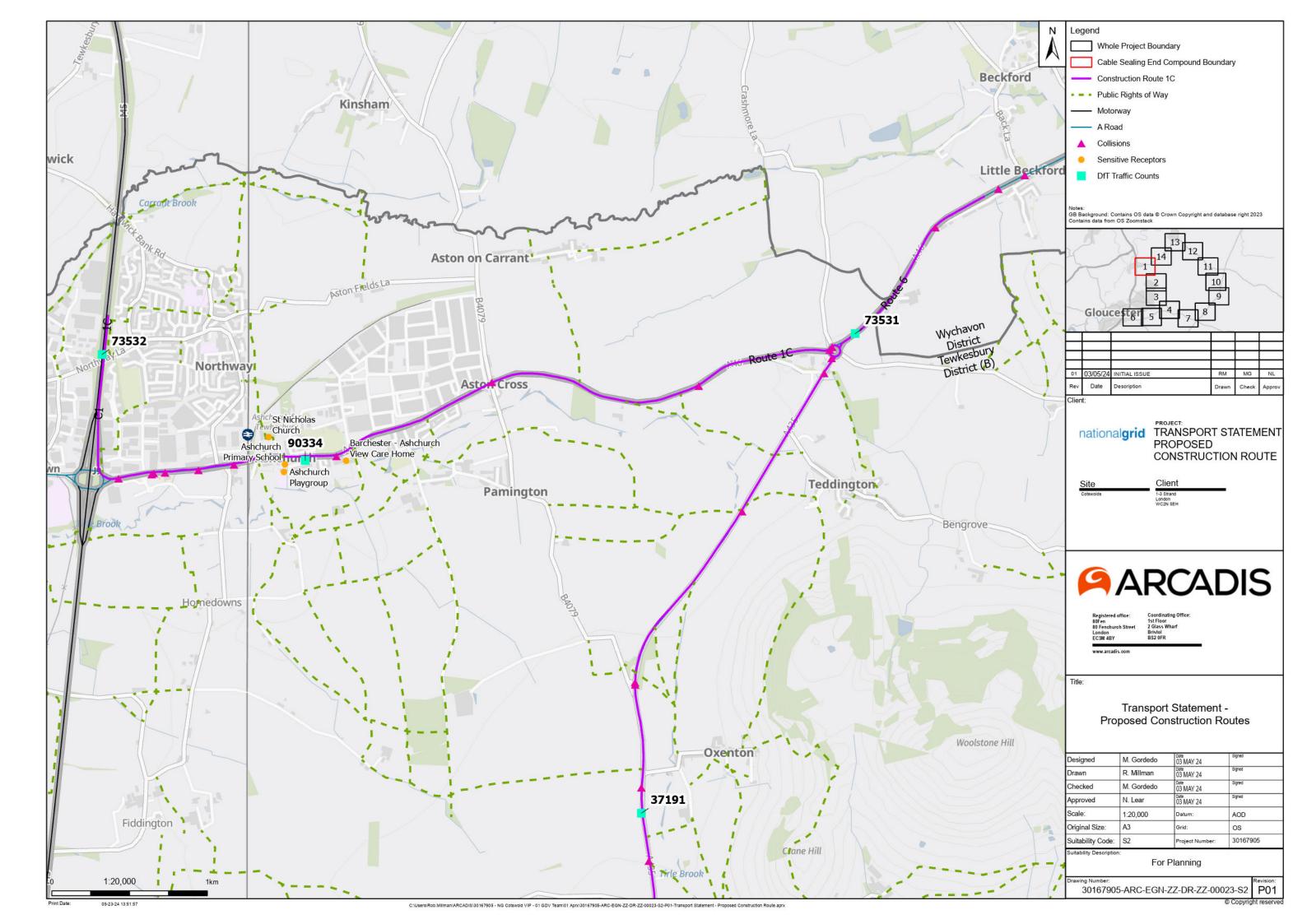
Reference	Title
Ref 1	Institute of Environmental Management and Assessment [IEMA], 2023, Environmental Assessment of Traffic and Movement
	https://www.iema.net/resources/blog/2023/07/12/new-iema-guidance-environmental-assessment-of-traffic-and-movement
Ref 2	The National Planning Policy Framework, December 2023
	https://www.gov.uk/government/publications/national-planning-policy-framework2 [accessed 02/01/2024]
Ref 3	Gloucestershire Local Transport Plan (2020-2041),
	https://www.gloucestershire.gov.uk/planning-and-environment/greener-gloucestershire-climate-dashboard/transport/public-transport/ [accessed 10/10/2023]
Ref 4	Cotswold District Local Plan, 2011-2031
	https://www.cotswold.gov.uk/media/k2kjvq3b/cotswold-district-local-plan-2011-2031-adopted-3-august-2018-web-version.pdf [accessed 12/04/2024]
Ref 5	Tewkesbury Borough Plan, 2011-2031
	https://tewkesbury.gov.uk/wp-content/uploads/2023/11/Tewkesbury-Borough-Plan-Final-Version-with-front-cover.pdf [accessed 12/04/2024]
Ref 6	Department for Transport, Road Traffic Statistics, Road Traffic Data,
	https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints [accessed 09/11/2023]
Ref 7	Department for Transport, Road Traffic Statistics,
	https://www.gov.uk/government/statistical-data-sets/road-traffic-statistics-tra [accessed 23/10/2023]
Ref 8	Crashmap,
	https://www.crashmap.co.uk/ [accessed 14/11/2023]
Ref 9	Rowmaps,
	http://www.rowmaps.com [accessed 07/11/2023]
Ref 10	Stagecoach,
	https://www.stagecoachbus.com/timetables [accessed 13/11/2023]
Ref 11	Pulhams Coaches,
	https://www.pulhamscoaches.com/bus/ [accessed 13/11/2023]

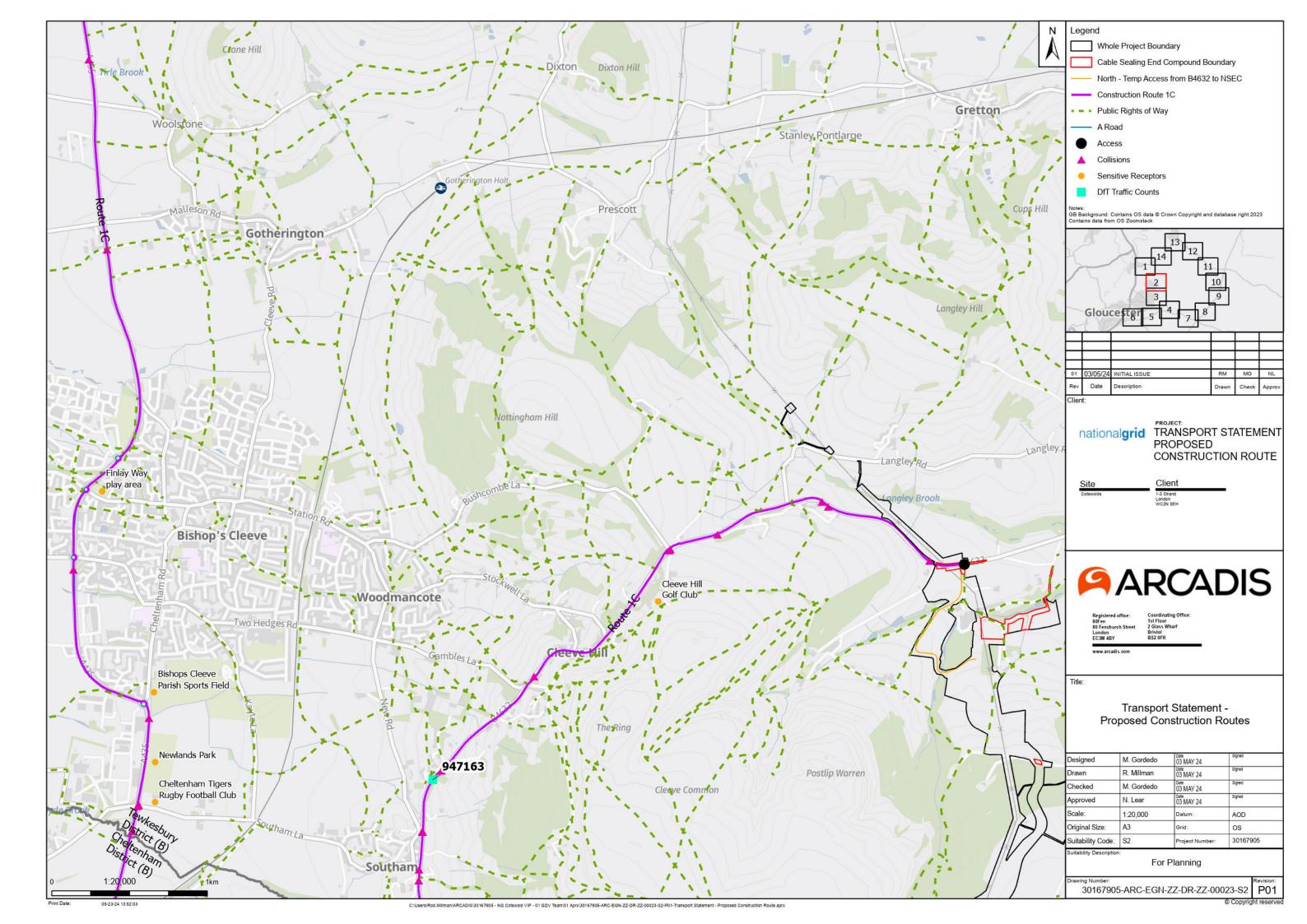
Reference	Title
Ref 12	Department for Transport, Trip End Model Presentation Program (TEMPro), https://www.gov.uk/government/publications/tempro-downloads [accessed 16/11/2023]
Ref 13	Standards for Highways (2020) The Design Manual for Roads and Bridges: LA 104 Environmental Assessment and Monitoring
	https://standardsforhighways.co.uk/dmrb/search/0f6e0b6a-d08e-4673-8691-cab564d4a60a [accessed 22/11/2023]
Ref 14	Image of Typical Cable Drum Transfer Vehicles
	https://www.newcivilengineer.com/innovative-thinking/why-morgan-sindall-is-burying-cables-in-the-dorset-countryside-01-09-2021/ [accessed 24/04/2024]
Ref 15	Image of Typical Cable Drum Transfer Vehicles
	https://www.nationalgrid.com/electricity-transmission/final-400kv-cables-delivery-rolls-site [accessed 24/04/2024]
Ref 16	Wynns Engineers: Drawing PB-PDE-CD01 Rev 0 (extract from Peak District Council Planning Portal. Planning. App: NP/B/0819/0885) [accessed 24/04/2024]

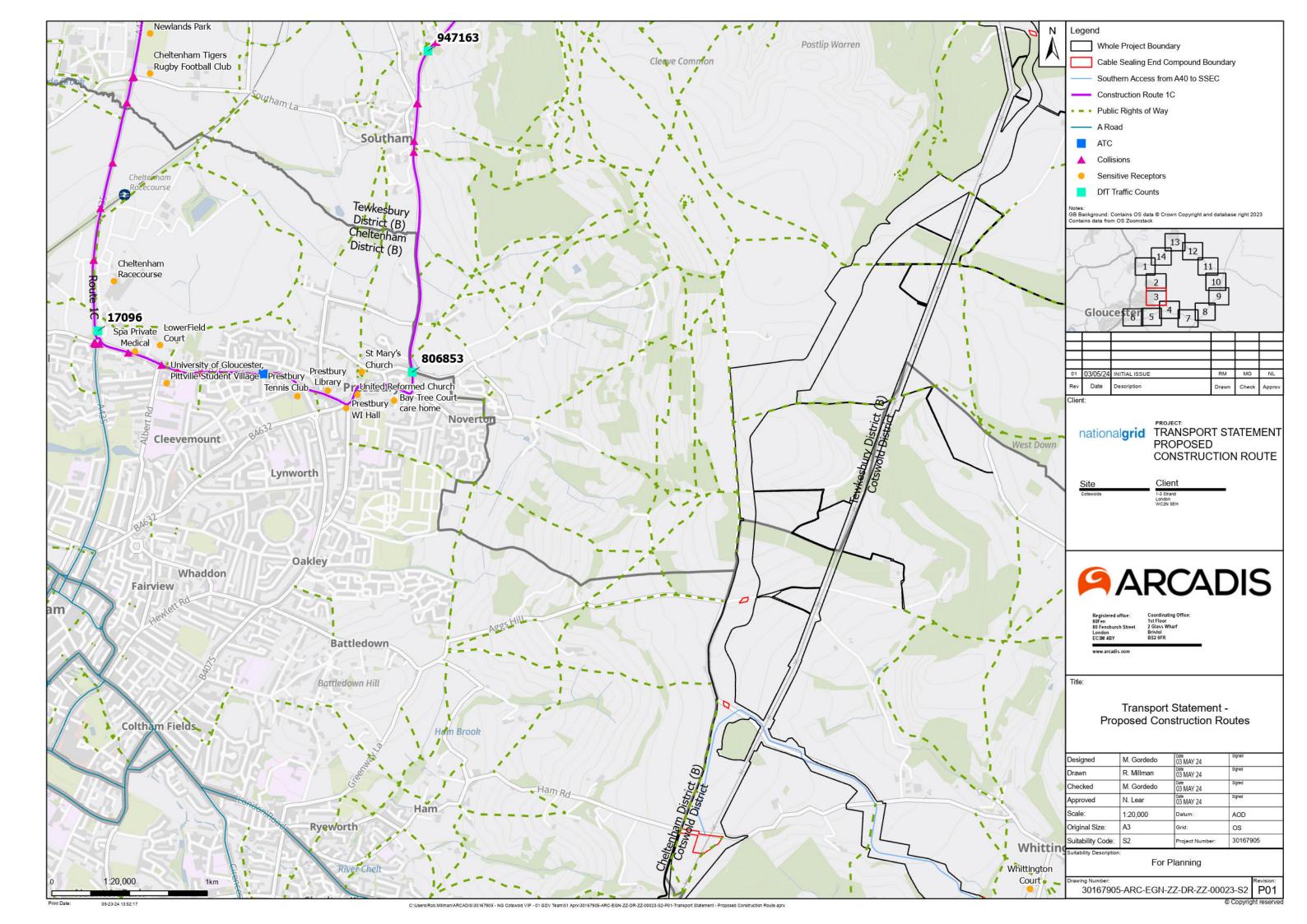


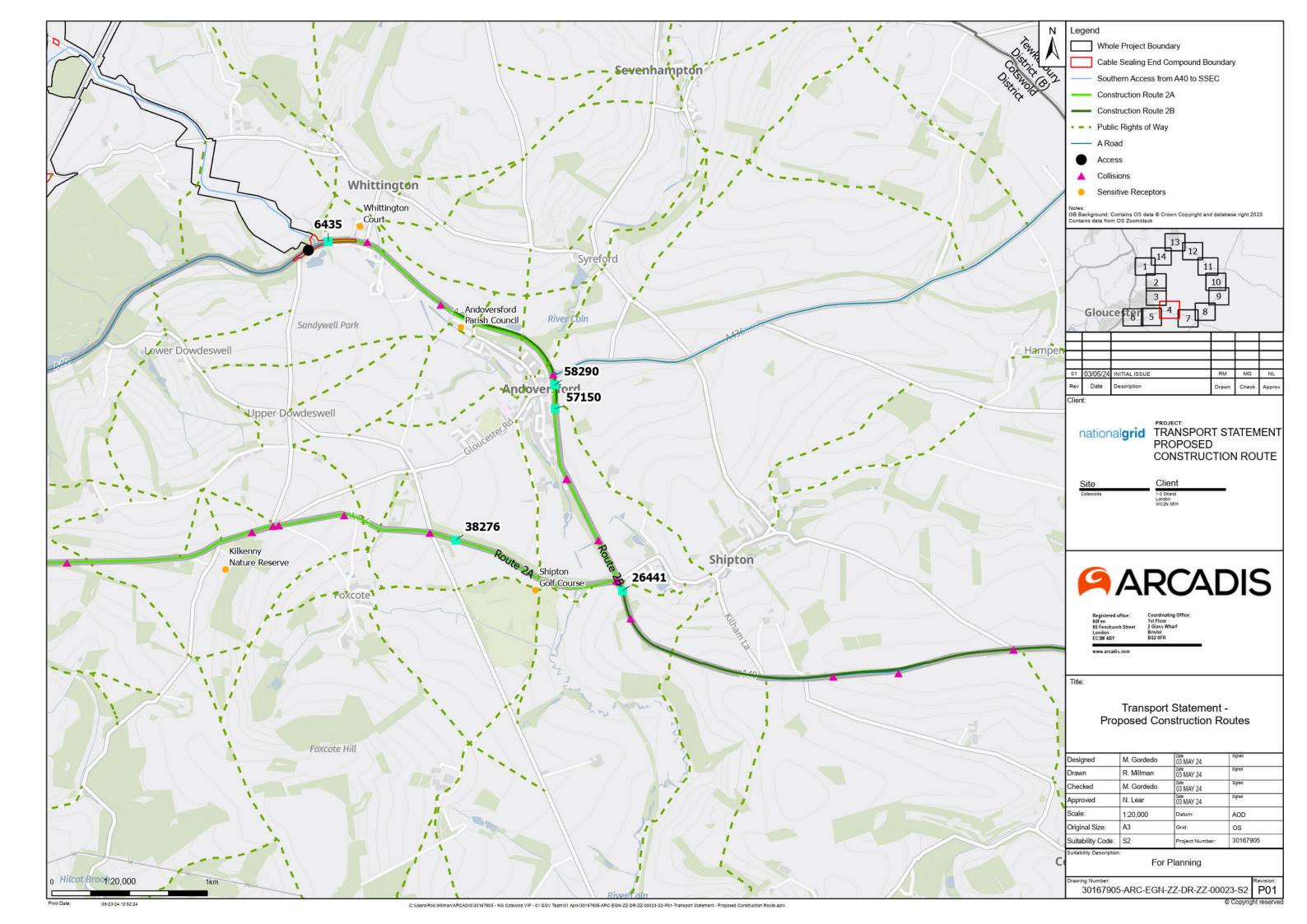
Appendix A

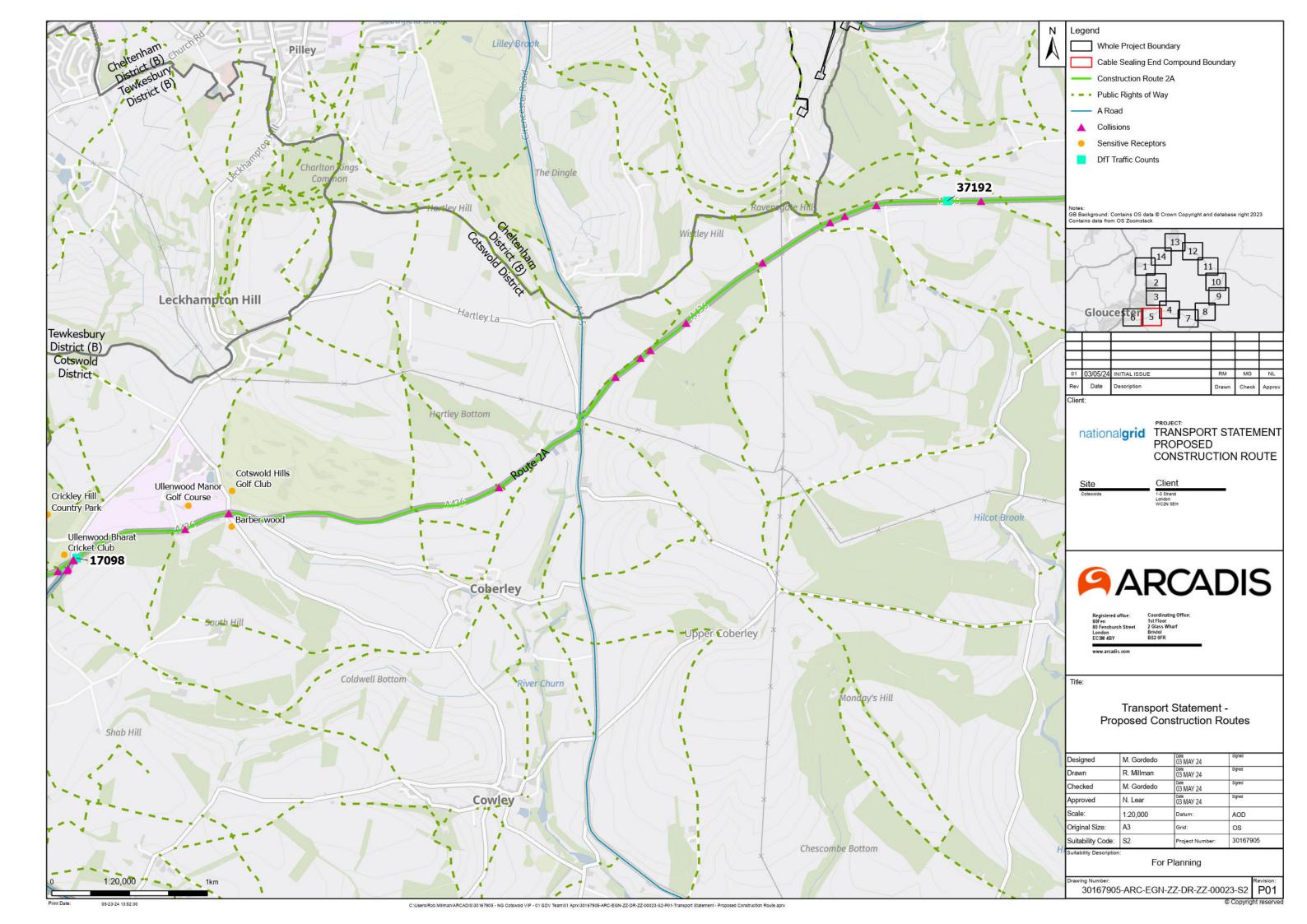
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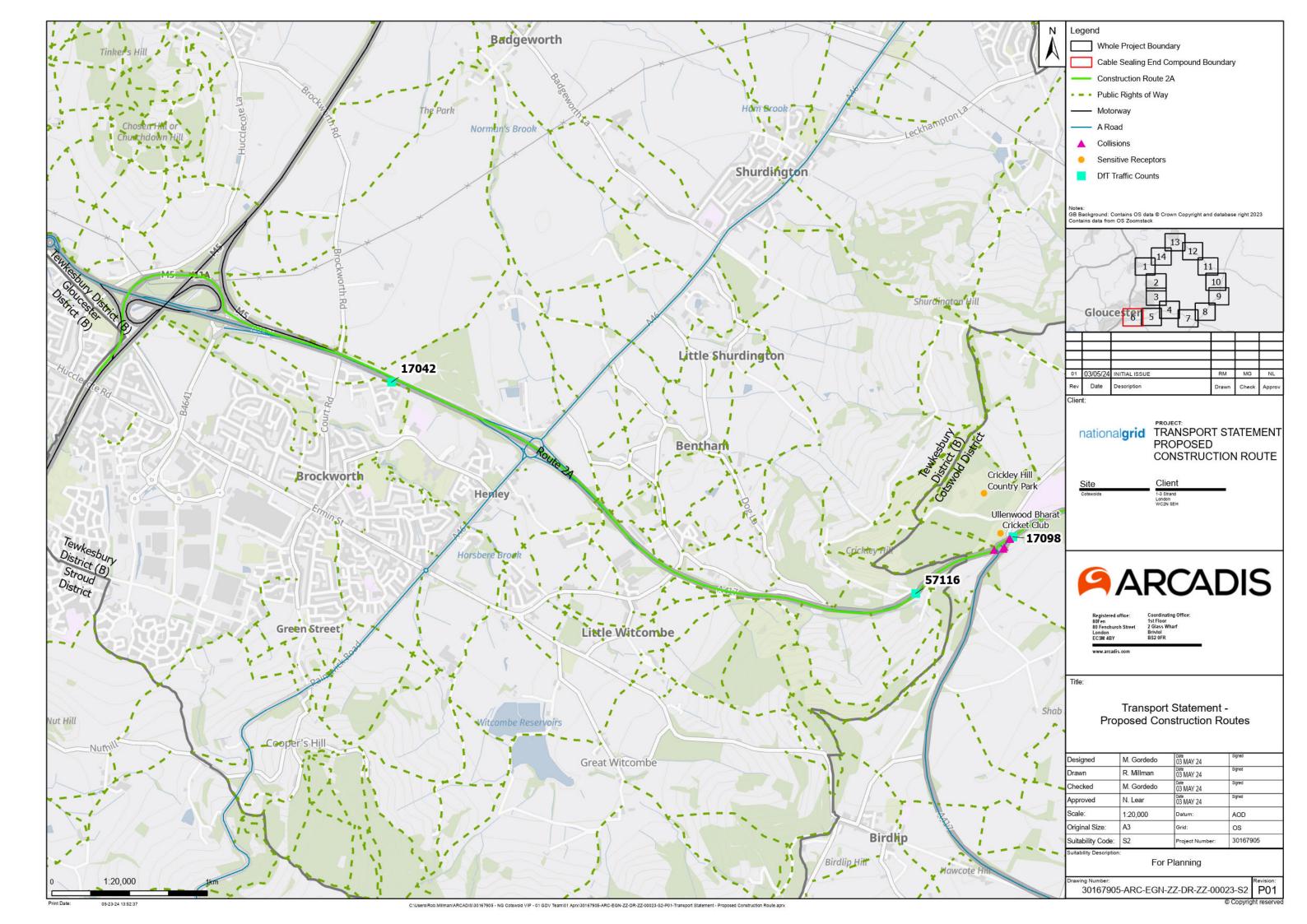


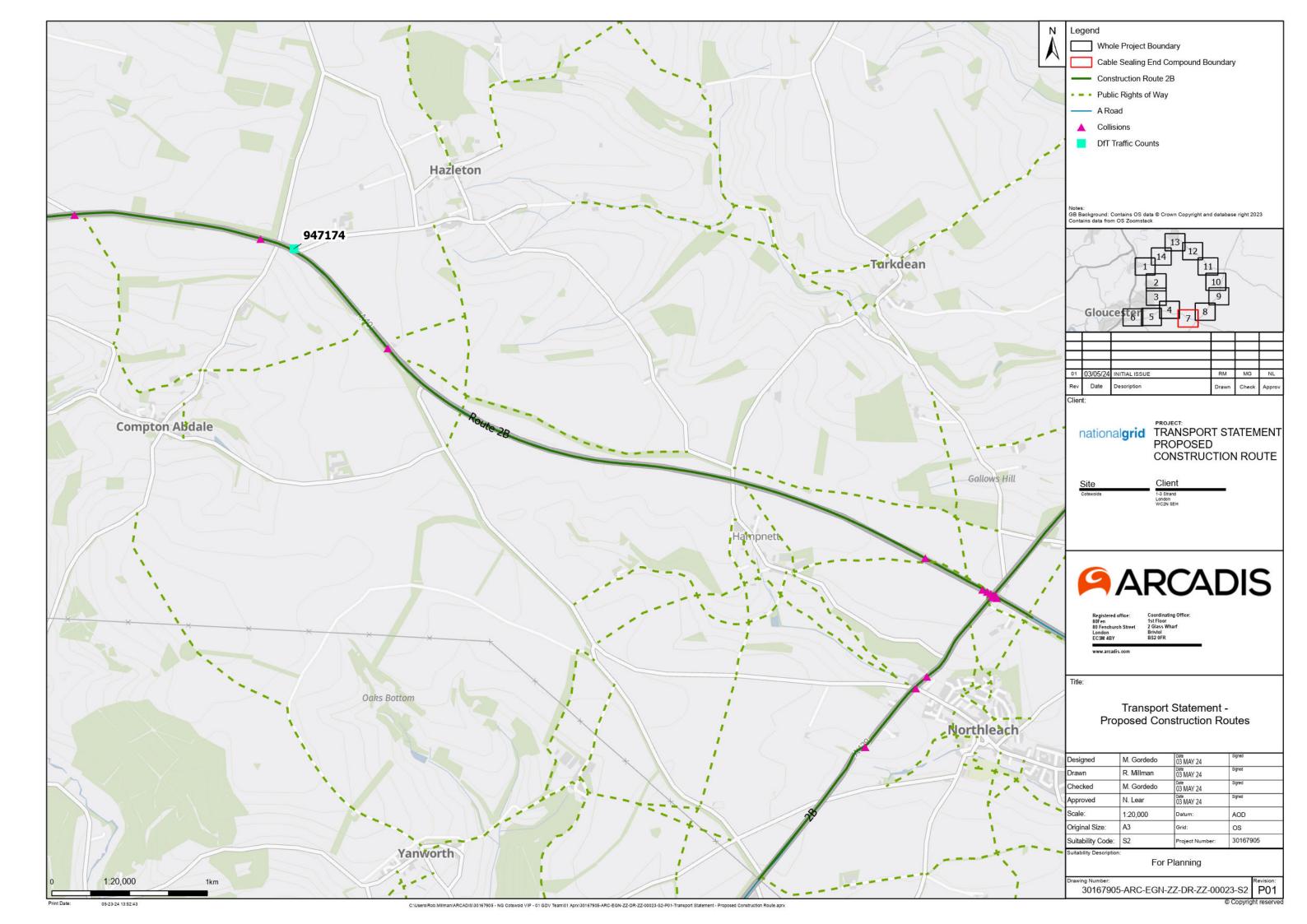


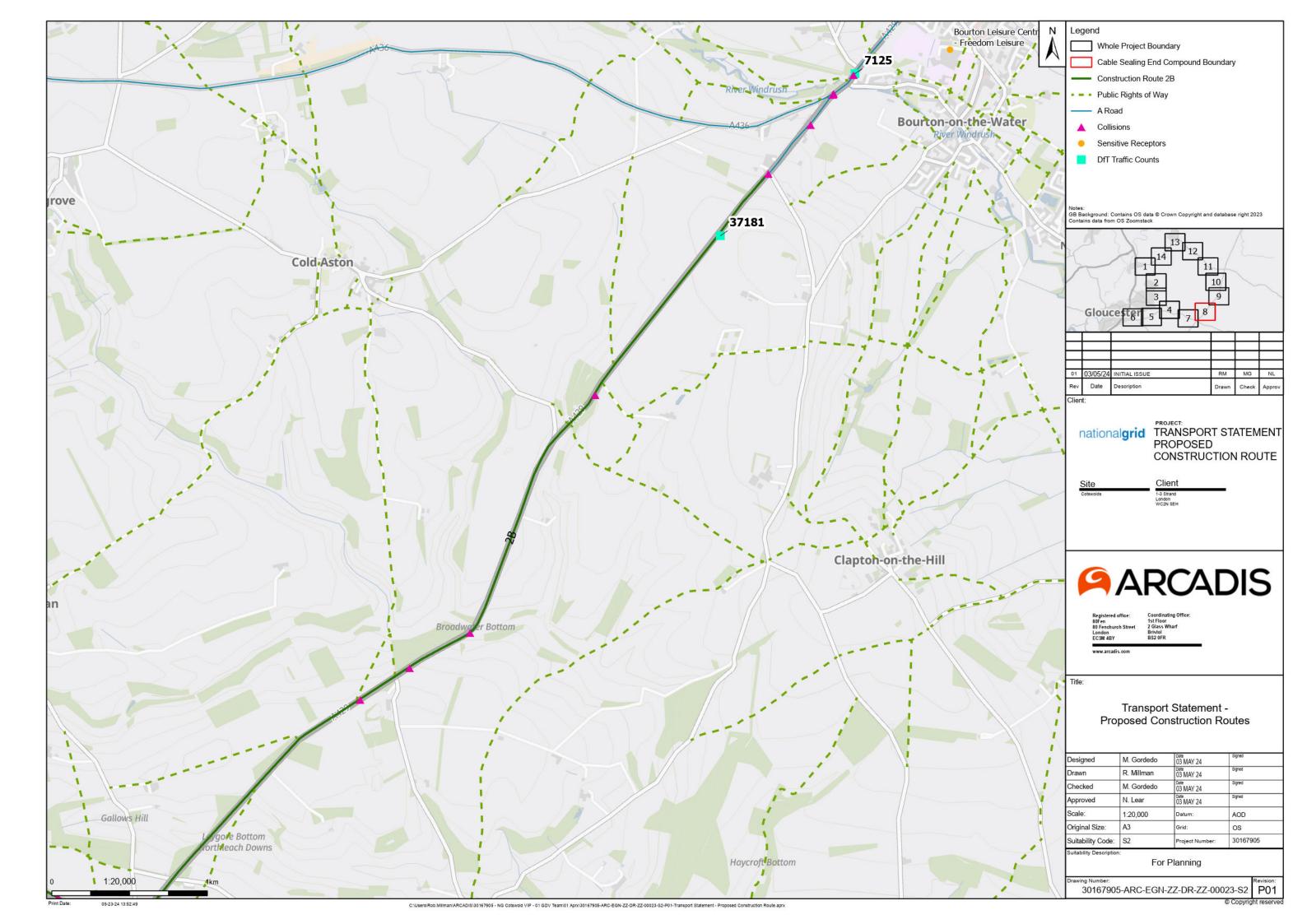


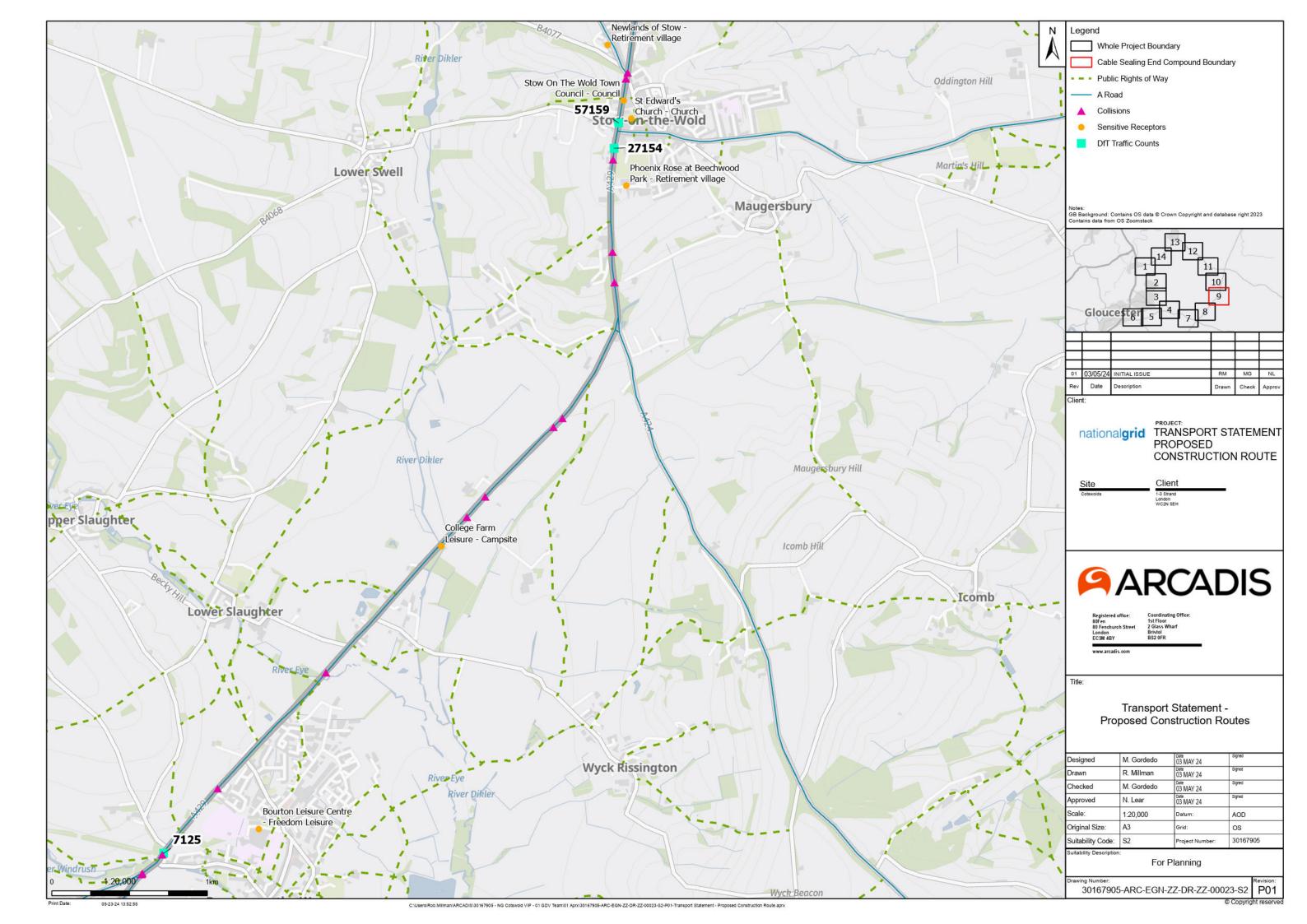


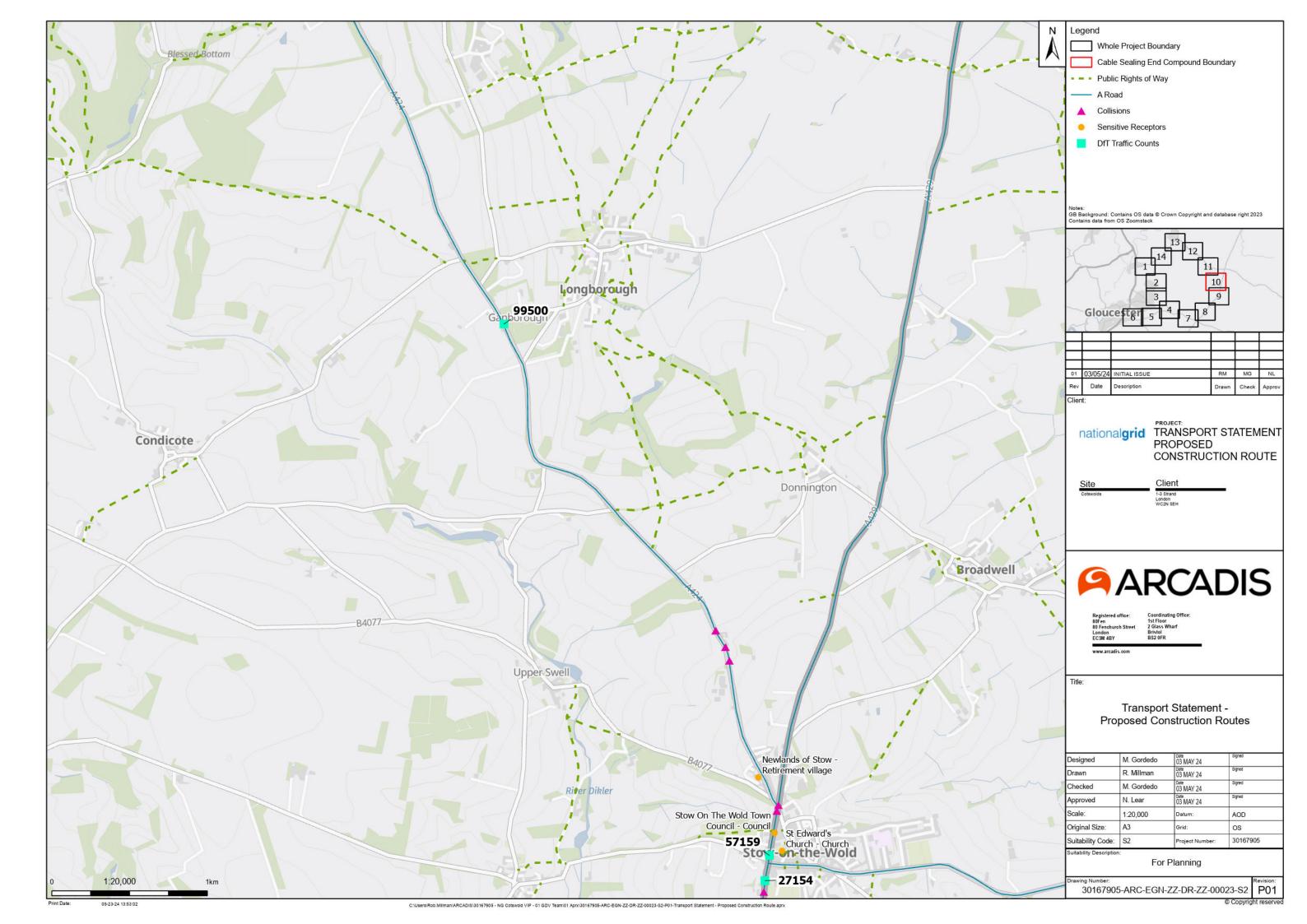


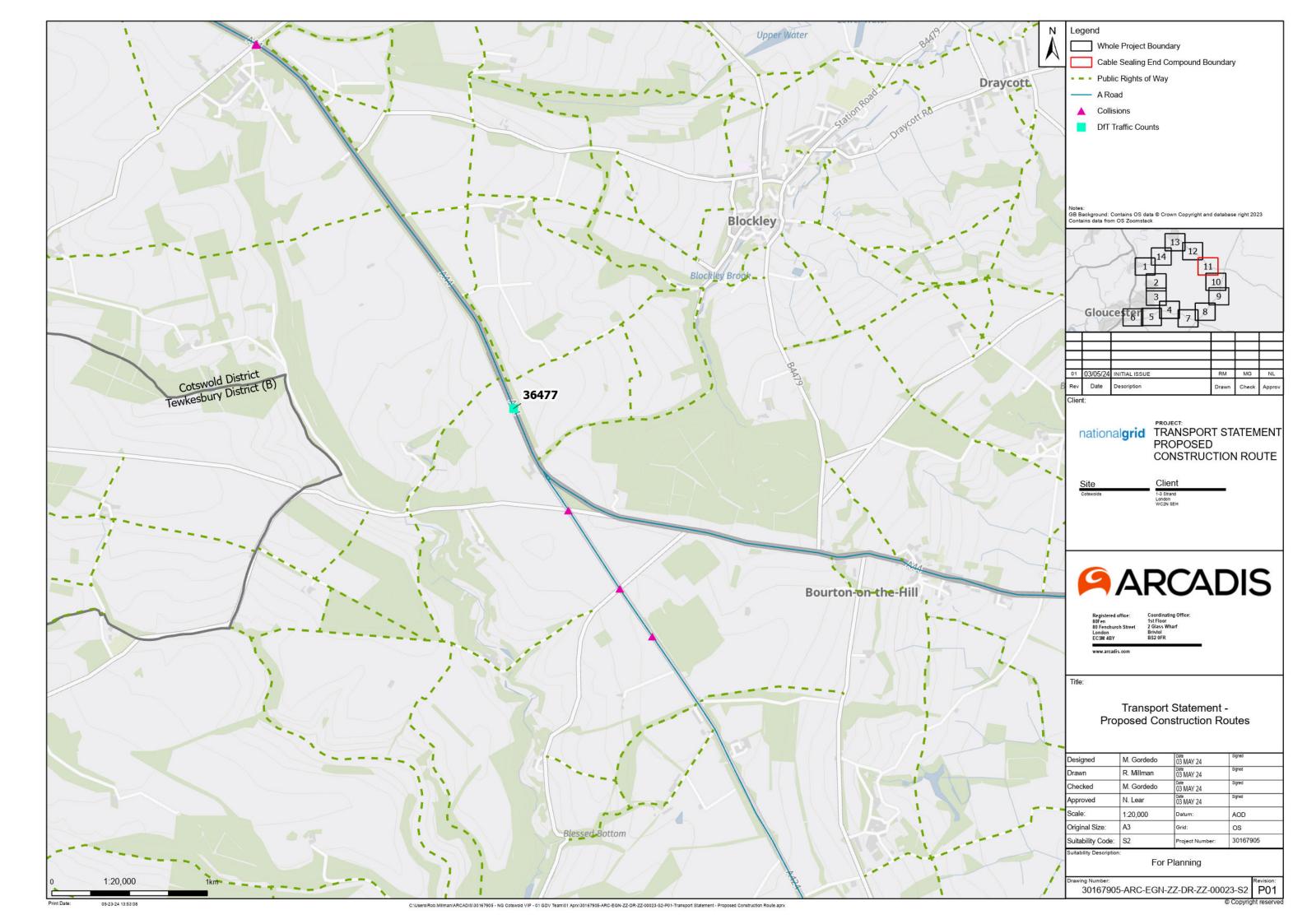


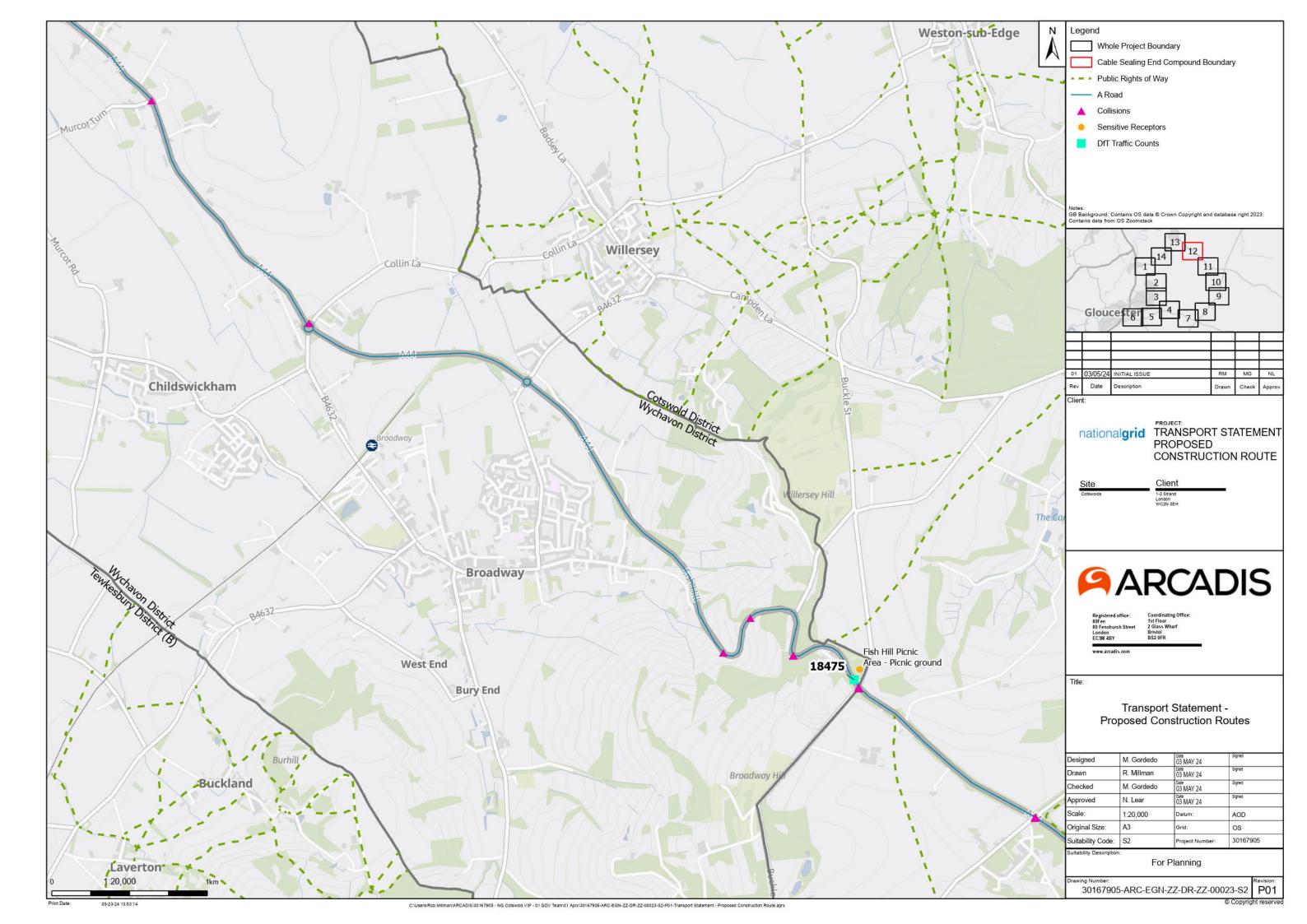


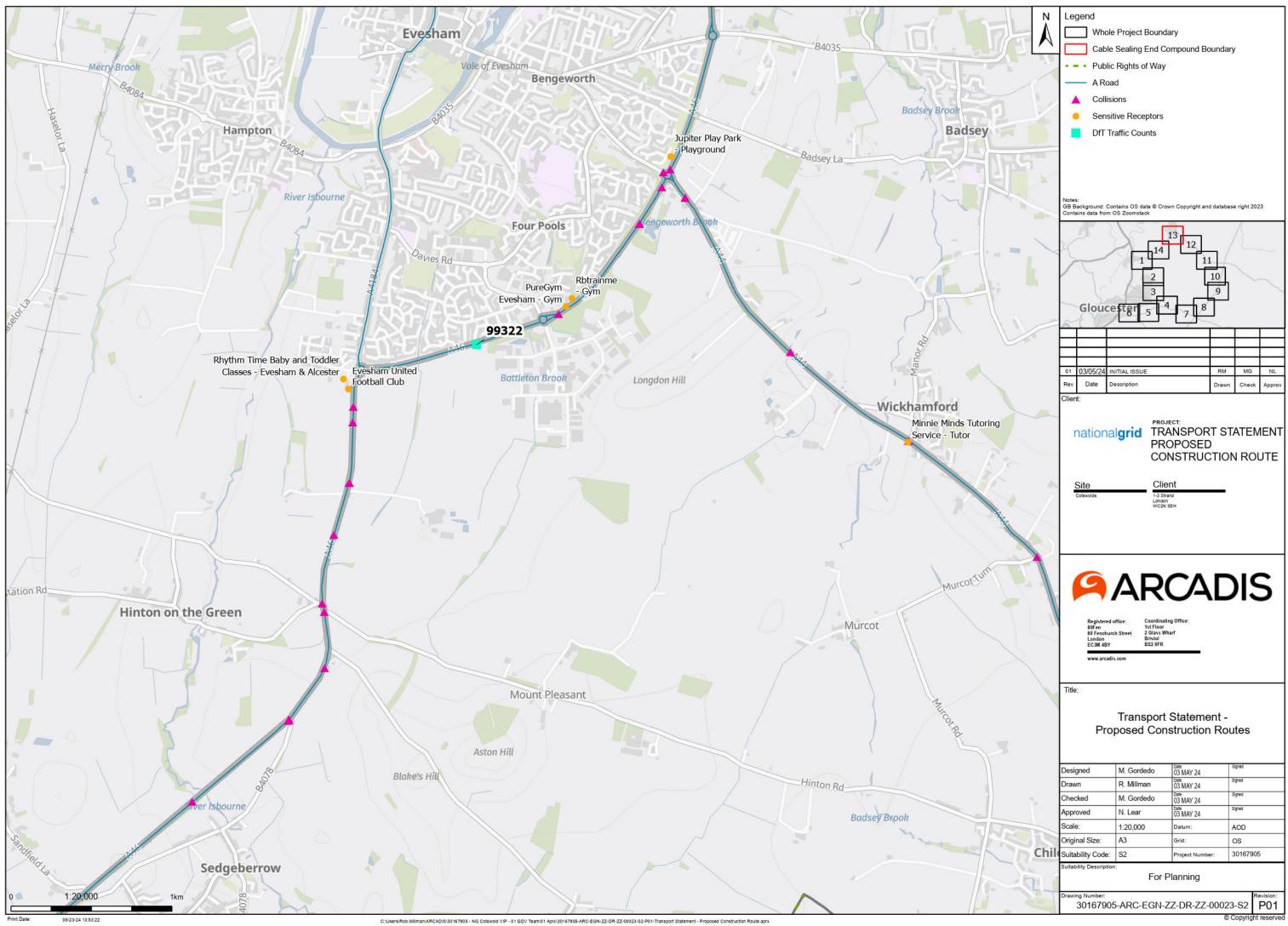


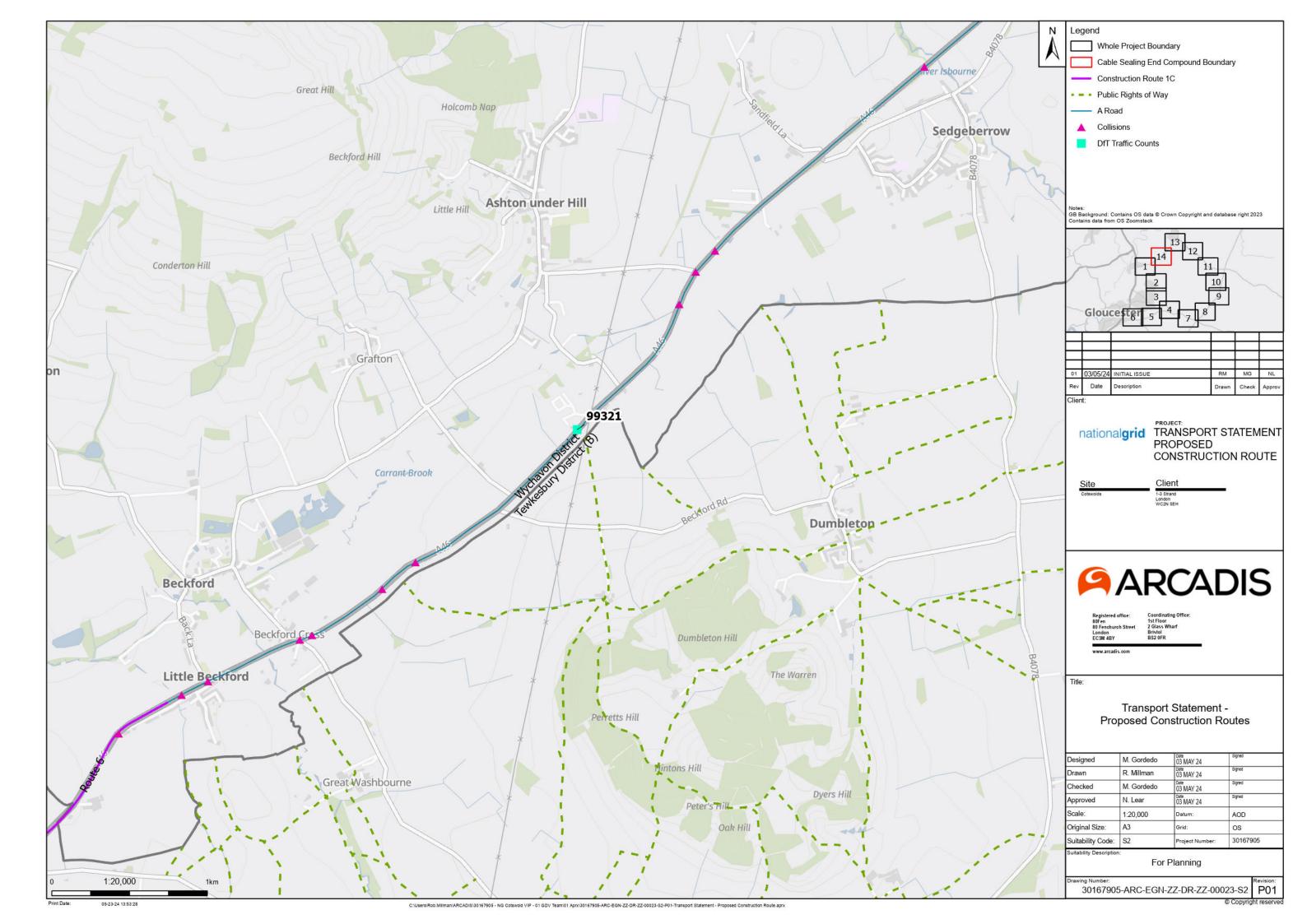












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