local transport projects

traffic engineering and transport planning

PWA Planning

Proposed Energy Storage Facility
Tofts Lane, Hunshelf, Barnsley
Construction Traffic Management Plan

March 2023

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PWA Planning

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Client Commission			
Client:	PWA Planning	Date Commissioned:	May 2022

LTP Quality Control			
Job No:	LTP/22/5084	File Ref:	Tofts Lane Hunshelf CTMP Final Issue 1D

Issue	Revision	Description	Author	Checked	Date
1	D	Updated site plan	MR	-	27/03/2023
1	C	Updated construction timescales	MR	-	15/03/2023
1	B	Updated site plan	MR	-	09/01/2023
1	A	Updated site plans	MR	-	12/12/2022
1	-	Final issue for planning	ZB	MR/AC	07/10/2022
			Authorised for Issue:		SW

LTP PROJECT TEAM

As part of our commitment to quality the following team of transport professionals was assembled specifically for the delivery of this project. Relevant qualifications are shown and CVs are available upon request to demonstrate our experience and credentials.

Team Member	LTP Designation	Qualifications
Steven Windass	*Technical Director (Developments)*	*BSc(Hons) MSc(Eng) CEng FIHE MCIHT*
Mike Raynor	*Principal Transport Planner*	*BA(Hons) MIHE*
Zoe Boote	*Senior Transport Planner*	*BA(Hons) MIHE EngTech*
Annabel Carrick	*Senior Transport Planner*	*BSc(Hons) EngTech MIHE*

PROPOSED ENERGY STORAGE FACILITY TOFTS LANE, HUNSHELF, BARNSLEY CONSTRUCTION TRAFFIC MANAGEMENT PLAN

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1. INTRODUCTION

1.1 Background

1.1.1 Local Transport Projects Ltd (LTP) has been commissioned to produce a Construction Traffic Management Plan (CTMP) in support of a full planning application for a Battery Energy Storage System (BESS) on land to the south of Tofts Lane in Hunshelf, Barnsley. A plan of the proposed site layout is attached as Appendix 1.

1.1.2 A Transport Statement (TS) (LTP, 2023) has also been produced alongside this CTMP.

1.1.3 The local planning and highway authority for the site is Barnsley Metropolitan Borough Council (BMBC).

1.1.4 The scope of this report has been agreed with the Client and is outlined below:

- ***Introduction*** – Brief summary of the site location, proposed development and planning history;
- ***Local highway network*** – Description of the local highway network adjacent to the site, including details of key geometric features, speed limits and waiting restrictions.
- ***Construction traffic access arrangements*** – Description of the proposed access arrangements for construction and staff vehicles arriving at and departing the site.
- ***Construction programme*** – Details of the anticipated construction period at the site, the vehicles that are to be used and the expected frequency of construction vehicle movements at the site.
- ***Traffic management measures*** – Description of traffic management measures that are to be implemented to minimise the effects of traffic travelling to and from the site during the construction period, including reference to:
  - Measures to reduce peak period traffic movements;
  - Vehicle scheduling;
  - Measure to reduce conflict;
  - Parking arrangements and manoeuvring facilities;
  - Promoting car sharing amongst staff;
  - Measures to protect pedestrians;
  - Measures to ensure appropriate storage of materials;
  - Highway cleaning regime; and
  - Signing strategy.

2. SITE LOCATION & DEVELOPMENT DETAILS

2.1 Site Location, Existing Use & Planning History

2.1.1 The proposed BESS is to be installed on land comprising existing agricultural land. The site is bound by Tofts Lane to the north, a combination of existing agricultural land and an existing substation to the south, with agricultural fields to the east and west. The approximate boundary of the development site is highlighted in blue within Figure 1 and the area of Biodiversity Net Gain (BNG) highlighted in yellow.

Figure 1: Site Location

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2.1.2 A full planning application (ref: 2017/0624) was submitted in May 2017 and subsequently approved in September 2017 on the application site for the *'formation of a battery energy storage facility with associated transformer cabling security fencing and CCTV Poles'.* The planning approval for the development has since expired with construction not started on-site. A Transport Briefing Document (Entrust, 2017) was submitted in support of the application.

2.2 Development Proposals & Access Arrangements

2.2.1 This report is based upon the proposals shown on the site layout plan attached as Appendix 1. The development proposals will be seeking full planning consent to provide a BESS contained within a fenced compound, with further details of the development expected to be submitted as part of the planning application.

2.2.2 The delivery and construction/installation period of the proposed development is anticipated to take place over a 9-month period. The trip generation projections associated with the proposed development are presented in Section 4 of this report.

2.2.3 Vehicular access to the site is to be provided via a new access from Tofts Lane in the approximate location of the previously approved access (ref: 2017/0624). The access junction is to be utilised during the construction, installation and maintenance periods.

2.2.4 Vehicle parking for site workers during all stages of construction and operation will be accommodated on-site with no vehicles allowed to park or wait on the adjoining road network during any stage of the development.

3. TRAFFIC ROUTING ASSESSMENT

3.1 Local Highway Network

3.1.1 As previously mentioned in Section 2.2, the site is to be accessed via a new access connecting with Tofts Lane, which is a two-way single carriageway that measures approximately 4.0m in width and is not subject to any parking or waiting restrictions within the vicinity of the site. Tofts Lane is subject to a derestricted speed limit (60mph) with the entire length of the road subject to a 7.5 tonne weight restriction with an exemption for access. Approximately 570m to the west of the site, the road provides access to Underbank Lane via a simple priority T-junction with Tofts Lane continuing west. Approximately 50m to the west, the road provides access to Dyson Cote Lane and Salter Hill Lane at a simple priority T-junction. Approximately 150m to the south-east of the site, the road becomes Hunshelf Hall Lane at the simple priority T-junction with Mucky Lane.

Photo 1: Tofts Lane

3.1.2 Underbank Lane is a two-way single carriageway that measures approximately 5.5m in width, is subject to a derestricted speed limit (60mph) and is not subject to any parking or waiting restrictions within the vicinity of the Tofts Lane junction. Approximately 1.2km to the south of the junction, Underbank Lane provides access to the B6088 via a priority T-junction, which provides access to the A616 (Stocksbridge Bypass).

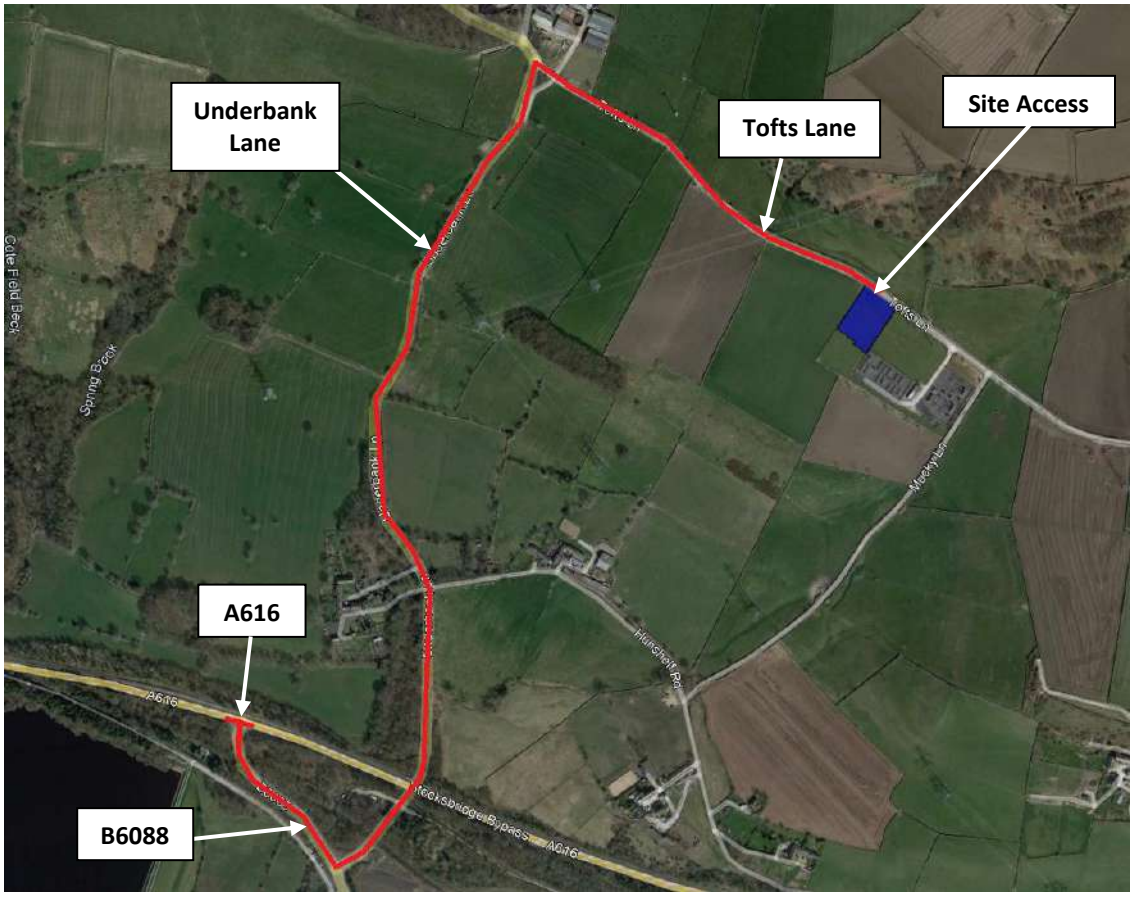
3.2 Proposed Traffic Routes

3.2.1 The likely constraints relating to the routing of Heavy Commercial Vehicles (HCVs) and Abnormal Indivisible Load Vehicles (AILVs) associated with the construction of the site have been considered, with the proposed routing for all delivery vehicles that access/egress the site during the construction phase outlined below.

- Vehicles arriving at the site are advised to arrive via the following route: A616 – B6088 – Underbank Lane – Tofts Lane.

3.2.2 The route back to the primary road network (described as travelling away from the site) is the above routing reversed. The proposed construction traffic route is highlighted in blue within Figure 2.

Figure 2: Construction Traffic Routing



Source Imagery: Copyright Google Earth Pro (License Key-JCPMR5M58LXF2GE)

3.2.3 Construction staff trips made by car and/or Light Commercial Vehicles (LCVs) would also be expected to utilise the route outlined above to access/egress the site. Although there is not expected to be any constraints relating to cars/vans utilising the Hunshelf Hall Lane to the east or Salter Hill Lane to the west.

3.2.4 All relevant parties involved in making deliveries of construction materials, once the construction of the site commences, will be instructed on the preferred routing arrangements before arriving/departing the site. This arrangement is to be strictly enforced, and all sub-contractors and suppliers are to be monitored to ensure that they use the defined route.

3.3 Swept Path Analysis

3.3.1 Swept path analysis has been undertaken as part of the TS (LTP, 2023) to establish whether the largest vehicle expected to access/egress the site can adequately navigate the existing access junction. The results of the swept path analysis demonstrate that an AILV can adequately access/egress the site via the proposed route, with some minor vehicle overrun/overhang on the grassed verge at the Tofts Lane/Underbank Lane simple priority T-junction.

3.3.2 It is worthwhile noting that the vast majority of delivery vehicle movements are expected to be made by vehicles of a smaller size than that tested within the TS (LTP, 2023). It is considered that if an AILV is able to traverse the access route without issue, then other smaller vehicles (e.g. HCVs/LCVs) would also be able to adequately access and egress the site.

4. CONSTRUCTION PROGRAMME

4.1 Introduction

4.1.1 The delivery and construction/installation period of the BESS is anticipated to take place over a 9-month period. During this period there would be vehicle trips associated with the arrival and departure of construction staff as well as the delivery of parts and construction materials.

4.2 Construction Vehicle Details

4.2.1 Parts of the construction process will require the movement of material and components to and from the site compound using HCVs. It is understood that the largest vehicle required to access the development site during the construction period will be an AILV.

4.2.2 In addition to the above, a number of smaller vehicles, including standard articulated HCVs and LCVs are expected to be used during the construction period.

4.3 Frequency of HCV Construction Vehicle Movements

4.3.1 The construction period for the BESS is expected to last for approximately 9 months. Construction traffic generation over this period will total approximately 552 two-way HCV/AILV movements (arrivals and departures). Table 1 summarises the estimated construction traffic based on information provided by the Applicant.

Table 1: Estimated HCV/AILV Construction Traffic Generation

Construction Phase*	Total HCVs	Two-Way HCV Movements	Average site staff per day
Phase 1 - Site Preparation	45	90	3
Phase 2 - Site Civils	70	140	4
Phase 3 - BESS equipment deliveries	25	50	4
Phase 4 - Mechanical installation	50	100	6
Phase 5 - Electrical installation	56	112	4
Miscellaneous	30	60	4
TOTAL	**276**	**552**	

*Information provided by the Applicant.

4.3.2 It is expected that the maximum number of construction staff on-site will vary subject to the construction schedule. Staff trips will be made by cars, minibuses or vans/small vehicles (LCVs). Staff vehicle movements would typically occur at the start and end of the working day and generally not coincide with the movement of large vehicles, which are expected to occur during the weekday daytime.

4.3.3 Car sharing amongst staff is to be promoted and will be a realistic travel mode for those staff who are employed by the same service company/sub-contractor (for example, civils contractor, electrical engineer).

4.3.4 Vehicle parking for site workers during all stages of construction will be accommodated on-site. No vehicles will park on the adjoining road network at any stage.

4.3.5 It is also noted that vehicle trips generated during the construction phase are temporary and would cease upon completion of the works at the site.

4.4 Post Construction

4.4.1 Generally, the BESS would operate on an unmanned basis. It is understood that the BESS would generate approximately between 10 and 20 vehicle trips per annum to support site operations and general maintenance activities at the facility. These trips will be typically made by cars or LCVs (e.g. vans). While the temporary construction compound will be removed following construction completion, space will be retained on-site for LCVs to turn around, ensuring vehicles can enter and exit in a forward gear.

5. TRAFFIC MANAGEMENT MEASURES

5.1 Introduction

5.1.1 Although the expected vehicle trip generation is expected to be relatively low (as identified in Section 4.3), there are a number of traffic management measures that are proposed to reduce the impact during the construction period, and these are outlined below.

5.2 Measures to Reduce Peak Period Traffic Movements

5.2.1 Deliveries to the site are expected to be predominantly limited to off-peak weekday periods in order to ensure that construction activities at the site do not adversely impact on the operation of the local highway network. Limiting site deliveries will also protect residential amenity for people living in properties close to the site, although due to the number of residential properties nearby, this is expected to be negligible.

5.3 Measures to Reduce Conflict

5.3.1 A banksman will be available on-site at the development site at all times during the construction period to coordinate the movement of vehicles. This will ensure that two large vehicles do not attempt to use the site access junction at the same time and therefore ensure that safety of the public highway and internal access road is not compromised. A daily delivery sheet will also be used to coordinate deliveries, in order to avoid vehicles turning up simultaneously, and is to be provided on a weekly basis to the construction supply chain so to mitigate against conflicting HCV/AILV movements along the proposed delivery route, with vehicles also held on-site if required.

5.4 Parking Arrangements & Manoeuvring Facilities

5.4.1 As mentioned previously, construction staff are likely to travel in cars or small vans and these trips would typically occur at the start and end of the working day and therefore not coincide with the movement of large vehicles. As previously outlined, car sharing amongst staff is to be promoted and expected to form a realistic travel mode for those staff employed by the same company.

5.4.2 Whilst the maximum number of operatives expected on-site varies during the construction period, it is expected that adequate parking provision will be provided in order to accommodate all operatives on-site. As such, an adverse impact on the operation of the surrounding highway network is not envisaged.

5.4.3 The internal compound area is to be arranged in such a way that all delivery vehicles will be able to enter and exit in a forward gear, reducing the number of reversing manoeuvres that are required on-site. Adequate driver visibility is to be provided at all times.

5.5 Measures to Protect Pedestrians

5.5.1 The location of the development site, away from the public highway and in a rural location, means that the construction is unlikely to have a significant impact on pedestrians, however temporary signing/barriers will be provided to safeguard pedestrians where necessary. Furthermore, and as previously outlined, a banksman will direct large vehicles in and out of the development and therefore ensure that any pedestrians are adequately protected, although the number of pedestrian movements is expected to be negligible.

5.6 Storage of Materials

5.6.1 All plant and construction materials are to be securely stored within the site compound at the development site when not in use and therefore will not adversely affect the operation of the public highway. As much waste as possible is to be recycled, and where possible vehicles delivering materials to site will leave with waste.

5.7 Highway Cleaning Regime

5.7.1 Throughout the construction of the BESS, a suitable cleaning methodology, such as wheel wash facilities and/or a contracted road sweeper supplier is to be employed at the site to reduce the risk of mud/dust/dirt being transported to public roads. Monitoring should be undertaken by the site manager in order to assess the cleanliness of the adjacent carriageway on an ongoing basis.

5.8 Traffic Signing Strategy

5.8.1 It is recommended that a suitable temporary signing strategy be implemented to facilitate safe access to/from all the development site for HCVs and AILVs associated with the proposed BESS. The temporary signing strategy would be subject to BMBC Highways approval and be installed prior to the commencement of works at the site and maintained as necessary for the duration of the works.

5.8.2 It is recommended that suitable temporary signing is provided in advance of the site access on Tofts Lane and also at the Tofts Lane Underbank Lane priority junction in order to warn other road users of the likely presence of construction vehicles making turning movements. All signing will be in accordance with The Traffic Signs Regulations and General Directions (TSRGD) 2016. No temporary Traffic Regulation Orders (TROs) are required in support of this strategy.

6. REFERENCES

CCS (Considerate Constructors Scheme), 2017. Considerate Constructors Scheme – Code of Considerate Practice.

LTP (Local Transport Projects Ltd), 2023. Proposed Energy Storage Facility, Tofts Lane, Hunshelf, Barnsley. Transport Statement.

Appendix 1 – Proposed Site Layout

Oakenshaw Spring

290.2m

TOFTS LANE

Spring

XXX

ETL

ETL

Electricity Distribution Site

TOFTS LANE

BNG AREA

277.8m

Notes:

KEY:

- Planning Application Boundary (0.48hectares)
- 2.4m High Palisade Fence
- Proposed new Access
- BESS Site internal Road
- Indicative Cable Route
- Metering Annexe

N

REV:	DESCRIPTION:	BY:	DATE:

STATUS:

HARMONY ENERGY
Conyngham Hall
Knaresborough
HG5 9AY

0m 5m 10m 15m 20m 25m 50m

PROJECT:

HUNSHELF

TITLE:

PROPOSED SITE PLAN (CONSTRUCTION)

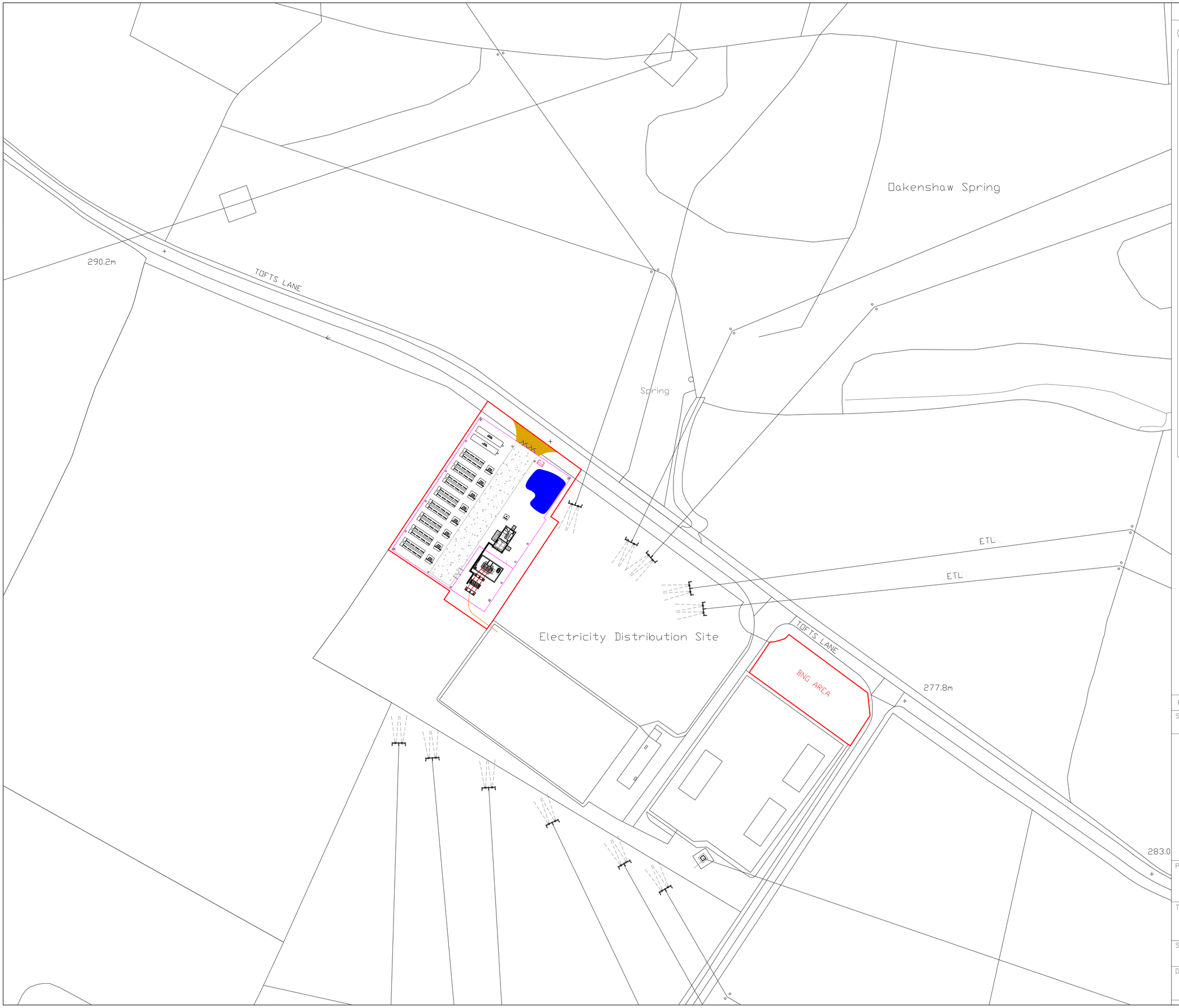
SCALE:	DATE:	DRAWN:	CHECKED:
A0 @ 1:500	24/03/2023	EL	FN

DRAWING NO:	REVISION:
HS_PSP_RevM	M

Notes:

KEY:

- Planning Application Boundary (0.48hectares)
- 2.4m High Palisade Fence
- Proposed new Access
- BESS Site internal Road
- Indicative Cable Route
- SUDS Drainage Pond
- Metering Annexe



REV:	DESCRIPTION:	BY:	DATE:

STATUS:

HARMONY ENERGY
Conyngham Hall
Knaresborough
HG5 9AY

0m 5m 10m 15m 20m 25m 50m

PROJECT:
HUNSHELF

TITLE:
PROPOSED SITE PLAN (OPERATIONAL)

SCALE:	DATE:	DRAWN:	CHECKED:
A0 @ 1:500	24/03/2023	EL	FN

DRAWING NO:	REVISION:
HS_PSP_RevM	M