

Harmony Energy

**Proposed Energy Storage Facility
Thame Road, Imer, Buckinghamshire
Construction Traffic Management Plan**

September 2021

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September 2021

Client Commission

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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.

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PROPOSED ENERGY STORAGE FACILITY THAME ROAD, ILMER, BUCKINGHAMSHIRE CONSTRUCTION TRAFFIC MANAGEMENT PLAN

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I. INTRODUCTION

I.1 Background

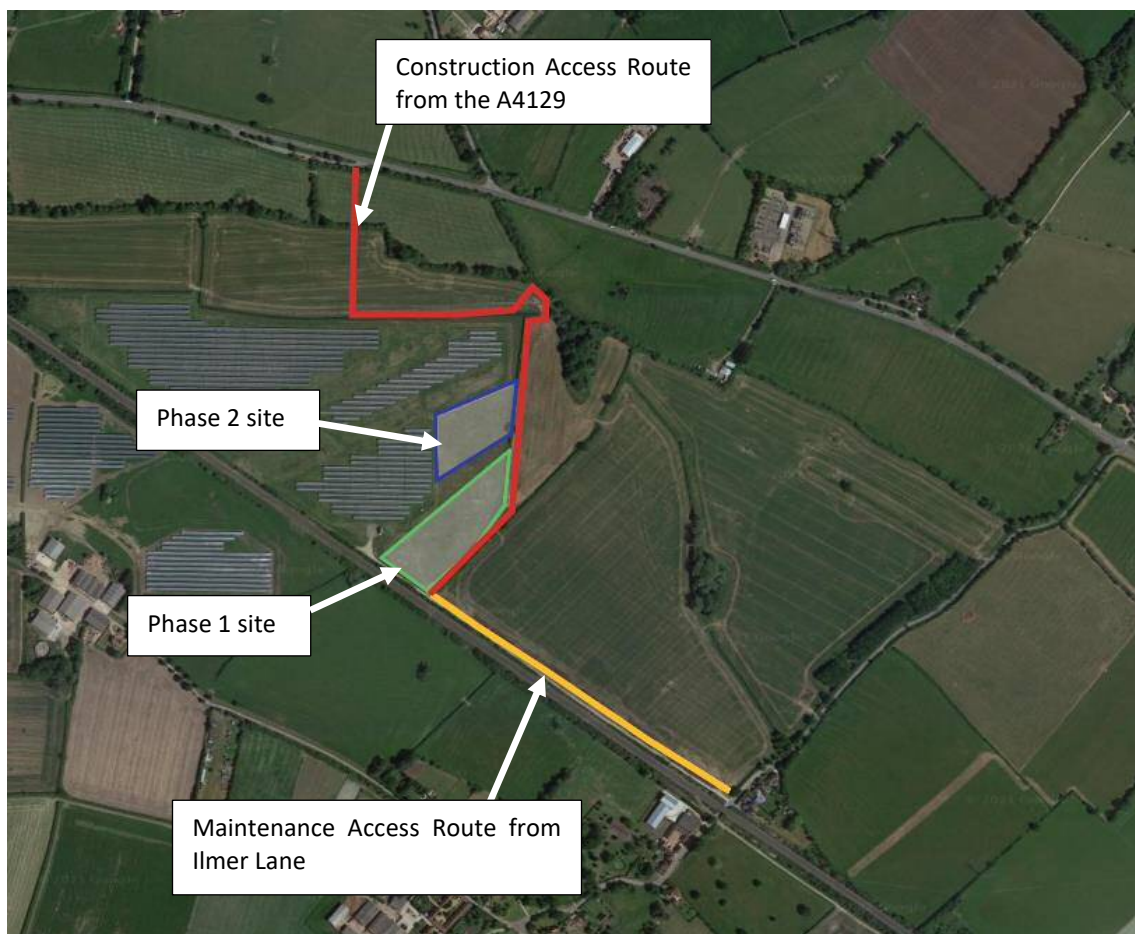
- 1.1.1 Local Transport Projects Ltd (LTP) has been commissioned to produce a Construction Traffic Management Plan (CTMP) in support of a planning application for two energy storage facilities on land associated with Bumpers Farm, Ilmer, Buckinghamshire. A plan of the proposed site layout is attached as Appendix 1.
- 1.1.2 The local planning authority for the site is Wycombe District Council (WDC), and the local highway authority is Buckinghamshire Council (BC). It is noted that although the local planning authority is WDC, planning matters are dealt with by BC.
- 1.1.3 A Transport Statement (TS) (LTP, 2021) has also been produced alongside this CTMP.
- 1.1.4 The scope of this report 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

2.1.1 The wider site is located to the north of the village of Ilmer, and approximately 4.5km to the north-west of Princes Risborough. The Phase 1 development site is bound by existing agricultural land to the north and east, the Chiltern mainline rail line to the south and an existing solar farm to the west. The Phase 2 development site is also bound by existing agricultural land to the north and east, with the existing solar farm forming the southern boundary and additional agricultural land forming the western boundary. The location of both sites in the context of the wider site and the proposed site access points are shown in Figure 1.

Figure 1: Site Location



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2.1.2 Despite the rural nature of the site, there are four existing dwellings on the south-eastern side of Ilmer Lane, opposite the proposed access point, that is to be utilised by maintenance vehicles only once the development is operational.

2.2 Development Proposals & Access Arrangements

- 2.2.1 The report is based upon the proposals outlined on the site layout plan attached as Appendix 1. The development proposals consist of two parcels of land, with the parcel of land outlined in green in Figure 1 forming Phase 1 and has extant planning approval, and the parcel of land outlined in purple in Figure 1 forming Phase 2. Both parcels of land will comprise battery energy storage facilities.
- 2.2.2 The proposed battery energy storage facilities will be located adjacent to an existing solar farm, although it should be noted that they will be separately owned and operated facilities. The solar farm is accessed via an existing stone road extending from a gated access on Ilmer Lane, with maintenance vehicles associated with the storage facilities proposed to utilise this access once both sites are operational. It is understood that this stone road is in good condition, consisting of a compacted Type-1 sub-base surface over selected coarse graded material capping (e.g. Class 6F2 or similar) and a geo-textile membrane. The access is 7.0m wide at the gateway and junction with Ilmer Lane then goes on to form an approximately 3.5m wide access route that runs parallel to the railway embankment to the west and extends 650m between Ilmer Lane and the existing solar farm.
- 2.2.3 The delivery and construction/installation period of the proposed development is anticipated to take place over an approximate 16-week period. The trip generation projections associated with the proposed development are presented in Section 6 of this report.
- 2.2.4 As mentioned previously, vehicular access to the proposed development, once operational, will be gained via a priority junction with Ilmer Lane to the south-east of the site. During the construction period, vehicular access is proposed from a new access junction connecting to Risborough Road (A4129) to the north of the site.

2.3 Planning History

- 2.3.1 A full planning application for the *'creation of compound with 2.4m high boundary fence & gates housing 20 x banks of battery units, 20 x transformer units, 1 x metering room and 1 x 132/33kv transformer to provide energy balancing services to the national grid'* (ref: 17/05825/FUL) was submitted to BCC in March 2017. The planning application was approved in July 2018 and forms the parcel of land outlined in green within Figure 1. As such, the Phase 1 site considered within this TS forms a resubmission of the same development that was afforded planning approval in 2018.
- 2.3.2 It is understood that there have been no other recent pertinent planning applications relating to the development site.

3. LOCAL HIGHWAY NETWORK & CONSTRUCTION TRAFFIC ROUTES

3.1 Local Highway Network

- 3.1.1 Risborough Road is a two-way single carriageway that forms part of the A4129. The A4129 forms an east-west route between the towns of Princes Risborough and Thame, measuring approximately 7.3km within the vicinity of the proposed construction access. The road is subject to a derestricted (60mph) speed limit and forms Thame Road to the east, and Kingsey Road approximately 3.3km to the south-west of the proposed construction access. There are not any existing waiting/parking restrictions in place within the vicinity of the proposed construction access, although there are kerbs that demarcate the northern edge of the carriageway. It should be noted that the proposed construction access will be located within the existing layby and therefore it is likely that the layby will need to be temporarily closed during the construction period.

Figure 2: Risborough Road (A4129)



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- 3.1.2 Ilmer Lane is a two-way single lane carriageway that is subject to a derestricted speed limit (60mph) and is approximately 5m in width within the vicinity of the proposed maintenance access. The road does not have any road markings, and grass verges are located on both sides of the carriageway. In the vicinity of the proposed maintenance access, kerbs demarcate the northern side edge of the carriageway for approximately 75m. A hedgerow flanks the northern side of Ilmer Lane setback approximately 1.0m from the carriageway. The front gardens and hedges of private properties flank the southern side of the carriageway. Ilmer Lane does not have a significant gradient.
- 3.1.3 Visibility at the maintenance access is constrained to the right by the tunnel structure underneath the nearby railway bridge. The achievable visibility to the left is unobstructed providing a good level of visibility. The existing views are shown in Figure 3 and Figure 4 below.

Figure 3: View of Ilmer Lane to the West (Visibility to Right)



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Figure 4: View of Ilmer Lane to the East (Visibility to Left)

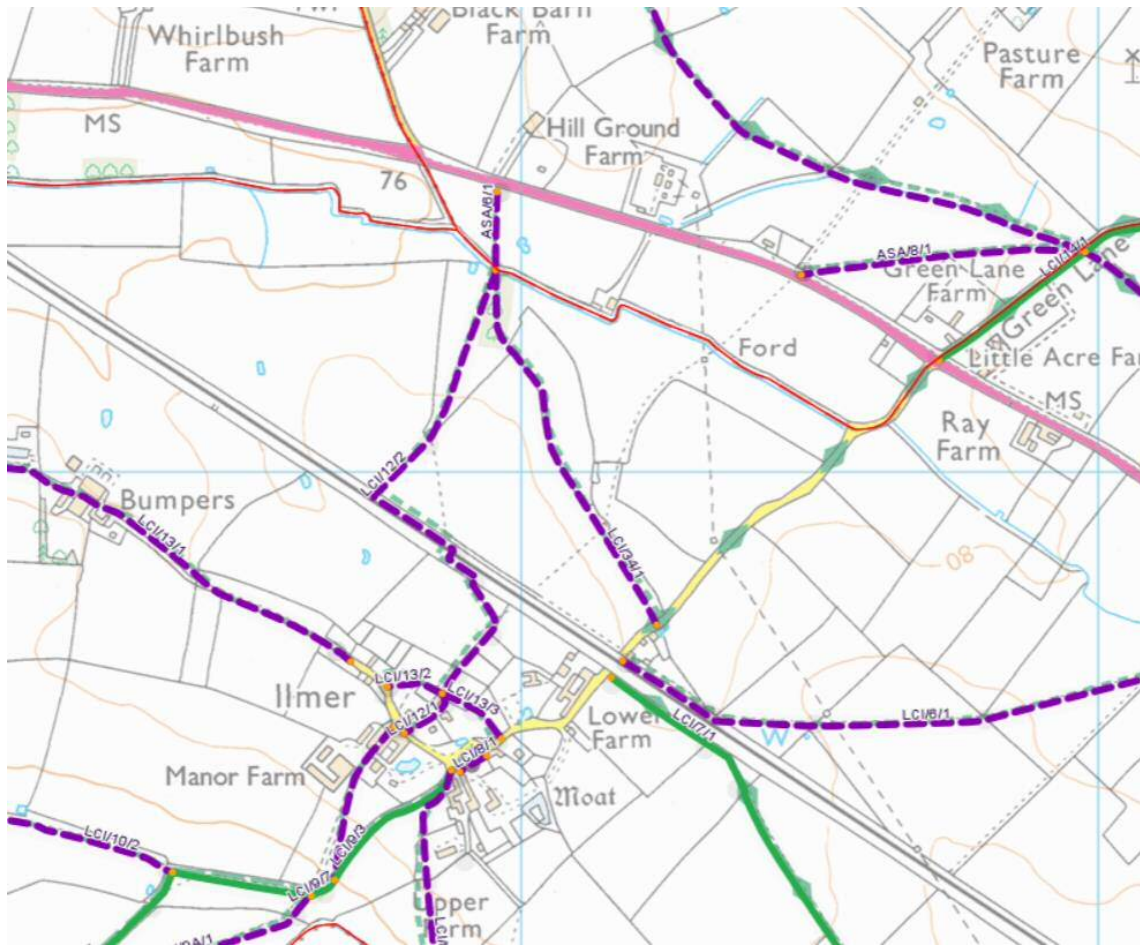


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3.2 Existing Public Rights of Way

- 3.2.1 Figure 5 shows the existing Public Rights of Way (PRoW) within the vicinity of the site, with public footpaths highlighted in purple and public bridleways shown in green. There is a public footpath (ref: LCI/12/2) that runs parallel to the maintenance access road and provides access to the public footpath (ref: LCI/34/1). Public footpath (ref: LCI/34/1) then connects with footpath (ref: ASA/6/1) providing access to the A4129 to the north.
- 3.2.2 There are a number of additional public footpaths and bridleways located within the village of Ilmer to the south of the site, including public footpath (ref: LCI/13/1) which runs through Bumpers Farm.

Figure 5: Existing Public Rights of Way



Source Imagery: BCC, 2021

3.2.3 No physical alterations to any of the PROW within the vicinity of the site are proposed as a result of the development proposals, including public footpath (ref: LCI/12/2) that runs adjacent to the maintenance access road.

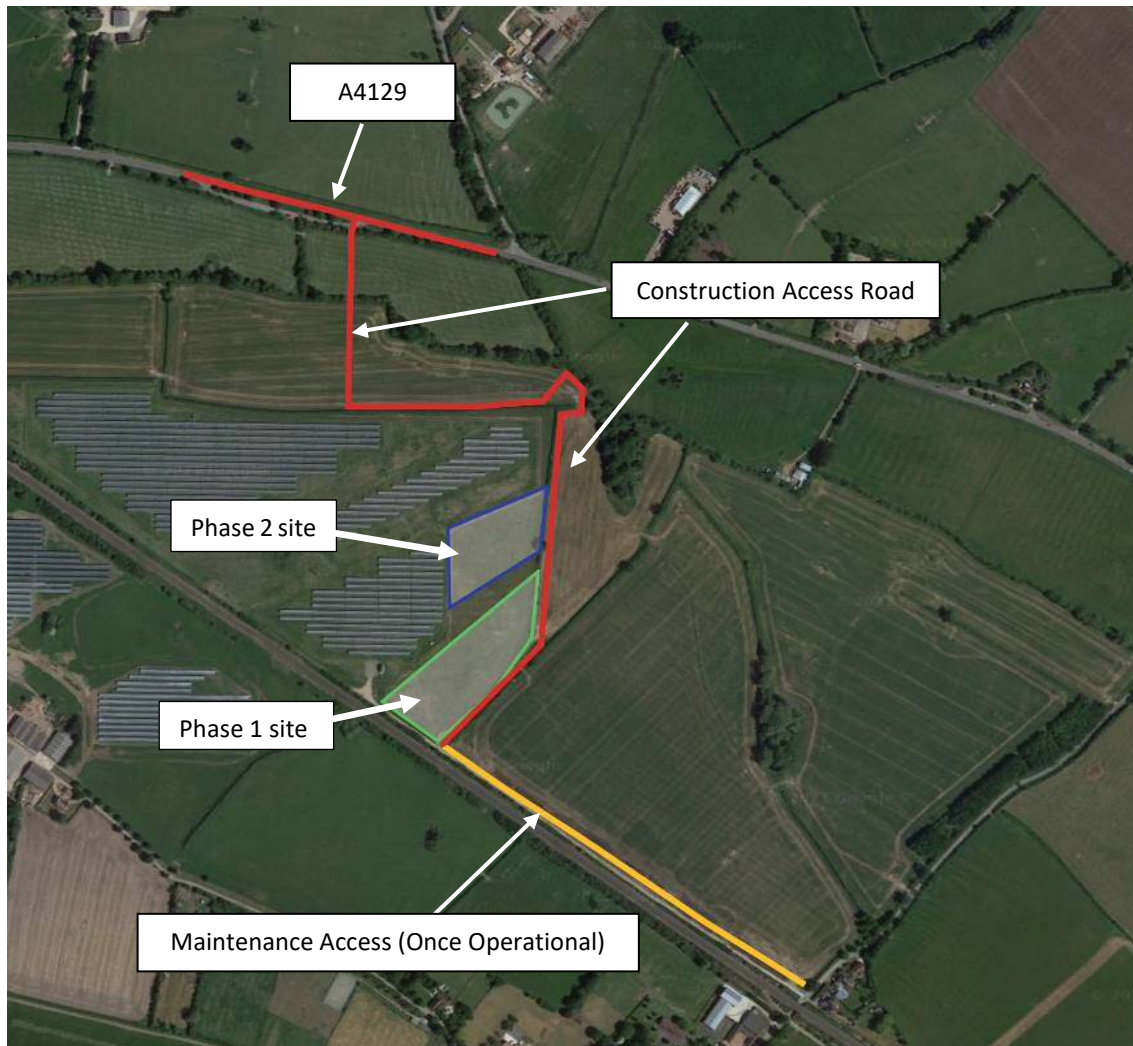
3.3 Proposed Traffic Routes

3.3.1 The route outlined below has been identified as part of the TS (LTP, 2021) and is to be utilised by all construction vehicles that access/egress the site during the construction phase:

- Vehicles arriving/departing the site are advised to arrive/depart via the A4129 with all construction vehicles then utilising the internal access road.

3.3.2 The proposed construction traffic route is highlighted in red within Figure 6.

Figure 6: Construction Traffic Routeing



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- 3.3.3 There do not appear to be any Traffic Regulation Orders (TROs) which restrict construction vehicle movements on the identified route. Given its 'A' road status and the A4129 offers the best connection to the wider highway network for construction vehicles. Once both sites are operational, vehicles will utilise the maintenance access road from Ilmer Lane.
- 3.3.4 All relevant parties involved in making deliveries of construction materials, once the construction of the site commences, will be instructed on the above routeing 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.

3.4 Swept Path Analysis

- 3.4.1 Swept Path Analysis (SPA) has been undertaken as part of the TS (LTP, 2021) to establish whether the largest vehicle expected to access/egress the site can adequately navigate the route. The results of the swept path analysis demonstrate that an Abnormal Indivisible Load Vehicle (AILV) can adequately access/egress the site via the proposed access junction with the A4129, and the internal access road. It is also worthwhile noting that the vast majority of vehicle movements are to occur using vehicles of a smaller size than that tested within the TS (LTP, 2021).

4. CONSTRUCTION PROGRAMME

4.1 Construction Programme

4.1.1 Whilst the exact construction details at the site are currently unknown, the delivery and construction/installation period of the proposed development is anticipated to take place over a 16-week 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 a semi low loader, as mentioned in Section 3.4. The rest of the deliveries would comprise standard articulated HCVs.

4.2.2 In addition to the above, a number of smaller vehicles are expected to be used during the construction period. These are typically expected to be commercial vans and belong to members of the building trade (e.g. electrical/plumbing contractors).

4.3 Frequency of Construction & Staff Vehicle Movements

4.3.1 The construction period for the energy storage facilities is expected to last for approximately four months (16 weeks), and will consist of the following construction phases:

- Stage 1 – Site Preparation;
- Stage 2 – Construction and Installation; and
- Stage 3 – Grid Connection, Commissioning and Testing.

4.3.2 Table 1 summarises the estimated construction traffic based on information provided by the Applicant.

Table 1: Estimated Construction Traffic Generation

Week	Number of Weekly HCV Two-Way Movements (per phase)																Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Stage 1	45	45	-	-	-	-	-	-	-	-	-	-	-	-	-	-	90
Stage 2	-	-	20	20	22	24	40	40	28	24	22	20	20	20	-	-	300
Stage 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	4	10
Weekly Total	45	45	20	20	22	24	40	40	28	24	22	20	20	20	6	4	400

*The total may not represent the sum of its parts due to rounding.

- 4.3.3 As Table 1 shows, it has been estimated that a total of 400 two-way HCV movements will be generated during the 16-week construction period. During this period, it is envisaged that there will be some minor fluctuations in the actual number of HCV trips per week, for example when deliveries of ready mixed concrete are delivered to the site. However, for the purposes of this CTMP, the average HCV trip rates per week are considered to provide a robust basis for traffic management purposes.
- 4.3.4 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 Light Commercial 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.
- 4.3.5 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). It is acknowledged that whilst the COVID-19 pandemic is ongoing the opportunities for car sharing may be limited.
- 4.3.6 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.
- 4.3.7 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 Post-construction, i.e. once the site is operational, it is anticipated that there will be approximately 12 vehicle trips to the site per annum to support site operations and general maintenance activities. These trips are expected to be single trips by car/van. Therefore, the proposed long-term use of the development would be expected to generate a negligible number of vehicle trips on the local highway network. While the temporary construction compound will be removed following construction completion, space will be retained on-site for vehicles to turn around, ensuring vehicles can enter and exit in 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 Potential Remedial Works to Ray Farm Culvert

5.2.1 It is understood that as part of the previously approved planning application relating to the Phase 1 development, concerns were raised by BC Highways over the current condition of the culvert along Ilmer Lane (ref: Q77061 Ray Farm). There were a number of existing defects in the existing culvert recorded from the latest general inspection (November 2016), including:

- Significant radial cracking through the arch and deformation of the arch soffit;
- A number of hairline cracks; and
- Potentially substandard parapets.

5.2.2 It is understood that as part of the CTMP (LTP, 2018) produced for the previously approved Phase 1 development, a two-tier approach was proposed and accepted by BCC Highways (ref: Andrew Cathcart). The previously approved Phase 1 development indicated that access for all vehicles (including HCVs) would be via Ilmer Lane. The latest proposals show that vehicular access during the construction phase will be taken from the A4129 to the north, with only maintenance vehicles, such as vans/cars, expected to utilise the access from Ilmer Lane, once operational.

5.3 Measures to Reduce Peak Period Traffic Movements

5.3.1 Deliveries to the site are expected to be limited to 09:00-16:00 on weekdays in order to ensure that construction activities at the sites do not adversely impact on the operation of the local highway network during peak periods. Limiting site deliveries to the identified periods will also protect residential amenity for people living in properties close to the site.

5.4 Measures to Reduce Conflict

5.4.1 A banksman will be available on-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 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 movements along the proposed delivery routes, with vehicles also held at on-site if required.

5.5 Parking Arrangements & Manoeuvring Facilities

- 5.5.1 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.
- 5.5.2 Whilst the maximum number of operatives expected to be on-site is not currently known, 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.
- 5.5.3 The internal compound area at each parcel 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.

5.6 Measures to Protect Pedestrians

- 5.6.1 The location of the development, away from the public highway, 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, especially adjacent to the existing Public Rights of Way (PRoW). 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 within the vicinity of the access, although there is no existing footway provision on the A4129 and therefore the number of pedestrian movements is expected to be negligible.

5.7 Storage of Materials

- 5.7.1 All plant and construction materials are to be securely stored within the site compound when not in use and therefore will not adversely affect the operation of the public highway.

5.8 Measures to Control the Emission of Dust & Dirt

- 5.8.1 The following measures are to be implemented by the Principal Contractor in order to avoid/reduce dust pollution and other airborne debris:
- Ensure that all materials transported to and from site are in enclosed containers or fully sheeted;
 - Ensure materials have a minimum of packaging;
 - Ensure all polystyrene and similar lightweight materials are weighted down;
 - Making sure all dust generating materials are adequately packaged;
 - Ensure loads are covered where spoil or demolition material is being removed;
 - Ensure that the proposed access route and internal service roads within the site are suitably swept if required;

- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site; and
- Ensure all vehicles switch off engines when stationary - no idling vehicles.

5.9 Wheel Wash Facilities

5.9.1 A wheel cleaning procedure is to be used in order to reduce the amount of mud/dirt that could potentially be deposited on the highway by vehicles exiting the site. Prior to exiting the site, vehicles will be inspected for heavy deposits on their wheels and if present the deposits will be removed, either manually or with a power washer. Any excess mud/dirt will be collected and appropriately disposed of. It is expected that mechanical sweepers will be regularly used to clean the highway within the vicinity of the site in order to limit mud/dirt being transported out of site onto the local highway network.

5.10 Waste Storage, Recycling & Disposal

5.10.1 In line with best practice, the Principal Contractor will minimise and reduce waste generation and recycle as much waste as possible. To help reduce trips, vehicles delivering construction materials to the site will leave with waste where possible, to reduce empty running.

5.10.2 The Principal Contractor will undertake a segregation system to separate waste on site in order to maximise the reuse of construction and demolition waste within the development.

5.10.3 The collection and removal of waste and refuse from the site will also be coordinated by the Principal Contractor to avoid conflicts with other deliveries to site. All waste to be removed from the site will be undertaken by fully licenced waste carriers and taken to licenced waste facilities.

5.11 Traffic Signing Strategy

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

5.11.2 It is recommended that suitable temporary signing is provided in advance of the site access junction on the A4129 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) 2019. No temporary Traffic Regulation Orders (TROs) are required in support of this strategy.

6. REFERENCES

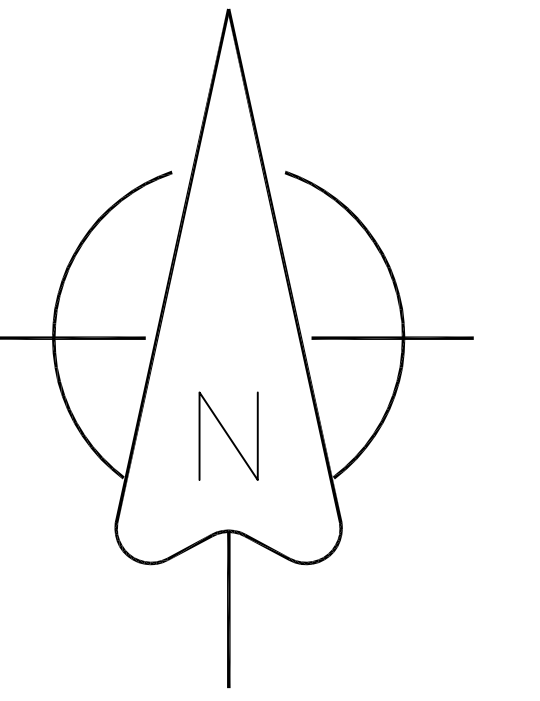
CCS (Considerate Constructors Scheme), 2017. Considerate Constructors Scheme – Code of Considerate Practice.

LTP (Local Transport Projects Ltd), 2021. Proposed Energy Storage Facility, Thame Road, Ilmer, Buckinghamshire. Transport Statement.

LTP, 2018. Proposed Battery Energy Storage Facility, Ilmer Lane, Princes Risborough. Construction Traffic Management Plan.

Appendix I – Proposed Site Layout

[BUMPERS]



KEY

■ Access Route

BLOCK PLAN

SCALE - A0@1:1250

RevG

