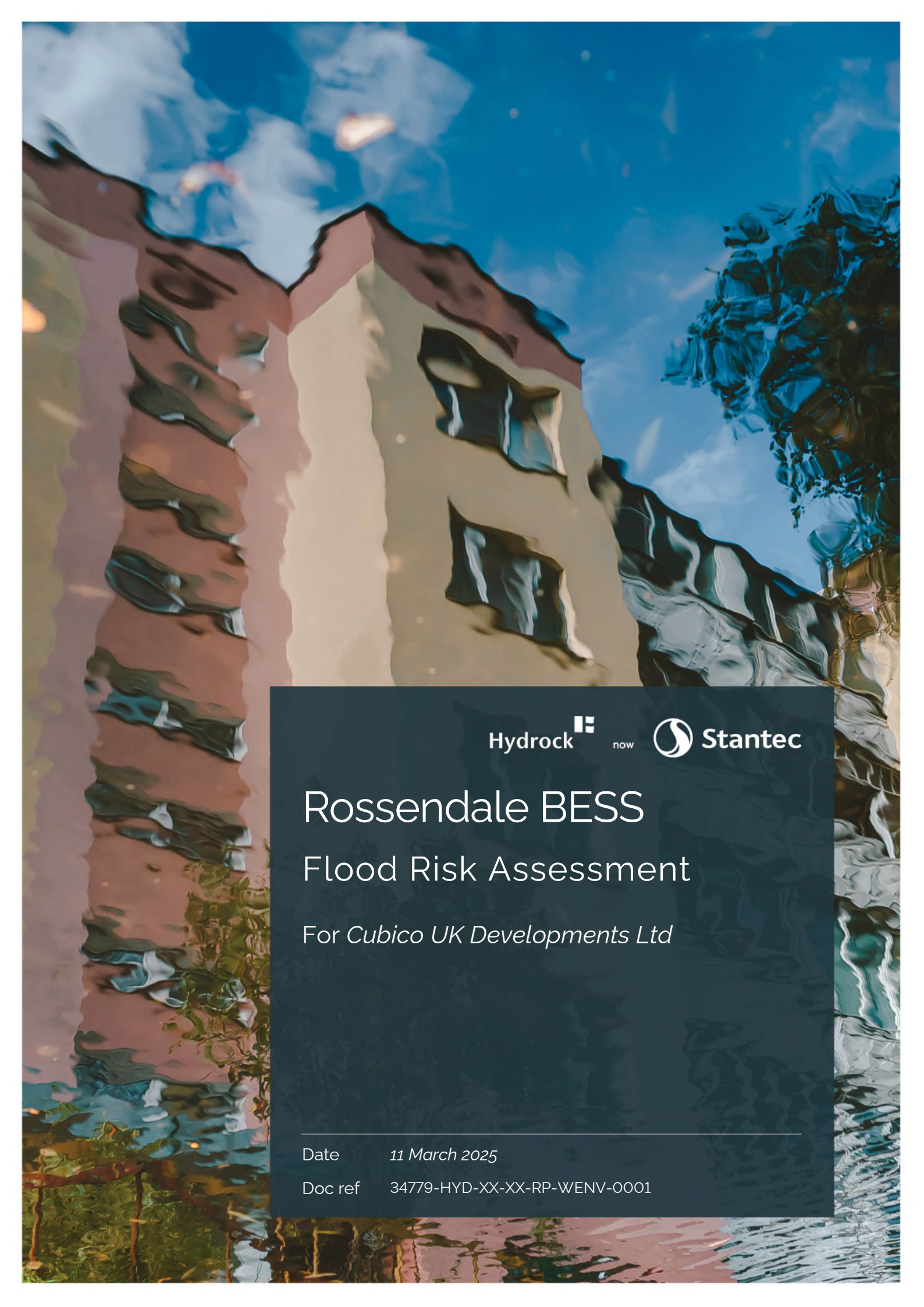


The background of the entire page is a photograph of a modern building with a glass facade, reflected in a body of water. The reflection is clear and detailed, showing the building's structure and the surrounding environment. The water is calm, and the sky is visible in the background.

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 Stantec

Rossendale BESS

Flood Risk Assessment

For Cubico UK Developments Ltd

Date 11 March 2025

Doc ref 34779-HYD-XX-XX-RP-WENV-0001

Document control sheet

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Client	Cubico UK Developments Ltd	
Project name	Rossendale BESS	
Title	Flood Risk Assessment	
Doc ref	34779-HYD-XX-XX-RP-WENV-0001	
Project number	34779-WENV	
Status	S2	
Date	11/03/2025	

Document production record		
Issue number	P02	Name
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Document revision record			
Issue number	Status	Date	Revision details
P01	S2	07/03/2025	First Issue
P02	S2	11/03/2025	Final Issue

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above-named client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

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1. INTRODUCTION

Hydrock Consultants Limited (Hydrock), now Stantec, have been commissioned by Cubico UK Developments Ltd to undertake a Flood Risk Assessment (FRA) to be submitted in support of a planning application for the construction of Battery Storage System at Land at Rochdale Road and Bamford Road, Turn Village, BLO ORT, known as Rossendale BESS.

This report has been completed in accordance with the National Planning Policy Framework (NPPF), updated February 2025, and its accompanying Planning Practice Guidance (PPG), updated February 2024. This report is an assessment of flood risk to the development, from on and off-site sources, and to off-site receptors arising from development at the site.

This report has been prepared to consider the requirements of the NPPF through:

- » Assessing whether the proposed development is likely to be affected by flooding,
- » Assessing whether the proposed development is appropriate in the suggested location,
- » Detailing measures necessary to mitigate any flood risk identified, to ensure that the proposed development and occupants would be safe, and that flood risk would not be increased elsewhere.

This report considers the requirements for undertaking a FRA as stipulated in NPPF Technical Guidance. Only those requirements that are appropriate to a development of this nature have been considered in the compilation of this report.

2. SITE INFORMATION

2.1 Site Location

The site is located to the west of Rochdale Road, Ramsbottom, with the approximate postcode BLO 0RT. The site currently comprises of largely greenfield land, and is set within a largely rural surrounding area. Access to the site can be achieved using Rochdale Road to the east, and the site covers an area of approximately 6 hectares (ha). Site referencing information is provided in **Table 1** and the site location is displayed in **Figure 1** below.

Table 1: Site Referencing Information

Site Referencing Information	
Site Address	Land at Rochdale Road and Bamford Road, Turn Village BLO 0RT
Grid Reference	SD8195816957 381961 ,416957

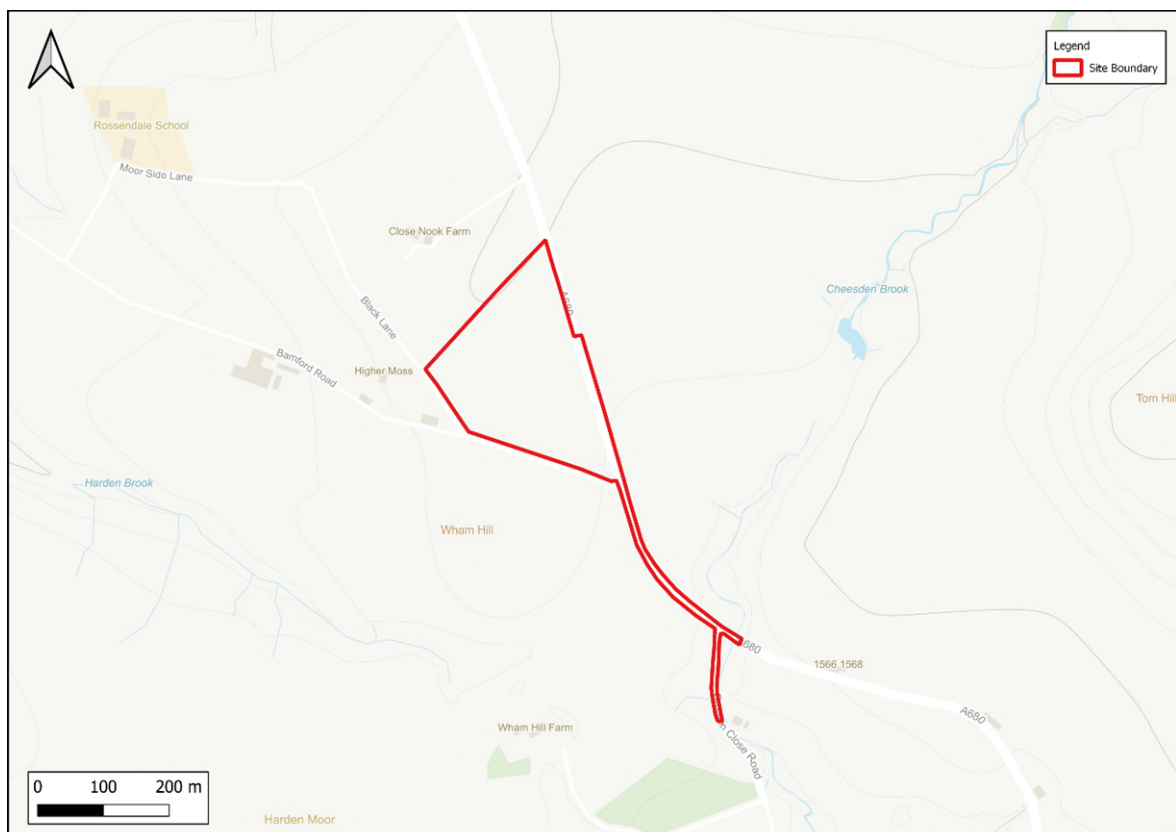


Figure 1: Site Location

2.2 Topography

Figure 2 shows topographic levels throughout the site derived from 1 metre (m) resolution EA composite Light Detecting and Ranging (LiDAR) DTM (dated 2022).

Site-specific topographic survey (ref: PMS24131, **Appendix A**) shows that the site generally falls towards the southeast, from a high of 299.71 metres Above Ordinance Datum (m AOD), to a low of 289.82 m AOD in the southeastern corner of the site.

It should be noted that Rochdale Road and Bamford Road, which are directly adjacent to the eastern and southern site boundaries, respectively, are set approximately 0.30m higher than the site ground level.

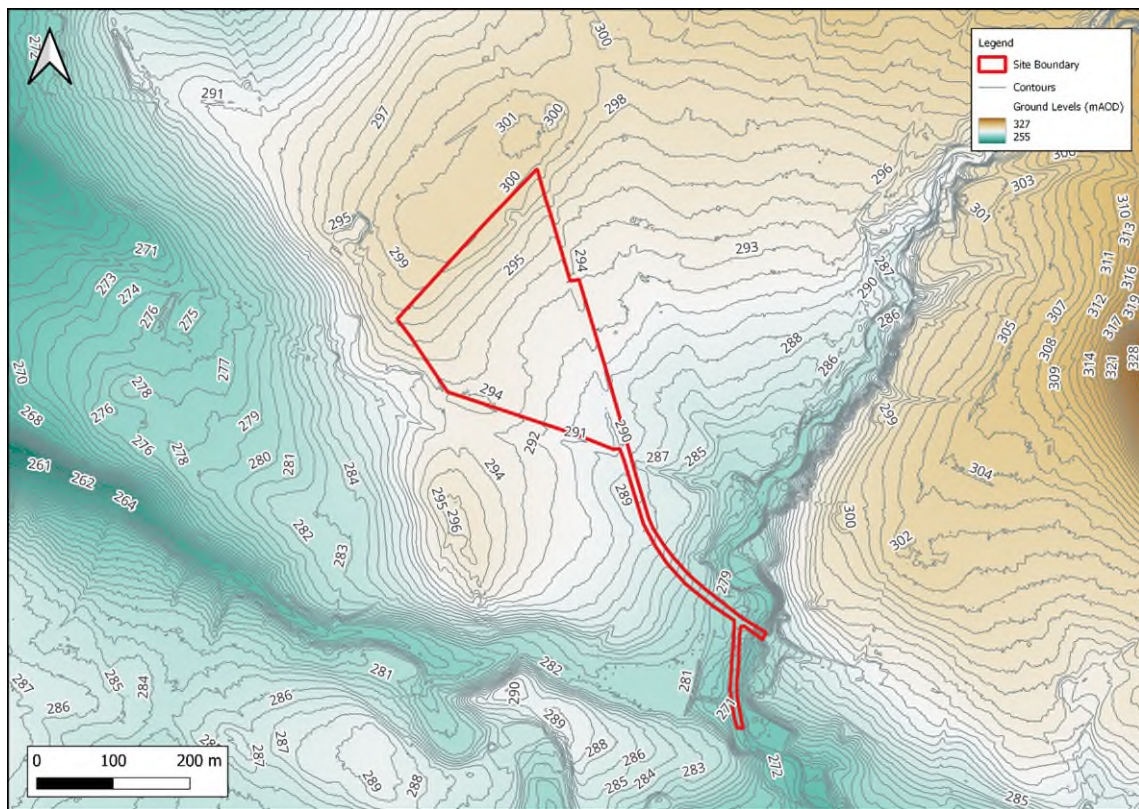


Figure 2: Site Topography

2.3 Geology

The underlying geological profile of the site has been established through a review of the British Geological Survey's (BGS) online GeoIndex Onshore Mapping and historic borehole records. BGS mapping shows the majority of the site to be underlain by bedrock geology of the Marsden Formation, consisting of mudstone and siltstone, with the northwestern portion of the site being underlain by the Holcombe Brook Grit, consisting of sandstone. Both bedrock formations are overlain by superficial deposits of Devensian Till.

Soils mapping shows the site to be underlain by 'slowly permeable wet very acid upland soils with a peaty surface'. These soils have impeded drainage.

2.4 Hydrology

The site is set approximately 200m to the west of the Cheeseden Brook, which is an Ordinary Watercourse flowing in a south westward's direction past the far south of the site. Furthermore, the site is set approximately 650m to the southeast of the Shuttleworth Brook, which is an ordinary watercourse flowing away from the site in a north westward's direction.

As both watercourses are classified as Ordinary Watercourses, they are managed under the jurisdiction of Lancashire County Council as the Lead Local Flood Authority (LLFA).

3. PROPOSED DEVELOPMENT

The development proposals comprise the construction, management and operation of a Battery Energy Storage System (BESS) with associated infrastructure, including access, drainage, security measures and landscaping and provision of a connecting cable to Croston Close Road substation. For reference, the proposed site layout is provided in **Appendix B**.

According to *Annex 3: Flood Risk Vulnerability Classification* of the PPG, the site is classified as 'Essential Infrastructure' use within the NPPF Annex 3: Flood Risk Vulnerability Classification. Given the proposed development is located in Flood Zone 1, the development is shown to be 'appropriate' in accordance with the PPG Flood Risk Vulnerability and Flood Zone Incompatibility Matrix, as is shown in Table 2 below.

Table 2: Flood Risk Vulnerability and Flood Zone Incompatibility Matrix

	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test Required	✓	✓	✓
Zone 3a	Exception Test Required	X	Exception Test Required	✓	✓
Zone 3b	Exception Test Required	X	X	X	✓

4. PLANNING POLICY

4.1 National Planning Policy Framework (Updated February 2025)

The National Planning Policy Framework (NPPF) sets out the Government's planning policies, and how these policies should be applied. Planning Practice Guidance (PPG) is available online and provides additional guidance to the NPPF, as well as providing links to relevant detailed documents. Section 4.2 provides further detail on the PPG.

Paragraph 170 of the NPPF states "Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere."

Paragraph 172 of the NPPF states "All plans should apply a sequential, risk-based approach to the location of development – taking into account all sources of flood risk and the current and future impacts of climate change – so as to avoid, where possible, flood risk to people and property. They should do this, and manage any residual risk, by:

- » Applying the sequential test and then, if necessary, the exception test as set out below;
- » Safeguarding land from development that is required, or likely to be required, for current or future flood management;
- » Using opportunities provided by new development and improvements in green and other infrastructure to reduce the causes and impacts of flooding, (making as much use as possible of natural flood management techniques as part of an integrated approach to flood risk management); and
- » Where climate change is expected to increase flood risk so that some existing development may not be sustainable in the long-term, seeking opportunities to relocate development, including housing, to more sustainable locations.

Paragraph 181 of the NPPF states "when determining planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific FRA. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:

- » Within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location.
- » The development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment.
- » It incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate.
- » Any residual risk can be safely managed, and
- » Safe access and escape routes are included where appropriate, as part of an agreed emergency plan."

In accordance with the NPPF, a site-specific FRA is required for sites within the following categories:

- » In Flood Zone 1, all proposals involving:
 - » Sites of 1ha or more.
 - » Land which has been identified by the EA as having critical drainage problems.

- » Land identified in a strategic flood risk assessment (SFRA) as being at increased flood risk in the future.
- » Land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.
- » All proposals for development in Flood Zone 2 and 3.

4.2 Planning Practice Guidance (Updated February 2024)

The PPG provides additional direction to the NPPF, with details provided in each section of the document on how to conform to the NPPF.

All land in England is classified as falling into one of three main flood zones, with the zones referring to the probability of river or sea flooding, ignoring the existence of defences. The PPG identifies and describes the EA flood zones as:

- » Flood Zone 1: Low probability – land assessed as having less than a 1 in 1,000 annual probability of river or sea flooding (<0.1% Annual Exceedance Probability [AEP]).
- » Flood Zone 2: Medium probability – land assessed as having between a 1 in 100 and 1 in 1,000 annual probabilities of river or sea flooding (1% - 0.1% AEP).
- » Flood Zone 3: High probability – land assessed as having a 1 in 100 or greater annual probability of river flooding ($\geq 1\%$ AEP), or a 1 in 200 or greater annual probability of sea flooding ($\geq 0.5\%$ AEP).
- » Flood Zone 3b: The Functional Floodplain – land where water has to flow or be stored in times of flood (as identified by the LPAs in the SFRA).

The PPG requires drainage systems for new development to treat surface water at source using SuDS where practicable, to mimic natural conditions.

The current PPG sets out the following drainage hierarchy that the discharge of surface water runoff should adhere to:

- » Into the ground (infiltration).
- » To a surface water body.
- » To a surface water sewer, highway drain, or another drainage system.
- » To a combined sewer.

4.3 Rossendale Local Plan 2019-2036 (Adopted December 2021)¹

Within Rossendale Local Plan and relevant to the site and flood risk are the following policies:

Policy ENV8: Other forms of Energy generation

The Council will take a positive approach to renewable energy proposals in the Borough, such as solar and hydro-electric schemes, including community led initiatives, subject to the Authority being satisfied that any negative impacts, including of any supporting infrastructure, can be minimised. Proposals for decentralised energy generation and distribution will be given positive consideration subject to their wider environmental impacts.

¹ [Rossendale Local Plan 2019-2036](#)

Policy ENV9: Surface Water Run-Off, Flood Risk, Sustainable Drainage and Water Quality

All development proposals will be required to consider and address flood risk from all sources. A sequential approach will be taken and planning permission will only be granted for proposals which would not be subject to unacceptable flood risk, or materially increase the risks elsewhere, and where it is a type of development that is acceptable in a Flood Risk location. Assessment should be informed by consideration of the most up to date information on Flood Risk available from the Environment Agency, the Strategic Flood Risk Assessment (SFRA), the Lead Local Flood Risk Authority and the sewage undertaker. Developers will be expected to provide appropriate supporting information to the satisfaction of the Local Planning Authority, such as Flood Risk Assessments for all developments in Flood Zones 2 and 3 and as required by national policy and any local validation requirements. Site specific mitigation measures should be clearly identified.

All development proposals will be required to manage surface water as part of the development in the following order of priority:

- » An adequate soakaway or some other form of infiltration system.
- » An attenuated discharge to surface water body.
- » An attenuated discharge to public surface water sewer, highway drain or another drainage system.
- » An attenuated discharge to public combined sewer. Applicants wishing to discharge surface water to a public sewer will need to submit clear evidence demonstrating why alternative options are not available.

On greenfield sites, applicants will be expected to demonstrate that the current natural discharge solution from a site is at least mimicked. On previously developed land, applicants will also be expected to follow the surface water hierarchy and any proposal based on a proposed reduction in surface water discharge from a previously developed site will be expected to target a reduction to a greenfield rate of run-off.

Development proposals will be required to incorporate sustainable drainage systems and consider surface water management early in the design process. Applicants will need to consider what contribution landscaping proposals (hard and soft) can make to reducing surface water discharge. Development proposals will be expected to maximise the use of permeable surfaces / areas of soft landscaping, and the use of Green Infrastructure as potential sources of storage for surface water run-off. The proposed drainage measures should fully integrate with the design of the development and priority should be given to multi-functional sustainable drainage systems SuDS (as opposed to underground tanked storage systems), which contribute to amenity, biodiversity and water quality, as well as overall climate change mitigation.

Alternatives to multi-functional level SuDS will only be permitted where it is demonstrated that they are impractical or there are other exceptional circumstances. Applicants will need to submit clear evidence when multi-functional sustainable drainage features are not proposed. All drainage proposals should incorporate clear implementation, management and maintenance arrangements.

4.4 Rossendale Borough Council Hybrid Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) (JBA, 2016)²

An SFRA is a study carried out to assess the risk to an area from all sources of flooding, now and in the future, taking into account the impacts of climate change, as well as assessing the cumulative impact that land use changes and development in the area will have on the flood risk. It identifies opportunities to reduce the causes and impacts of flooding and gathers information on the land that is likely to be needed for flood risk management infrastructure. It also informs policies for change of use and reducing the causes and impacts of flooding.

The Rossendale Borough Council Hybrid Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) provides an overview of current and future flood risk in the Rossendale Borough Council area, for fluvial, surface water, sewer, groundwater and residual risk (from canals, reservoirs, and defence infrastructure failure), in addition to providing guidance on flood risk and developments, and a sites assessment, to inform the Rossendale Local Plan.

Within the SFRA, guidance relating to site-specific flood risk assessment includes:

- » The objectives of a site-specific FRA are to establish the following:
 - » Whether a proposed development is likely to be affected by current or future flooding (including effects of climate change) from any source. This should include referencing this SFRA to establish sources of flooding. Further analysis should be performed to improve understanding of flood risk including agreement with the Council on areas of functional floodplain that have not been specified within this SFRA;
 - » Whether the development will increase flood risk elsewhere;
 - » Whether the measures proposed to deal with these effects and risks are appropriate;
 - » Evidence for the local planning authority to apply (if necessary) the Sequential Test, and;
 - » Whether the development will be safe and pass the Exception Test, if applicable.
- » A site-specific FRA is required in the following instances:
 - » If the site is situated in Flood Zone 2 and 3; for all proposals for new development (including minor development and change of use)
 - » If the site is 1 hectare or greater in size and located in Flood Zone 1
 - » If the site is located in Flood Zone 1 where there are critical drainage problems
 - » If the site is at risk of flooding from other sources of flooding, such as those identified in Rossendale Borough Council SFRA
 - » If the site is subject to a change of use to a higher vulnerability classification which may be subject to other sources of flooding.

² [Rossendale Borough Council SFRA](#)

4.5 Climate Change Considerations

Under NPPF and local planning policy, it must be demonstrated that any proposed development at the site would be safe over its intended lifetime. This could include measures to ensure the development is flood resistant/resilient and that safe access and egress is provided for the following flood events, also known as 'design flood events':

- » 1 in 100-year (1% AEP) fluvial flood event accounting for the future impacts of climate change;
- » 1 in 200-year (0.5% AEP) tidal / coastal flood event accounting for the future impacts of climate change;
- » 1 in 30-year (3.3% AEP) pluvial (surface water) event accounting for the future impacts of climate change; and
- » 1 in 100-year (1% AEP) pluvial (surface water) event accounting for the future impacts of climate change.

Table 3 and **Table 4** provide the latest climate change uplifts for fluvial and surface water flooding, respectively, as per the Environment Agency (EA) peak river flow and peak rainfall climate change allowances.

Table 3: Peak River Flow Allowances for the Irwell Management Catchment

Epoch	Central	Higher	Upper End
2020s	12%	15%	24%
2050s	19%	26%	43%
2080s	35%	46%	75%

Table 4: Peak Rainfall Allowances for the Irwell Management Catchment

Epoch	% AEP	Central Allowance	Upper End Allowance
2050s	3.3	25%	35%
	1	25%	40%
2070s	3.3	30%	40%
	1	30%	45%

5. SOURCES OF FLOOD RISK

The NPPF requires flood risk from the following sources to be assessed:

- » Fluvial and tidal sources (river and sea flooding);
- » Pluvial sources (flooding resulting from overland flows);
- » Groundwater sources;
- » Sewers; and
- » Artificial sources, (canals, reservoirs etc).

Each of these sources are addressed within this section of the report.

5.1 Fluvial and Tidal Flooding

According to the current EA Flood Map for Planning (**Figure 3**), the site and its immediate surroundings are wholly located within Flood Zone 1 (Low Probability). The nearest area of increased risk (Medium to High Risk) of fluvial flooding is located approximately 700 m to the southeast of the site, associated with the Cheeseden Brook.

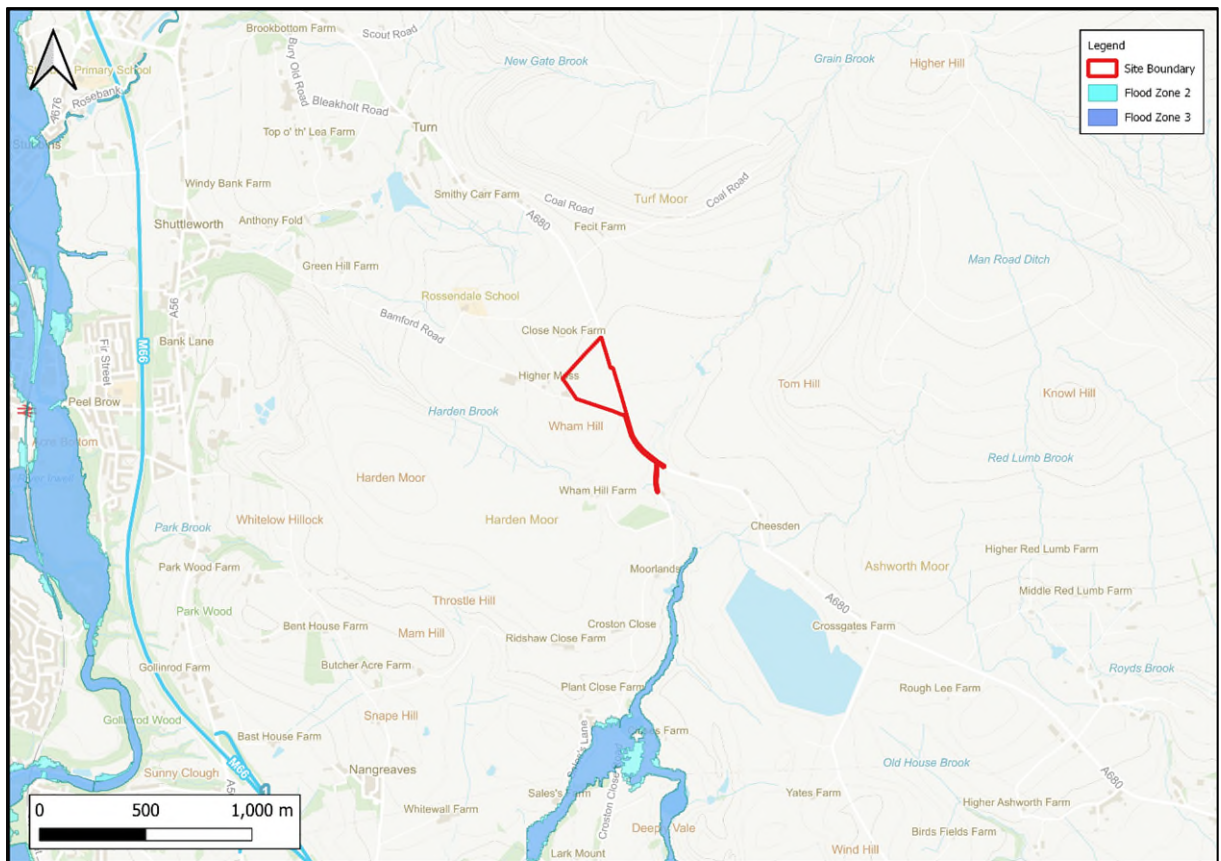


Figure 3: EA Flood Map for Planning

Publicly available EA data does not show any records of historic fluvial or tidal flooding within the site boundary or the local area.

It is not considered likely that a 35-75% increase in flood risk associated with climate change would to be of a magnitude which would result in an increase in the risk to the site given the

distance from the site to the nearest watercourses, and the difference in elevation between the watercourse and the site boundaries.

Given the elevation of the site (minimum site level of 289.1 m AOD), and the location of the site (i.e., a significant distance from the nearest tidally driven waterbody), it can also be concluded that the site is at 'negligible' risk of tidal flooding, which is not expected to increase as a result of climate change.

Therefore, the site is concluded to be at a 'low' risk of fluvial and tidal flooding.

5.2 Surface Water Flooding

Surface water flooding occurs as the result of an inability of intense rainfall to infiltrate the ground. This often happens when the maximum soil infiltration rate or storage capacity is reached. Flows generated by such events either enter existing land drainage features or follow the general topography, which can concentrate flows and lead to localised ponding/flooding.

The EA's National Flood Risk Assessment (NaFRA2, January 2025) Surface Water Flood Risk Mapping, shown in **Figure 4**, indicates that the majority of the site is at 'very low' risk of surface water flooding (<0.1% annual probability), however, there is a small area in the southeast of the site shown to be at "high" risk. It should be noted that climate change is included on the latest surface water mapping.

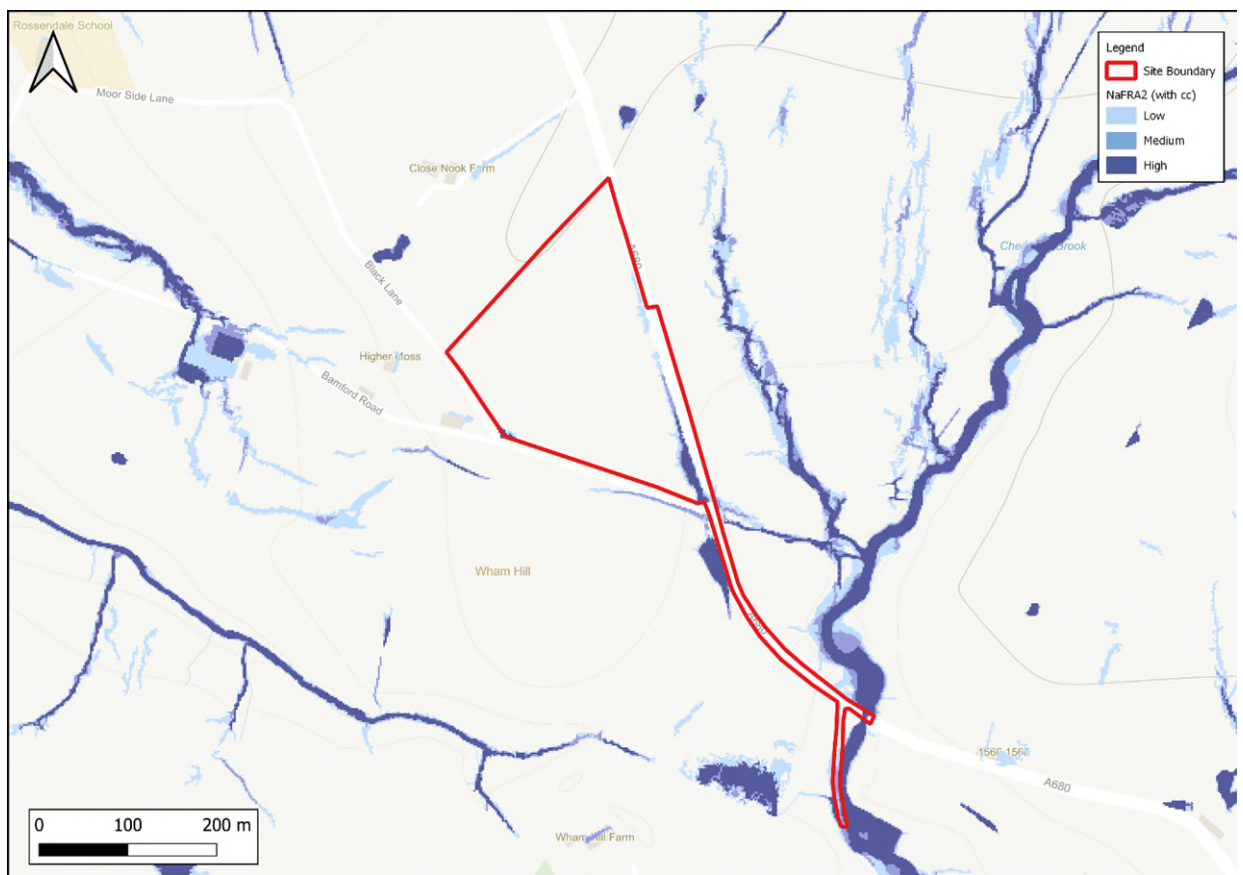


Figure 4: EA Long Term Flood Risk Mapping

As shown in Figure 4, the site is largely at very low risk of surface water flooding when considering climate change. Within the far south of the site, where the boundary conflicts with the Cheeseden Brook, some high risk is shown, however, this will only be for the cable routing and substation connection.

An area of "high risk" is shown in the south east of the site. According to the EA GIS layer, the majority of this falls within the category of flood depth less than 200mm, with a minor area shown to pond up to 300mm. This is consistent with the topography of the area, as at depths above 300mm, surface water would then start to overtop the adjacent road.

Reviewing the potential catchment for this small area of high risk shows that it would only extend as far as the site, as land to the west and north of the site drains south westerly and north westerly respectively i.e., away from the site. Furthermore, the BESS and other infrastructure has been located to the west of this area of higher risk. Figure 5 below shows the NaFRA2 dataset overlaid onto the proposed development layout, as well as the EA's "overland flow pathway" dataset, which delineates catchments. The main storage component of the pond is situated outside of the high-risk surface water flood extent, however, due to topography, part of the tie in area lies within the surface water flood extents. This is the natural low point of the site so the pond is situated here so that the site drains by gravity. As the site will positively drain this catchment into the attenuation basin, it is unlikely to be a true representation of the surface water flood risk post development.

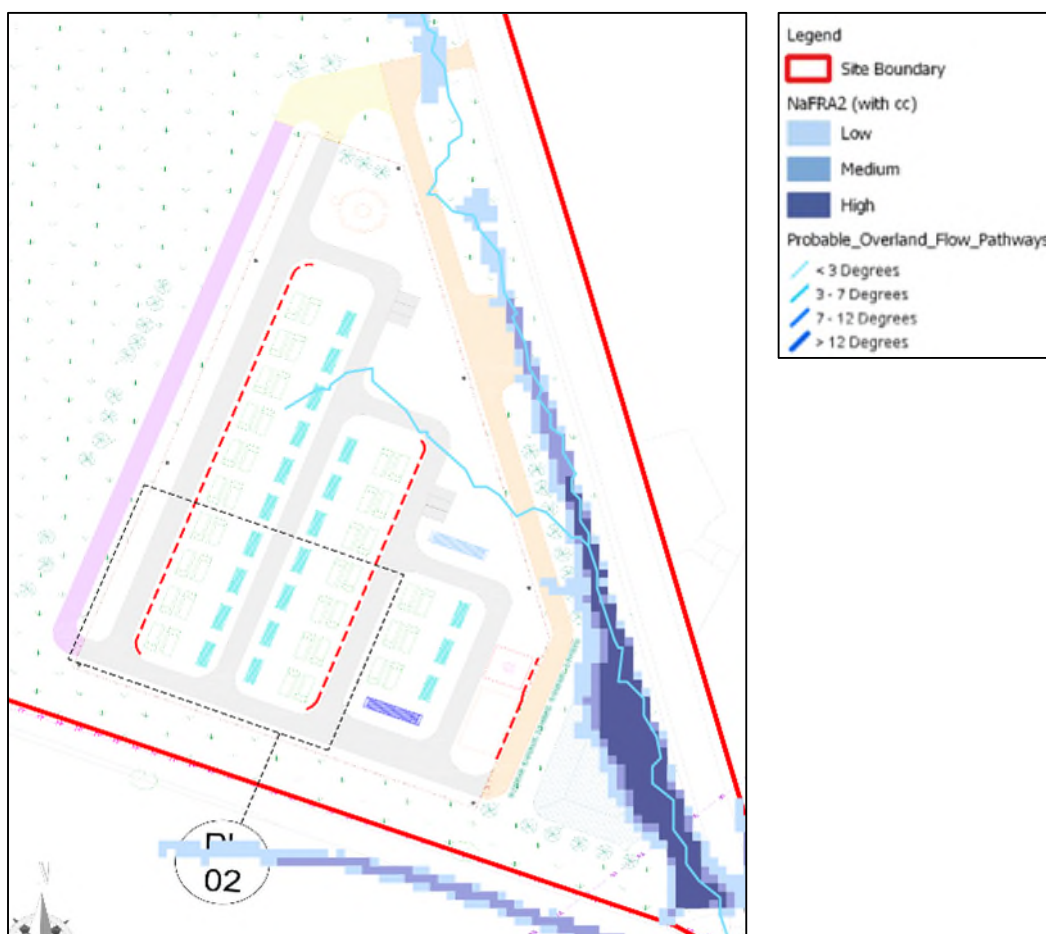


Figure 5: NaFRA2 with development proposals

Part of the low-risk extent interacts with the proposed access/egress route i.e., the A680 to the east. However, depths remain below 200mm and the site will not be permanently manned, therefore safe access/egress is considered achievable.

There is no evidence contained within relevant third-party reports to suggest that the site has historic surface water flooding issues.

As such, the site is concluded to be at a 'low' risk of surface water flooding.

5.3 Groundwater Flooding

Groundwater flooding is caused by the emergence of water originating from sub-surface permeable strata. A groundwater flood event results from a rise in groundwater level sufficient for the water table to intersect the ground surface and inundate low lying land. Periods of prolonged rainfall may also be a cause of groundwater flooding, with aquifers and soils becoming saturated.

As stated in Section 2.4, the majority of the site is underlain by the Marsden Formation, with the northwestern portion underlain by the Holcombe Brook Grit. According to the online MAGIC mapping, both bedrock formations are categorised as Secondary A Aquifers beneath the site. Secondary A Aquifers are described as 'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of baseflow to rivers. These are generally aquifers formerly classified as minor aquifers.'

The superficial deposits beneath the site, comprising Devensian Till, are categorised as Secondary (undifferentiated) Aquifers, which are defined as undifferentiated as it is not possible to apply either a Secondary A or B definition because of the variable characteristics of the rock type. These aquifers have a minor value.

According to the EA's national dataset, 'Areas Susceptible to Groundwater Flooding (AStGWF), which uses underlying geological information to infer groundwater flood susceptibility, the site is in an area where less than 25% of the 1km grid is susceptible to groundwater flooding. Furthermore, the EA's Long Term Flood Risk indicates that flooding from groundwater in this area is unlikely. This is supported by nearby borehole record (ref: SD81NW58), from 2018, where groundwater was struck at 21.00 m below ground level.

As such, it can be concluded that the site is at 'low' risk of groundwater flooding.

5.4 Sewer Flooding

Sewer flooding can occur due to sewer infrastructure failure or due to an increased flow and volume of water entering a sewer system which exceeds its hydraulic capacity, causing the system to surcharge. If sewer outfall points are either blocked or submerged due to high water levels, water can back up in a sewer system and cause flooding. These issues can result in water overflowing from gullies and manholes, causing flooding in the local area. Blockages caused by sediment or debris can further exacerbate the probability of sewer flooding.

Based on the United Utilities (UU) DG5 register reported within Rossendale Borough Council SFRA, between 2011 and 2016, 35 properties were affected externally and 5 internally by 'Flooding from Other Causes (FOC)' including blockage, collapse, or equipment failure, within the BLO 0 postcode. More specific location details were not provided within the SFRA; therefore, it cannot be confirmed whether the site was impacted. However, based on the rural location of the proposed site location, it is assumed that there is not an extensive sewer network within the site boundaries.

It is expected that any emerging foul water from the sewer network would follow the local topography surrounding the site, and as such flow in a southward's direction along Rochdale Road, away from the site's boundaries.

Considering the above information, the site is concluded to be at 'low' risk of sewer flooding.

5.5 Artificial Sources Flooding

Flooding from artificial sources refers to the risk of flooding from manmade waterbodies and features such as reservoirs, canals, docks, or other such waterbodies. This flooding can sometimes occur due to a failure of retaining walls or structures, or overtopping.

The EA Reservoir Failure Extent mapping presents the maximum extent that may be affected in the event of an uncontrolled release of water (failure) from a reservoir. The mapping indicates that the site is at negligible risk from reservoir flooding on both wet and dry days (Figure 6).

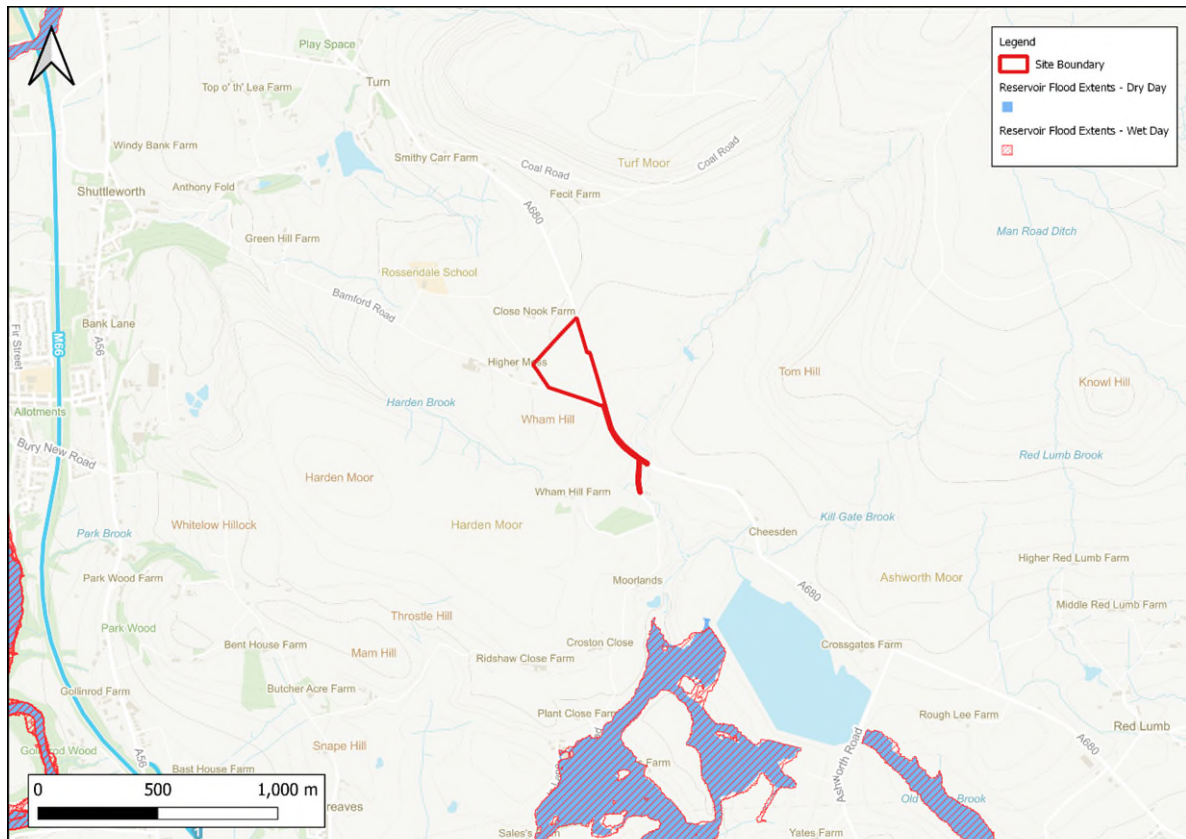


Figure 6: EA Reservoir Flood Extent Mapping on Wet and Dry Days

There are no canal systems within the Rossendale authority area. As such, flooding associated with a canal network is extremely unlikely to occur.

Considering the information presented above, flood risk associated with artificial sources are considered to be 'low'.

6. SEQUENTIAL AND EXCEPTION TESTS

6.1 The Sequential Test

The NPPF requires that a sequential, risk-based approach is followed to steer new developments to areas with the lowest probability of flooding (i.e., Flood Zone 1, then 2, then 3).

The BESS units and associated infrastructure are located in an area at 'very low' risk of surface water flooding, and, given the site is located entirely within Flood Zone 1, a Sequential Test is not considered to be required in this instance.

6.2 The Exception Test

The Exception Test is used where no suitable development areas can be found in low-risk areas, the risk of flooding is clearly outweighed by other sustainability factors, and the development will be safe for its lifetime, taking climate change into account. Paragraph 178 of the NPPF states that for the Exception Test to be passed:

- » It must be demonstrated that the development provides wider sustainability benefits to the community that outweigh the flood risk, informed by a Strategic Flood Risk Assessment where one has been prepared; and,
- » A site-specific flood risk assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

As the proposed site use is classified as 'Essential Infrastructure', located in Flood Zone 1, an Exception Test is not required for the site in accordance with Table 2: Flood Risk Vulnerability and Flood Zone Classification Matrix of the PPG.

7. CONCLUSION

Hydrock, now Stantec, have been commissioned by Cubico UK Developments Ltd to undertake a Flood Risk Assessment (FRA) to be submitted in support of a planning application for the construction, management and operation of a Battery Energy Storage System (BESS) with associated infrastructure, including access, drainage, security measures and landscaping and provision of a connecting cable to Croston Close Road substation.

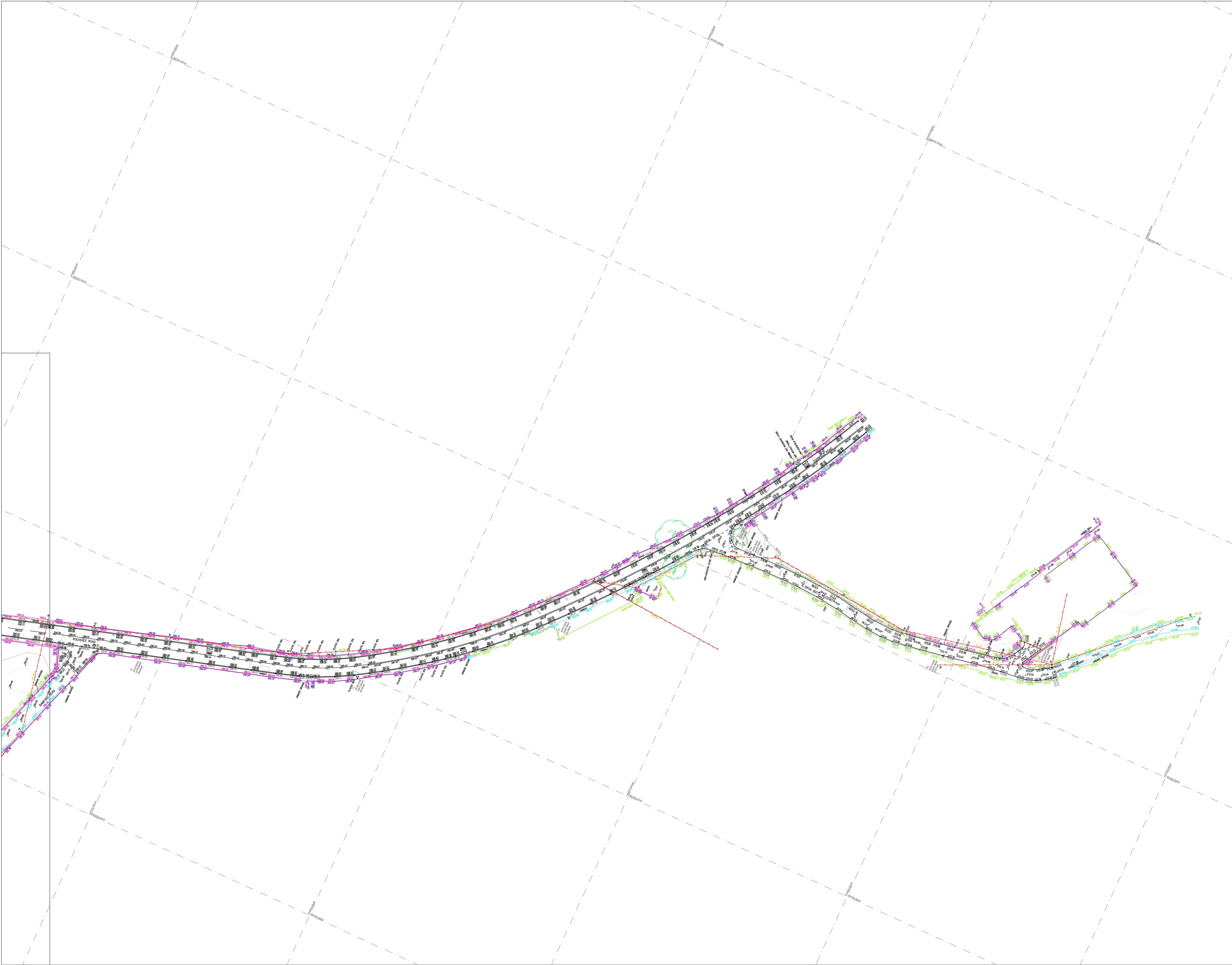
The site lies entirely within Flood Zone 1, and is therefore classified as having a 'low' risk of flooding from fluvial and tidal sources. Following a sequential approach to development, the site is also considered to be at 'low' risk of flooding from surface water and is considered to be at a low risk of flooding from all other assessed sources.

This report therefore demonstrates that, in respect to flood risk, the proposed development:

- » Is suitable in the location proposed;
- » Will be adequately flood resistant and resilient;
- » Will not place additional persons at risk of flooding;
- » Will not increase flood risk elsewhere as a result of the proposed development through the loss of floodplain storage or impedance of flood flows; and
- » Will put in place measures to ensure surface water is appropriately managed.

This report concludes that in flood risk context, the proposals are safe and appropriate and do not increase flood risk.

Appendix A – Topographic Survey



Site Grid North

Symbols/Abbreviations (Where Applicable):

+AV: AIR VALVE

+BB: BELISHA BEACON

+BH: BOREHOLE

+BM: BENCHMARK

+BOL: BOLLARD

+B/S: BUS STOP

+CAM: CAMERA

+CS: CABLE STAY

+CATV: C.A.T.V INSPECTION CHAMBER

+CBOX: ELECTRICITY BOX, CABLE BOX, ETC.

+CCTV: C.C.T.V CAMERA

+C.PIT: CATCH PIT

+EC: ELECTRICITY COVER

+EP: ELECTRICITY POLE

+ER: EARTH ROD

+FH: FIRE HYDRANT

+FP: FLAG POLE

+G: GULLY

+G: GULLY (ROUND)

+GV: GAS VALVE

+IC: INSPECTION COVER (SQUARE)

+IC: INSPECTION COVER (ROUND)

+IL: INVERT LEVEL

+KO: KERB OUTLET

+LB: LETTER BOX

+LC: LIGHTING COLUMN

+LP: LAMP POST

+LP/BS: LAMP POST/BUS STOP

+MH: MANHOLE (SQUARE)

+MH: MANHOLE (ROUND)

+MKR: MARKER

+P: POST

+RE: RUDDING EYE

+R/S: ROAD SIGN

+S/P: SIGN POST

+SNP: STREET NAME PLATE

+ST: STOP TAP

+SV: STOP VALVE

+TCB: TELEPHONE CALL BOX

+TL: TRAFFIC LIGHT

+TP: TELEGRAPH POLE

+TP/EP: TELEGRAPH POLE/ELECTRIC POLE

+T/C: TELECOM INSPECTION COVER

+WO: WATER OUTLET

+WM: WATER METER

+X: GATE

+X: DEFINED POINT

+X: CONTROL POINT

+X: TREE (CONIFEROUS)

+X: TREE (DECIDUOUS)

+X: FOLIAGE

+X: HEDGE

+X: DPC 99.99m DAMP PROOF COURSE LEVEL

+X: EL 99.99m EAVES LEVEL

+X: FL 99.99m FLOOR LEVEL

+X: RL 99.99m RIDGE LEVEL

+X: SL 99.99m SOFFIT LEVEL

+X: TL 99.99m THRESHOLD LEVEL

FENCE DESCRIPTIONS:

B/W: BARBED WIRE FENCE

C/B: CLOSE BOARDED FENCE

C/L: CHAIN LINK FENCE

C/P: CHESTNUT PALING FENCE

CONC/P: CONCRETE PANEL FENCE

I/R: IRON RAILING FENCE

P/R: POST AND RAIL FENCE

P/W: POST AND WIRE FENCE

P/C: POST AND CHAIN FENCE

S/PAL: STEEL PALISADE FENCE

S/B: SAFETY BARRIER

T/PAL: TIMBER PALISADE FENCE

SITE LAYOUT:

Revision Information

Rev	Date	Description

INFORMATION

1) Ordnance Survey co-ordinates and level are derived from OSTN15 and OSGM15, transformed from WGS84.

2) Only services located during the site survey are shown on this plan. Further investigation may be required to ascertain the full extent of the site services.

3) Copyright of this drawing remains the property of PM Surveys UK Ltd. Do not scale from this drawing. In the event of any discrepancy, refer query to PM Surveys UK Ltd.

NOTES

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A680 Rossendale Road

Cheesden

Project No

PMS24131

Sheet

A0

Scale

1:500

Surveyed By

TW KR

Drawn By

JW

Approved By

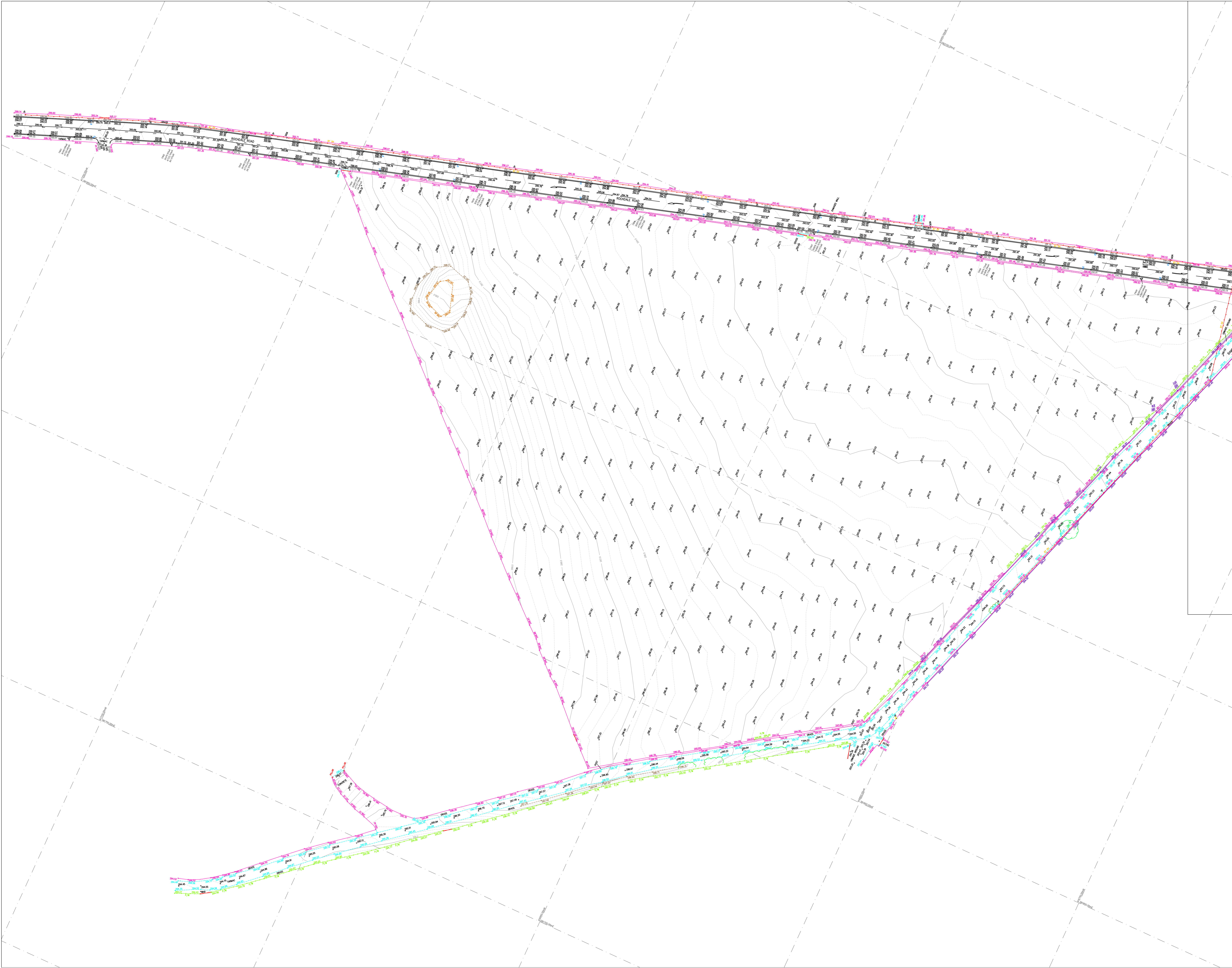
PM

Dwg

PMS24131-02

Issued

18/07/24



Site Grid North

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+BH: BOREHOLE

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+BOL: BOLLARD

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SITE LAYOUT:

Revision Information

Rev	Date	Description

INFORMATION

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Project

A680 Rossendale Road

Cheesden

Project No

PMS24131

Sheet: A0

Scale: 1:500

Surveyed By: TW KR

Drawn By: JW

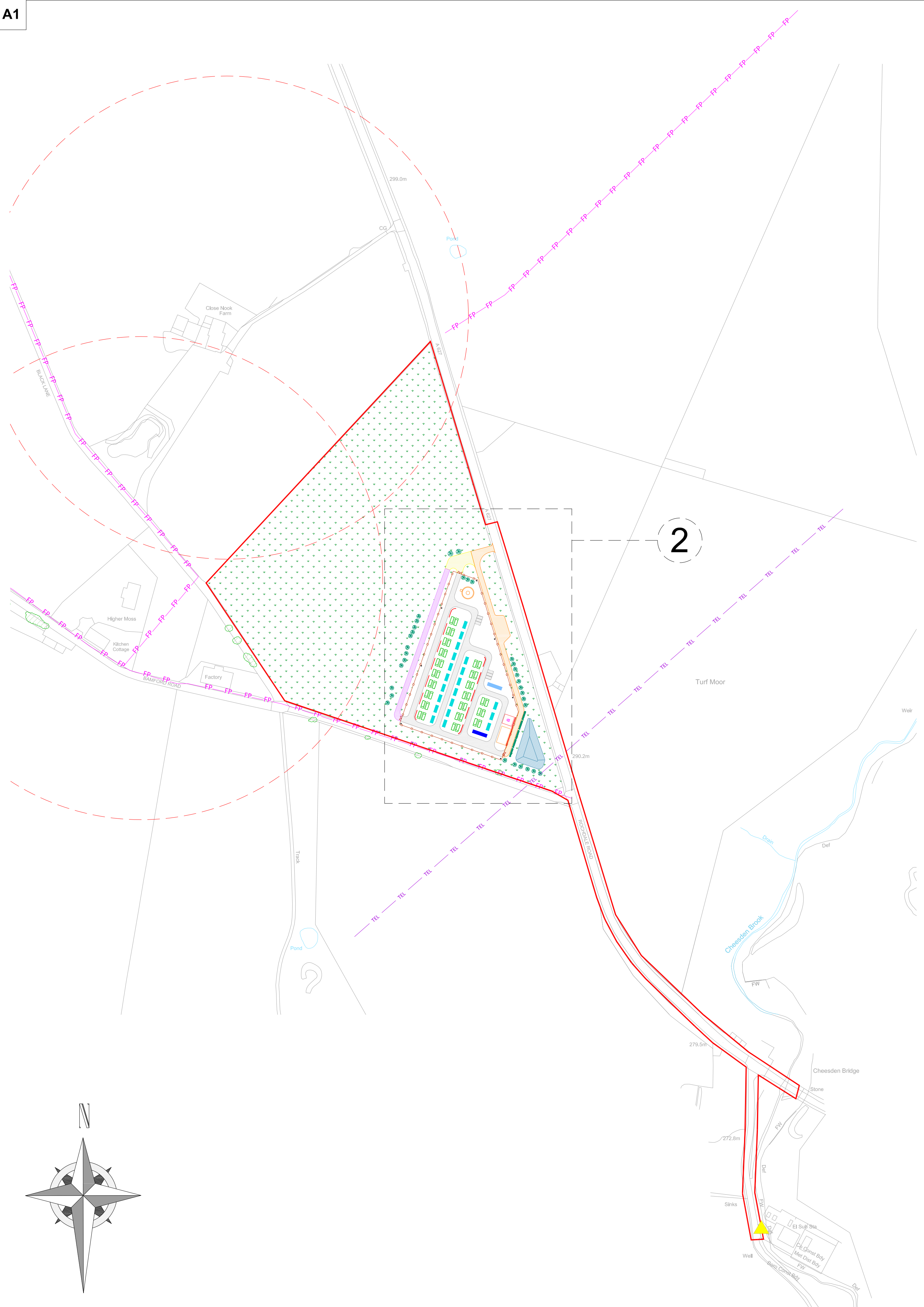
Approved By: PM

Dwg

PMS24131-01

Issued: 18/07/24

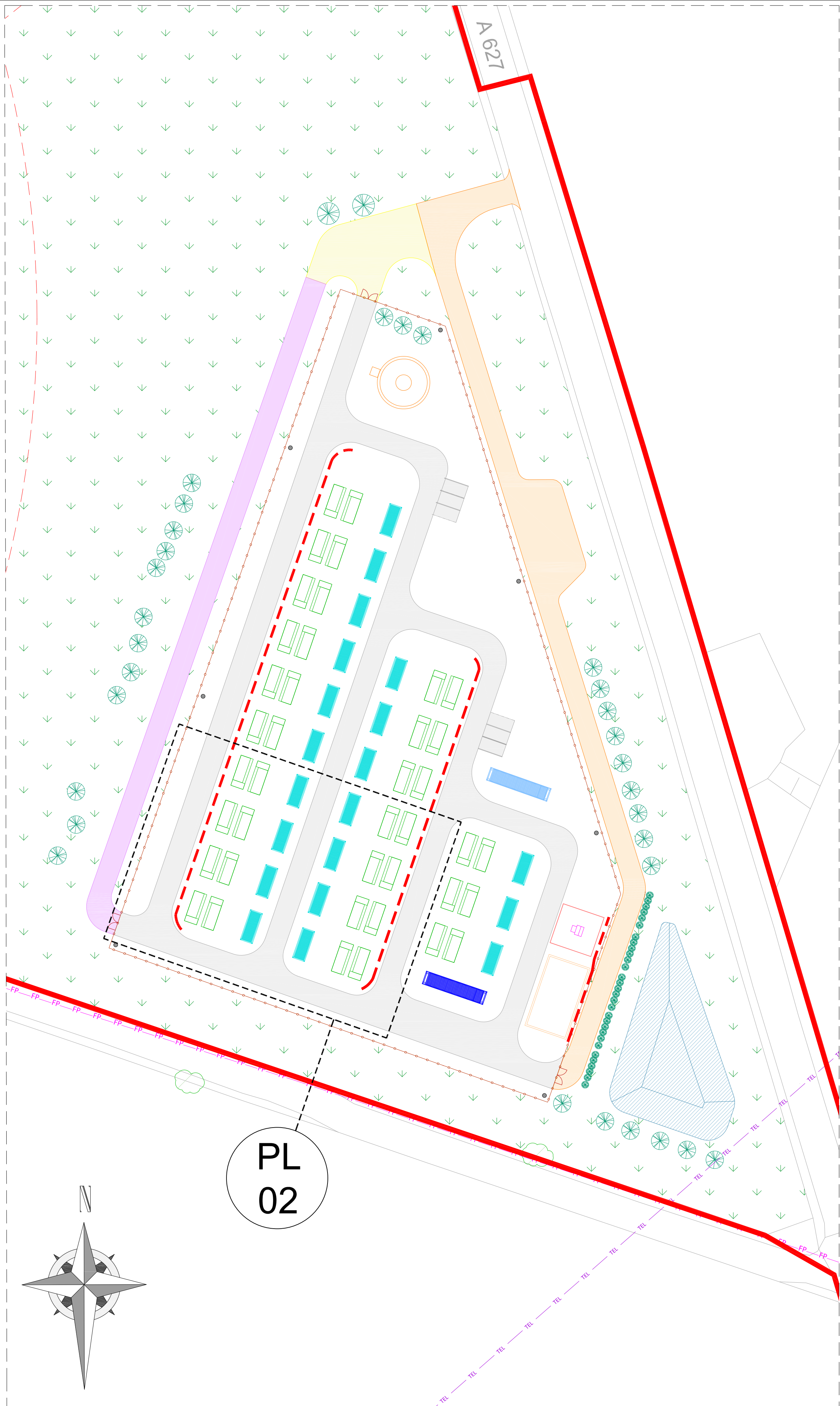
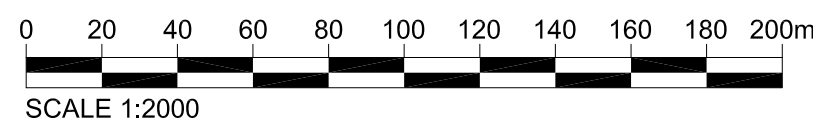
Appendix B – Proposed Site Layout



1

PROPOSED SITE LAYOUT PLAN (OVERALL)

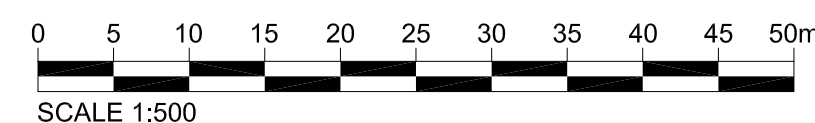
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2

PROPOSED SITE LAYOUT PLAN (BESS)

Scale: 1:500@A1



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Scaled dimensions must not be taken from this drawing. All dimensions are to be confirmed on site prior to commencement of work.

Revisions:

Revision	Date	Revision Notes	Drawn	Inspected
01	13.12.24	First Issue	OM	PR
02	18.12.24	BNG Area Added, RLB Amended	OB	PR
03	27.02.25	Technology Changed	RR	PR
04	16.03.25	Layout, Legend & Title Updated	RL	PR

LEGEND:

WATER COURSE	BOUNDARY
DNO ACCESS ROUTE	SITE ACCESS
INTERNAL ACCESS	EMERGENCY ACCESS
2.4m HIGH WIRE MESH PERIMETER FENCELINE	200M RESIDENTIAL BUFFER
EXISTING PROW	EXISTING TELECOMS
RETAINING WALL	

SITE INFRASTRUCTURE:

SECURITY GATE	240,000L WATER TANK
33kV SUBSTATION	WATER HYDRANT
BATTERY UNIT	CCTV CAMERA
TRANSFORMER	AUX TRANSFORMER
CUSTOMER SWITCHGEAR	ATTENUATION POND
SPARE PARTS CONTAINER	POC

VEGETATION:

EXISTING VEGETATION	BNG AREA	PROPOSED VEGETATION
---------------------	----------	---------------------

Status:

PLANNING

Project:

Rossendale BESS
Rochdale Road, Turn Village

Client:

Cubico
SUSTAINABLE INVESTMENTS

Cubico Sustainable Investments
Tel: 020 3805 3800
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Drawn by:

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2D, 3D CAD & BIM SERVICES

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Drawing Title:

**Rossendale BESS -
Proposed (Illustrative) Site Layout Plan**

Drawn: OM	Checked: PR	First Issued: 13.12.2024
Project Code: CUB001-	Drawing Number: PL-03	
Sheet Size: A1	Scale: A.N	Revision: 04