The Great Grid Upgrade

Grimsby to Walpole

Preliminary Environmental Information Report

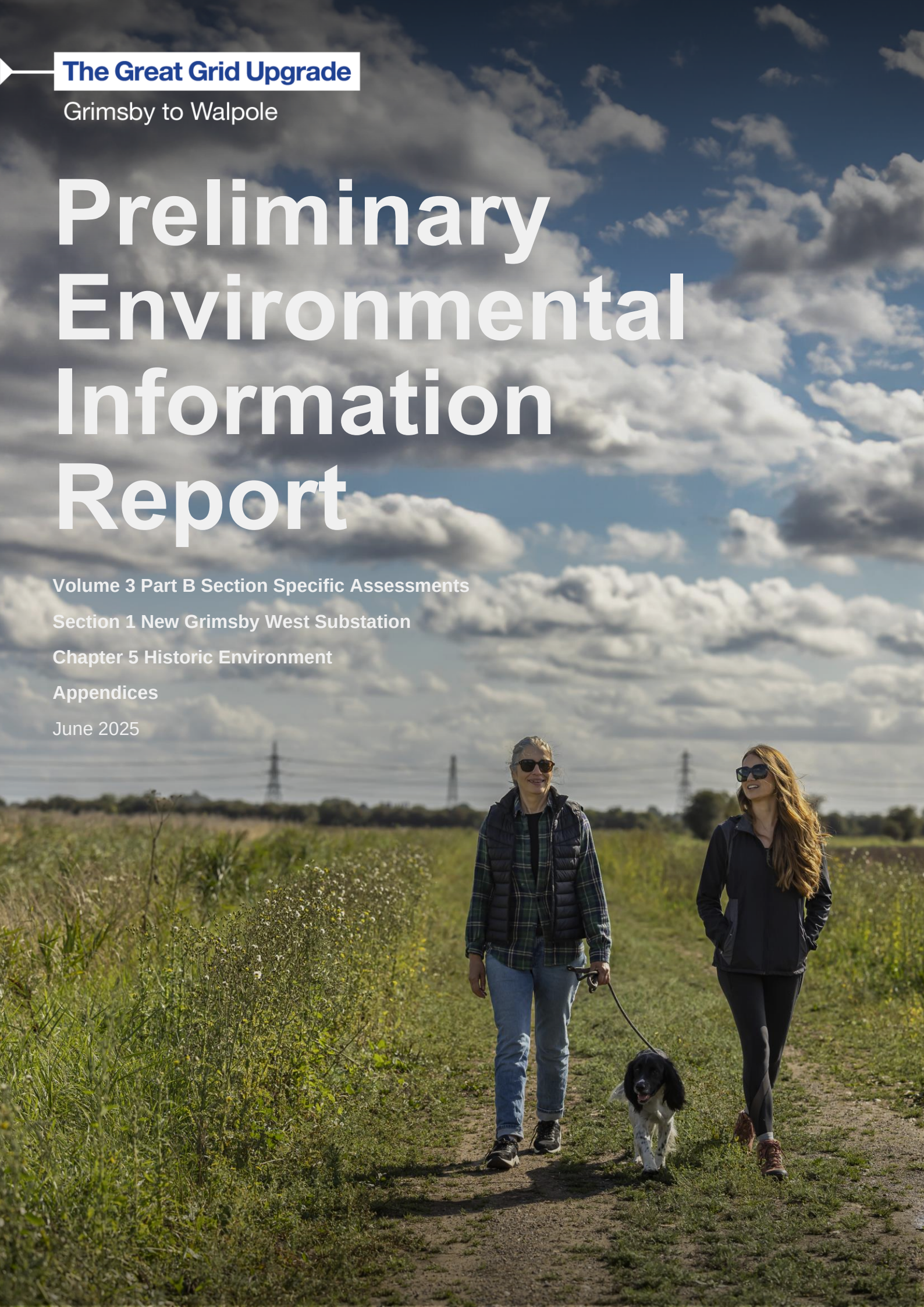
Volume 3 Part B Section Specific Assessments

Section 1 New Grimsby West Substation

Chapter 5 Historic Environment

Appendices

June 2025



Contents

Grimsby to Walpole
Document control

Document Properties	
Organisation	Arup AECOM
Approved by	National Grid
Title	Preliminary Environmental Information Report Volume 3 Part B Section Specific Assessments Section 1 New Grimsby West Substation Chapter 5 Historic Environment Appendices
Document Register ID	GWNC-ARUP(AEC)-ENV-REP-0002
Data Classification	Public

Version History			
Date	**Version**	**Status**	**Description / Changes**
June 2025	1.0	Final	First Issue

5A. Known Heritage Assets

nationalgrid

Contents

5A. Known Heritage Assets

5A.1.1 The gazetteer tables presented in this appendix identify the following heritage assets relevant to the New Grimsby West Substation Section (Section 1) of the Grimsby to Walpole Project (the Project):

i. designated heritage assets within the draft Order Limits and surrounding 3 km Study Area (**Table 5A.1**);

ii. designated heritage assets of high value within the 3 - 5 km Study Area surrounding the draft Order Limits (**Table 5A.2**);

iii. designated heritage assets of high value beyond the 5 km Study Area with potential to be impacted by the Project (**Table 5A.3**); and

iv. non-designated heritage assets within the draft Order Limits and surrounding 1 km Study Area (**Table 5A.4**).

5A.1.2 Designated and non-designated heritage assets are shown in relation to the draft Order Limits on the accompanying drawings:

i. **PEI Report Volume 2 Part B Section 1 Figure 5.1 Designated Heritage Assets**; and

ii. **PEI Report Volume 2 Part B Section 1 Figure 5.2 Non-designated Heritage Assets**.

List of Abbreviations

i. NGR: National Grid Reference;

ii. NHLE: National Heritage List for England; and

iii. HER: Historic Environment Record.

Table 5A.1 Designated heritage assets within the 3 km Study Area

NHLE No.	Designation and Grade	Name	Description	Period	NGR
1010947	Scheduled monument	Two moated sites at Healing Hall	The monument includes two moated sites at Healing Hall. The larger moat is defined by a silted (and now dry) ditch; the smaller moated site, the ditches of which remain waterlogged, is situated in the south-western corner of the larger one. The manorial site is closely associated with Healing's medieval parish church which lies adjacent to it to the east. The modern bridges across the wet moat and the temporary garden structures, such as the wooden summer-house, are excluded from the scheduling but the ground beneath all these features is included. Overall, the northern moat was originally just over 200 m square. The northern arm of the moat is now 5 m wide and 1 m deep, the southern arm 20 m wide and 3 m deep, and the western arm 10 m wide and 1.5 m deep. The smaller moated site is situated in the south-western corner of the larger site and the southern and western moat arms appear to have been formed by the recutting of the larger site's ditches.	Medieval	TA 21356 09996
1020423	Scheduled monument	Stallingborough medieval settlement, post-medieval manor house and formal gardens	The monument includes earthwork and associated buried remains of part of the settlement of Stallingborough, together with the earthworks of a post-medieval manor house and associated formal gardens. At the time of the Domesday survey in 1086, Stallingborough, with a recorded population of 47, was the third largest settlement in northern Lincolnshire. A survey in 1978 identified two main groups of earthworks. The first is an extensive area of village earthworks, standing up to 1 m high, representing streets, building platforms and closes laid out in the medieval period and at least in part occupied up to the early 18th century. The second area lies around the northern side of the churchyard and represents the remains of a post-medieval manor house and the earthworks of the associated formal gardens.	Medieval	TA 19519 11598
1020023; 1161697	Scheduled Monument and Grade II Listed Building	Churchyard cross 20 m south of St Peter and St Paul's Church	The monument includes a medieval churchyard cross and associated buried remains in the churchyard of St Peter and St Paul's Church, Stallingborough. The cross is also Grade II listed. The area around the churchyard, retaining earthworks of the medieval settlement, is the subject of a separate scheduling. The cross base is a simple square socket stone, 0.7 sq m, its surface nearly flush with the surrounding ground surface. Neatly fitted into this, using lead filling, is the cross shaft, 0.3 sq m. This shaft, which leans slightly to the south, is shaped with chamfered corners with lower broach stops. The shaft has been truncated at a height of 1.2 m, just above a raised inscribed plaque on the south face. The inscription on this plaque is no longer legible Fixed to the top of the truncated shaft is a finely finished inscribed sundial, 0.4 m in diameter, that is dated 1725. The sundial is no longer functional as all that remains of the iron upright which cast the shadow on the dial, is a corroded stump. The scheduling also includes a margin around the cross base designed to protect any associated buried features such as supporting steps, foundations and buried deposits.	Medieval	TA 19495 11819
7642	Conservation Area	Great Coates			TA 23448 10040
7630	Conservation Area	Wellow			TA 26725 08553
1379843	Grade I listed building	Church Of St Nicolas	Parish church. 1200, extended in 13th century; 14th century aisles and chancel, 14th-15th century tower; late 18th century clerestory and north aisle west window; restorations of 1865 by James Fowler of Louth; restorations of 1929-32, including new east window. The tower is built in weathered ironstone ashlar with limestone dressings and belfry stage; nave aisles in ironstone ashlar and coursed rubble with limestone dressings; brick clerestory; chancel in ironstone ashlar and rubble, cobbles, flint and chalk, with 20th century east section in rock-faced limestone. Slate roofs.	Medieval	TA 23328 09784
1379845	Grade I listed building	Church Of St Michael	Church. 14th-15th century nave and south aisle; chancel dated 1691; north addition of 1913-14 by Walter Tapper, consisting of west tower, new nave and chancel in 13th century style. Early section	Medieval	TA 24139 09020

NHLE No.	Designation and Grade	Name	Description	Period	NGR
			in ironstone rubble, cobbles and ironstone ashlar with limestone dressings; 20th century section in limestone ashlar. Green slate roof, apart from south aisle with lead roof.		
1346978	Grade II* listed building	Church Of St Peter and St Paul	Parish church. 1779-81. Interior restorations of 1874 included removal of gallery, reseating, creation of quasi-chancel; roof repaired and reslated 1884; ashlar window surrounds and glazing of 1908; chancel restored 1911; chancel screen of 1922, vestry of 1926. Orange-brown brick, in Flemish bond to tower and south and west sides of nave/chancel, in English bond to north and east sides; limestone ashlar dressings, with sections of ironstone ashlar to plinth on north and east sides of nave/chancel. Welsh slate roofs.	Medieval	TA 19506 11837
1346977	Grade II listed building	Farm Range on North Side of Healing Wells Farm	Multifunctional farm building (stable, granary, dovecote, store), late 18th or early 19th century. Centre section rebuilt, probably mid-19th century. Red brick mainly in Flemish bond, English Garden Wall bond to rear and rebuilt centre section. Pantile roofs.	Post-Medieval	TA 19890 09802
1379355	Grade II listed building	The Grange	Farmhouse, now house. Early 19th century with later 19th century and 20th century alterations and additions. Red brick in Flemish bond. Welsh slate roof. Rectangular on plan: 2-room, central entrance-hall south front and later additions to rear.	Post-Medieval	TA 23299 09724
1379844	Grade II listed building	The Old Rectory	Rectory, now house. Early 19th century with earlier origins, later 19th century bay windows and 20th century alterations, including rebuilding to rear. Yellow brick in Flemish bond. Roof of locally made "French" or "Scottish"-style clay tiles. Rectangular on plan: 2-room central entrance-hall front with study and kitchen range to rear.	Post-Medieval	TA 23396 09814
1103466	Grade II listed building	Church Of St Peter and St Paul	Parish church. Early 13th century tower arch, 16th century -17th century tower, late medieval chancel on earlier foundations; 18th century nave: north aisle removed probably in early 18th century, south aisle removed 1774. Restorations to chancel and tower of 1848-50 included new west door, replacement of tracery in west window. Restorations of 1874-6 by J Fowler of Louth included rebuilding nave north and east walls, inserting new chancel east window, reflooring, reseating, reroofing. Interior renovations to chancel in 1947. Large unsympathetic church hall of 1976 adjoining south side, incorporating 1925 vestry on south side of tower, is of no special interest. Limestone ashlar tower; limestone and ironstone ashlar to nave and chancel. Welsh slate roofs.	Medieval	TA 21391 10100
1161617	Grade II listed building	Cross Base Approximately 9 Metres West of Church of Saint Peter and Saint Paul	Cross base. Probably 14th century- 15th century. Limestone ashlar. Pedestal with octagonal upper section on square base with carved scrolls to corners. Base of rectangular-section shaft in lead-jointed socket broken flush with the top. Approximately 0.70 metres square, overall height approximately 0.35 metres.	Medieval	TA 21368 10094
1379885	Grade II listed building	Rose Cottage	House. Early 19th century, with later 19th century additions. Red brick in English garden wall bond, rendered to rear. Welsh slate roof. Double-depth plan with 2-room, central entrance-hall front; single-room extension to left.	Post-Medieval	TA 23414 09935
1453562	Grade II listed building	Great Coates First World War Memorial	Erected in 1920 on the village Reading Room. The First World War memorial is in the form of an ediculed inscription tablet with scrolled brackets, apron, recessed panelled pilasters and a broken triangular pediment. It frames a marble tablet inscribed with the names of 57 men and 1 woman. Within the tympanum is the relief of a Latin cross flanked by the dates 1914 and 1919. Immediately underneath is the inscription ‘FAITHFUL UNTO DEATH’, beneath which are the names of the six men who died. Underneath again is the inscription ‘FOR KING AND COUNTRY’, followed by the names of 56 men and 1 woman who served and returned.	Modern	TA2350410010
1455332	Grade II listed building	Healing War Memorial	The memorial stands at the corner of Low Road and The Avenue. It is in the form of a slightly tapering obelisk with a stylised Latin cross carved in relief at the top. The memorial stands upon a square plinth and a two-stepped base. On two sides of the obelisk are metal plaques. One is inscribed IN MEMORY OF THE MEN OF HEALING WHO FELL IN THE GREAT WAR, followed by	Modern	TA2156810308

NHLE No.	Designation and Grade	Name	Description	Period	NGR
			their names, and the other is inscribed IN MEMORY OF THE MEN OF HEALING WHO FELL IN THE SECOND GREAT WAR, followed by their names.		
1379430	Grade II listed building	The Manor House including former Stables and Coach House	House. Mid-18th century with 1878 and 20th century alterations and additions, including remodelling of south front and widening of rear wing. Probably for the Sutton estate. Red brick, stuccoed and incised in imitation of ashlar to south and east fronts. Slate roof.	Post-Medieval	TA 23470 10248
1379431	Grade II listed building	Dovecote and adjoining Stable Range Immediately North West of The Manor House	Dovecote and stable range. Late 18th century with later alterations. Red brick with pantile roofs. Rectangular on plan, with square-plan dovecote at west end.	Post-Medieval	TA 23453 10271
1379429	Grade II listed building	Nos. 19-22 Cooks Lane	4 estate houses. Early 19th century central section with later 19th century outer additions. For the Sutton estate. Red brick, with blue brick dressings to later sections. Welsh slate roof.	Post-Medieval	TA 23529 10264
1379419	Grade II listed building	No. 15 Cordeaux House	Estate house. c1820 with late 19th century addition. For the Sutton estate. Red brick, with orange brick dressings to bay window. Welsh slate roof. L-shaped on plan: original double-depth section with later wing.	Post-Medieval	TA 23586 10242
1103468	Grade II listed building	The Mill	Windmill tower, now house. 1875, converted to house c1975. Tarred brick. Tapered round tower of 6 storeys. 20th century alterations.	Post-Medieval	TA 19030 10635
1379884	Grade II listed building	Manor Farmhouse	Farmhouse. Mid-18th century, with late 19th century -early 20th century alterations. Brick, white-washed and part rendered. Concrete tile roof. T-shaped on plan: three-room north-south range with two-room wing to east containing main entrance.	Post-Medieval	TA 23775 10346
1103467	Grade II listed building	Daisy Cottage	House. 17th century or earlier origins, incorporating reused medieval masonry; 18th century- 19th century outshuts and dormers, 20th century stack to left gable. Limestone ashlar with red brick to right gable, stacks and outshut. Pantile roof.	Post-Medieval	TA 19645 11639
1379855	Grade II listed building	The Willows	House. Early 19th century with later 20th century alterations. Brick, tarred. Welsh slate roof. Approximately L-shaped on plan, with 2-room, central entrance-hall south front and kitchen wing to rear.	Post-Medieval	TA 25559 08665
1310015	Grade II listed building	Gravestone approximately 0.5 Metres south-west corner of nave of Church of St Peter and St Paul	Gravestone. Ironstone. Coffin-shaped slab bearing raised pattern with cross in oval head and "V" foot. Much worn. A local imitation of the early 12th century Barnack style.	Medieval	TA 19495 11831
1103469	Grade II listed building	129 Station Road	House. Mid-18th century. Brick, rough-rendered to front and right return, colour-washed to rear and left return. Pantile roof. 3-room plan with lobby-entry to right. Stands gable-end to street.	Post-Medieval	TA 20582 11872
1379362	Grade II listed building	39, Bargate	House. Mid-19th century, with earlier origins. Red brick in Flemish bond, rough rendered to left return, colourwashed to right return and rear. Welsh slate roof.	Post-Medieval	TA 26517 08524
1379363	Grade II listed building	Former stables to Number 39	Former stable and outhouse, now garage. Late 18th century, with later alterations. Red brick with pantile roof. Single storey and attic. Gable facing, with central 20th century garage door beneath timber lintel.	Post-Medieval	TA 26518 08518
1379364	Grade II listed building	41 Bargate Cottages	House. 18th century, raised to 2 storeys and extended in 19th century. Brick, rendered to front; Welsh slate roof.	Post-Medieval	TA 26519 08511
1379365	Grade II listed building	43 Bargate Cottages	House. Late 18th century with later 19th century rear addition. Rendered brick with Welsh slate roof. Single room to front.	Post-Medieval	TA 26519 08506

NHLE No.	Designation and Grade	Name	Description	Period	NGR
1379366	Grade II listed building	Former Toll House	Former toll house and shop, now house. Late 18th century, with later 19th century shop front. Brick, rendered to street front. Gable facing.	Post-Medieval	TA 26519 08502
1379370	Grade II listed building	War Memorial, Bargate	Cenotaph war memorial. 1923. Norwegian white marble on granite steps. 3 steps to rectangular shaft approximately 5 metres high, in 2 stages. Moulded plinth, tall tapered first stage with relief carvings of flags and wreaths on alternate sides above brief inscriptions in Latin and English to First and Second World Wars. Stepped-in upper stage in the form of a chest-tomb with moulded plinth, chest with panelled sides, moulded cornice and blocking course.	Modern	TA 26540 07879

Table 5A.2 Designated heritage assets of high value within the 3 - 5 km Study Area

NHLE No.	Designation and Grade	Name	Description	Period	NGR
1018287	Scheduled monument	Cross in St Bartholomew's Churchyard	The monument includes the base and the lower part of the shaft of a Grade II Listed standing stone cross. The cross is located in the churchyard of St Bartholomew's Church to the south of the nave. The cross is medieval in date and is constructed of limestone.	Medieval	TA 16505 09926
1008686	Scheduled monument	Site of medieval nunnery and post-Dissolution house, Nun Cotham	The medieval nunnery of Nun Cotham was founded in the mid-12th century as a priory of Cistercian nuns and dissolved in 1539. The remains of the nunnery are overlain by those of a post-Dissolution house, garden, farm buildings and other later features. The monument includes a complex sequence of building remains and other earthworks comprising a central area of building remains characterised by low earth-covered walls and including the principal nunnery buildings and church laid out around a central cloister; a series of ditched and banked enclosures; a complex of water-control features; a group of rectangular closes; remains of ancillary buildings; a group of farmyard earth-works and a windmill mound; a pair of rectangular enclosures; and a pair of fishponds. The visible features are largely the remains of a house built on the site of the nunnery conventual buildings in the 16th and 17th centuries after the Dissolution. The archaeological remains of the nunnery survive below these visible remains and it is thought that the later house utilised part of its original structure. All of these remains lie within an enclosure defined on nearly all sides by a bank. Immediately to the east of the central area of building remains is a series of enclosures defined by ditches and banks. The ditches interconnect and are linked on the east to the New Beck Drain. Neatly cut and regular, they are considered to represent formal gardens and ornamental canals laid out around the post-Dissolution house. To the south of the central area are further buildings remains, including a large rectangular barn-like structure, building platform and yard, and earthworks comprising banks, a hollow way, windmill mound, quarrying and several fishponds.	Medieval	TA 15586 11254
1359820	Grade I listed building	No 9 Shop and Church End Farmhouse	Shop, formerly manor house of the South family. 1200's with extensive alterations of the 14th century and some of the 20th century, Squared chalk blocks, some brick patching, pantiled gabled roof with raised stone coped west gable rising to a carved and decorated 14th century roof finial. Rectangular plan.	Medieval	TA 16629 09977
1063367	Grade I listed building	Church Of Saint Bartholomew	Parish church with origins to the 13th century, with 14th century west tower, plus nave, north and south aisles, north porch, chancel. Ironstone, limestone ashlar, chalk, brick, slate roofs.	Medieval	TA 16503 09949
1379386	Grade I listed building	Church Of St James	Parish church. 13th century nave and transepts; 14th century nave arcade piers, crossing dated 1365. 18th century subdivision and rebuilding of nave aisles. Restorations of 1858-9 by Charles Ainslie included partial rebuilding of transepts, inserting ringing gallery in tower, reflooring, reseating. Restorations of 1874-85 by RJ Withers included new roof and upper part of west end of	Medieval	TA 26640 09169

NHLE No.	Designation and Grade	Name	Description	Period	NGR
			nave, new chancel and south porch. North Lady Chapel of 1904-6 by GF Bodley, on site of chancel north aisle.		
1379856	Grade II* listed structure	Grimsby Haven Lock and Dock Wall 58 Metres Long Adjoining to West	Late 18th century lock basin and adjoining dock quayside wall to west. The lock and its flanking dock wall are notable as a survival of the earliest modern dock at Grimsby, and for representing the first use of the important technical innovation of vaulted quayside walls, by one of Britain's foremost harbour engineers.	Post-Medieval	TA 27216 10587
1379842	Grade II* listed building	The Grimsby Ice Factory including Railings	1900-1 with extension factory of 1907-8 and later alterations. By WF Cott, consulting engineer, for the Great Grimsby Ice Company Limited. Built following the amalgamation of the Grimsby Ice Company with the Co-operative Ice Company. The factory supplied ice for fish packing. The overhead gantries on the Gorton Street front carried ice into the dockside fish-landing building opposite. Ceased production 1990. The Grimsby Ice Company was one of Grimsby's leading fishing companies, and also built the Fisherlads' Home, for fishing apprentices, in Convamore Road (qv). This ice factory illustrates Grimsby's importance as the world's foremost fishing centre in the earlier C20. This building is understood to be the earliest remaining ice factory in the UK. Furthermore, it is believed to be the sole survivor, complete with its machinery, from this period.	Post-Medieval	TA 27799 10694
1403222	Grade II* listed building	Former Heavy Anti-Aircraft (HAA) Gun Site	One of only six surviving 5.25 inch HAA gun sites known nationally. The operational core of the gun site was the command post which is shown on modern Ordnance Survey maps approximately 140 m from the road. Forming an arc around the western side of the command post are the four gun emplacements, each with its attached engine house and the base of a crew rest shelter. Adjacent to the road is a linear range (the former guardhouse) and a taller square building (the former generator house). It retains the complete functional layout of the gun site including all four emplacements with their engine houses, the command post as well as the guardhouse/gunstore and the generator house, is an example of the most technologically advanced anti-aircraft gun site developed in the Second World War.	Modern	TA1841511627
1001505	Grade II* registered park and garden	People's Park	People's Park lies at the heart of the residential area of south Grimsby. The c 9.3ha site is located within an area of substantial villa housing which dates from 1890 to 1930. Welholme Road marks the park's northern boundary, and the U-shaped Park Drive, designated as a private road when the park was opened, delineates the remainder of the park to the east, south, and west. The boundaries of the park are now almost totally open except for a fence and hedge which runs along the north-east boundary for c 130 m to protect the aviary and Floral Hall.	Post-Medieval	TA 26983 08349

Table 5A.3 Designated heritage assets of high value beyond the 5 km Study Area with potential impacts

NHLE No.	Designation and Grade	Name	Description	Period	NGR
1379870	Grade I listed building	The Dock Tower, Grimsby	Hydraulic tower. 1851-2 by JW Wild for The Grimsby Dock Company. Red brick with limestone ashlar plinth and ashlar cap with iron lantern. Modelled on the Palazzo Publico at Sienna, with an oriental-style minaret. EXTERIOR: square section, approx. 94 m tall. 3 stages. Tall main stage has rock-faced rusticated plinth, recessed board door to east side beneath rubbed-brick arch, 6 tiers of 3 tall slit lights to each side. Brass memorial plaque to west side inscribed "1939 A TRIBUTE TO THOSE WHO SWEPT THE SEAS 1949". Stepped brick and ashlar string course. Splayed-out top section above with deep imitation machicolations and tall parapet with brick-coped pointed arched crenellations. Next stage is a smaller version of the lower stage with a single tier of 2 slit-lights to each side and a similar crenellated head. Above this, a short octagonal stage with a round-headed door to the balcony. Moulded cap with tall octagonal iron lantern crowned by an openwork spire	Post-medieval	TA 27844 11348

NHLE No.	Designation and Grade	Name	Description	Period	NGR
			and finial. Contains hydraulic gear which originally operated the gates to the adjacent east and west locks (qv), and dockside cranes.		

Table 5A.4 Non-designated Heritage Assets within the draft Order Limits and the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Assets within the Draft Order Limits or 1 km Study Area
MNL1562	Landscape	Wybers Wood	A post medieval fox covert marked on the ordnance survey 1887-9 25 inch to 1-mile maps. Split between Wybers Wood and Drakes Gorse on 1932-3 maps. The name Wybers occurs from c.1590 as wiberfurlong, wibergate and wiberhedge.	Late Post Medieval	TA 22588 09272	Within the draft Order Limits
MNL1563	Landscape	Maud Hole Covert	A post medieval covert marked on the ordnance survey 1887-9 25 inch to 1-mile maps "Maud Hool" is recorded at least as far back as 1625.	Late Post Medieval	TA 21955 09181	Within draft Order Limits
MNL2225	Landscape	Ridge and Furrow in Aylesby	Discrete areas of Ridge and Furrow earthworks shown on late 1940s aerial photographs with further indistinct areas shown as cropmarks. Two large areas were centred at TA20830804 and TA19820694. The furlongs appear to have been 500 m at their longest and 68 m at their shortest, although this is questionable due to the apparently limited survival of intact fields and furlongs. The furlongs have sinuous profiles with a width of around 7-13 m and have been almost entirely ignored in the creation of the modern field system. Aerial photographs from 2000 show just a single area of extant earthworks at TA19750632 measuring c.4.5 hectares. Light Detection and Ranging imagery shows a small area of extant earthworks at TA22670919 under the tree canopy of Wyber's Wood.	Medieval to Early Post Medieval	TA 21354 07726	Within the 1 km Study Area

HER Reference	Record Type	Name	Description	Period	NGR	Assets within the Draft Order Limits or 1 km Study Area
MNL2232	Landscape	Ridge and Furrow in Great Coates	Aerial photographs from the late 1940s show four large areas of ridge and furrow, as earthworks and crop/soil marks, plus some nearby small areas which may relate to a much-reduced group. The furlongs appear to be extremely long, potentially 1100 m at their longest and stretching from the core to the parish boundary; the former presence of additional furlongs is strongly suggested by very long and narrow modern fields running parallel to the earlier earthworks. The fields seem to have once surrounded the historic core. The profiles of many of the furlongs seem to be very straight, suggesting a more modern origin, but a curve is still apparent over the full length; the ridge widths range from 5-10 m. The modern field system does cut across some furlongs but for the most part is based upon the alignments of the earlier system. The extent of the earthworks appears to be limited by an irregular ditch which cuts diagonally across the seaward side of the parish, approximately 1 km from the modern coast in the east and 2km in the west. Aerial photographs from 2000 do not appear to show any intact earthworks. Medieval ridge and furrow visible as earthworks on aerial photographs taken in 1946 in the field to the north of the Grimsby and New Holland Railway, northwest of Holme Farm, Great Coates. The features have since been plough-levelled and are no longer visible on recent Google Earth imagery. The site was digitally plotted during the Inner Humber Estuary RCZAS NMP.	Medieval to Early Post Medieval	TA 23513 10034	Within the draft Order Limits
MNL2233	Landscape	Ridge and Furrow in Healing	Aerial photographs from the late 1940s shows 5 large areas of ridge and furrow and several isolated areas. The larger extents are centred at TA21990948, TA21220984, TA21081084, TA20661036 and TA19940995 although faint cropmarks suggest that the last two may be parts of one larger area. The furlongs appear to range from around 100 m to 400 m with a width of around 5 m to 12 m. The modern field boundaries do not appear to be based on the previous system although some alignments are shared. Aerial photographs from 2000 show an area of around 12 hectares of extant Ridge and Furrow in the parkland associated with Healing Manor as the only extant area in the parish.	Medieval to Early Post Medieval	TA 21038 10349	Within the draft Order Limits
MNL240	Undated Site	Cropmarks south of Maud Hole Covert, Healing	Cropmarks West of Grimsby. No further information.	Early Neolithic to Modern	TA 22000 09000	Within the draft Order Limits
MNL3481	Monument	Aylesby Lane, Aylesby and Healing	A road marked, but not annotated, on Ordnance Survey maps of 1887-9. At TA21100824, in Aylesby, the lane changes to a trackway/footpath and picks up again at TA21730978 in Healing. Recorded as Aylesby Road in 1853. The road was re-aligned as part of the enclosure of the village with the old route shown on the Tithe map.	Post Medieval to Modern	TA 2130 0889	Within the draft Order Limits
MNL3482	Monument	Aylesby Road, Aylesby and Great Coates	A road marked, but not annotated, on Ordnance Survey maps of 1887-9. The road is possibly recorded as "Coats Gate" in 1625, and "Alesbiegate" in c.1590.	Post Medieval to Modern	TA 2221 0874	Within the draft Order Limits

HER Reference	Record Type	Name	Description	Period	NGR	Assets within the Draft Order Limits or 1 km Study Area
MNL4760	Find Spot	Prehistoric flints found in Aylesby	During trial trenching worked flint was found in an undefined archaeological feature.	Undated	TA 2009 0887	Within the 1 km Study Area
MNL818	Find Spot	Prehistoric Flints and Quern in Aylesby	Quern fragments and Neolithic flint scrapers. Drawing of a scraper held in the record.	Late Prehistoric	TA 213 090	Within the draft Order Limits
AEC100	Undated Site	Ditches and rectilinear enclosure east of Maud Hole Covert, Healing	A group of anomalies (GW4000 – GW4005) of possible archaeological origin may represent the buried remains of ditches and a rectilinear ditched enclosure of unknown date were identified by geophysical survey.	Undated	TA 2224 0934	Within the draft Order Limits
AEC101	Undated Site	Former field boundaries south of Maud Hole Covert, Healing	A group of geophysical anomalies (GW4008 – GW4010) of possible archaeological origin may represent the buried remains of former field boundaries or drains of unknown date. The most distinct former field boundary corresponds with a boundary depicted in the First Edition Ordnance Survey 25-inch map of 1888.	Undated	TA 2233 0880	Within the draft Order Limits

5B. Preliminary Summary of Likely Non-Significant Effects

nationalgrid

Contents

5B. Preliminary Summary of Likely Non-Significant Effects

5B.1 Introduction

5B.1.1 This appendix presents the detailed preliminary summary of non-significant effects on heritage assets identified as a result of construction and/or operational activities within the Study Area for the New Grimsby West Substation Section (Section 1) of the Grimsby to Walpole Project (the Project).

5B.1.2 A number of designated and non-designated heritage assets, which may experience non-significant effects, have been identified as warranting further explanation of their assessment due to particular sensitivities, such as their value, designed views, historic setting or their proximity to works proposed within the draft Order Limits. These are reported in **PEI Report Volume 2 Part B Section 1 Chapter 5 Historic Environmen**t, under section 5.7.

5B.1.3 It should be noted that the assessment which has informed the conclusions presented remains ongoing and is subject to change, due to the ongoing survey activities and further design development of the Project. A full detailed assessment will be included within the Environmental Statement submitted with the Development Consent Order application.

Table 5B.1 Preliminary summary of likely non-significant effects

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
Designated Heritage Assets within the 3 km Study Area					
Two moated sites at Healing Hall scheduled monument (National Heritage List for England (NHLE) 1010947)	Permanent changes to the setting of the asset, arising from the presence of the Project within the wider landscape, from the time of construction and throughout its operational duration.	High	Negligible	Minor adverse (Not significant)	Potential for limited, permanent change (negligible magnitude) to the setting of this high value asset that would hardly affect its value and way in which it is appreciated or understood. This would result in a minor adverse effect which would not be significant.
Stallingborough medieval settlement, post-medieval manor house and formal gardens scheduled monument (NHLE 1020423)	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect, which is not significant.
Churchyard cross 20 m south of St Peter and St Paul's Church, scheduled monument (NHLE	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
1020023) and grade II listed (NLHE 1161697)					
Church of St Nicolas (NHLE 1379843) grade I	Temporary changes to the setting of the asset arising from construction (such as noise, construction traffic, lighting, temporary pylons and scaffolds) of the Project.	High	Negligible	Minor adverse (Not significant)	Potential for temporary changes to the setting of this high value asset would result in a negligible magnitude of impact to the way in which the building is experienced and appreciated. This would result in a minor adverse effect which is not significant.
	The presence of the Project in the landscape from the time of construction and throughout its operational duration will have no impact on the setting or value of this asset.	High	No Change	Neutral	The Project does not form part of the wider setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.
Church of St Michael (NHLE 1379845) grade I	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.
Church of St Peter and St Paul (NHLE 1346978) grade II*	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
Gravestone approximately 0.5 Metres south-west corner of nave of Church of St Peter and St Paul (NHLE 1310015) grade II	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.
Daisy Cottage (NHLE 1103467) grade II	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.
129 Station Road (NHLE 1103469) grade II	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.
Church of St Peter and St Paul (NHLE 1103466) grade II	Temporary changes to the setting of the asset arising from construction (such as noise, construction traffic, lighting, temporary pylons and scaffolds) of the Project.	Medium	Small	Minor adverse (Not significant)	Slight, temporary changes to the setting of this medium value asset would result in a small magnitude of impact to the way in which the building is experienced and appreciated. This would result in a minor adverse effect which is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
	Permanent changes to the setting of the asset, arising from the presence of the Project within the wider landscape, from the time of construction and throughout its operational duration.	Medium	Negligible	Negligible adverse (Not significant)	Potential for limited, permanent change to the setting of this medium value asset that would hardly affect its value or the way in which it is appreciated or understood. This would result in a negligible adverse effect that is not significant.
Cross Base Approximately 9 Metres West of Church of Saint Peter and Saint Paul (NHLE 1161617) grade II	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.
Healing War Memorial (NHLE 1455332) grade II	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.
Great Coates Conservation Area including nine grade II listed buildings (NHLE 1379885, 1379431,	Temporary changes to the setting of the assets arising from construction (such as noise, construction traffic, lighting, temporary pylons and scaffolds) of the Project.	Medium (Conservation Area)	Small	Minor adverse (Not significant)	Slight, temporary changes to the setting of this medium value asset would result in a small magnitude of impact to the way in which the conservation area is experienced and appreciated. This would result in a minor adverse effect which is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
1379430, 1379429, 1379884, 1379419, 1453562, 1379844, 1379355)	Permanent changes to the setting of the assets, arising from the presence of the Project within the wider landscape, from the time of construction and throughout the operational duration.	Medium (Conservation Area)	Small	Minor adverse (Not significant)	Potential for limited, permanent change to the setting of this medium value asset that would slightly alter the character of the conservation area and its settings and the way in which it is appreciated or understood. This would result in a minor adverse effect that is not significant.
	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	Medium (grade II listed buildings)	No Change	Neutral (Not significant)	The Project does not form part of the setting of the assets and will not alter their value or way in which it they are appreciated or understood. This would result in a neutral effect which is not significant.
Wellow Conservation Area including eight grade II listed buildings located within the 3 km Study Area (NHLE 1379364, 1379365, 1379363, 1379362, 1379366, 1379367, 1379368, 1379370)	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the settings or value of these assets.	Medium (Conservation area and grade II listed buildings)	No Change	Neutral (Not significant)	The Project does not form part of the setting of the assets and will not alter the character of the conservation area or the way in which the assets are appreciated or understood. This would result in a neutral effect which is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
Farm Range on North Side of Healing Wells Farm (NHLE 1346977) grade II	Temporary changes to the setting of the asset arising from construction (such as noise, construction traffic, lighting, temporary pylons and scaffolds) of the Project.	Medium	Negligible	Negligible adverse (Not significant)	Potential for limited, temporary changes to the setting of this medium value asset that would hardly affect the value of the asset or the way in which it is appreciated or understood. This would have a negligible adverse effect which is not significant.
	Permanent changes to the setting of the asset, arising from the presence of the Project within the wider landscape, from the time of construction and throughout its operational duration.	Medium	Negligible	Negligible adverse (Not significant)	Potential for limited, permanent change within the setting of this medium value asset that would hardly affect the value of the asset or the way in which it is appreciated or understood. This would have a negligible adverse effect that is not significant.
The Mill (NHLE 1103468) grade II	Temporary changes to the setting of the asset arising from construction (such as noise, construction traffic, lighting, temporary pylons and scaffolds) of the Project.	Medium	Small	Minor adverse (Not significant)	Potential for limited, temporary changes to the setting of this medium value asset that would hardly affect the value of the asset or the way in which it is appreciated or understood. This would have a minor adverse effect which is not significant.
	Permanent changes to the setting of the asset, arising from the presence of the Project within the wider landscape, from the time of construction and throughout its operational duration.	Medium	Small	Minor adverse (Not significant)	Potential for permanent change within the setting of this medium value asset that would have a small magnitude of impact to the way in which it is appreciated or understood. This would result in a minor adverse effect that is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
Designated Heritage Assets of High Value within the 3-5 km Study Area					
Cross in Saint Bartholomew's Churchyard (NHLE 1018287) scheduled monument	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect that is not significant.
Site of medieval nunnery and post-Dissolution house, Nun Cotham (NHLE 1008686) scheduled monument	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect that is not significant.
Church of Saint Bartholomew (NHLE 1063367) grade I	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect that is not significant.
No 9 Shop and Church End Farmhouse (NHLE	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
1359820) grade I	permanent impact on the setting or value of this asset.				result in a neutral effect that is not significant.
Church of St James (NHLE 1379386) grade I	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect that is not significant.
Former Heavy Anti-Aircraft Gun Site (NHLE 1403222) grade II*	Temporary changes to the setting of the asset arising from construction (such as noise, construction traffic, lighting, temporary pylons and scaffolds) of the Project.	High	Negligible	Minor adverse (Not significant)	Potential for limited, temporary changes to the setting of this high value asset that would hardly affect the value of the asset or the way in which it is appreciated or understood. This would have a minor adverse effect which is not significant.
	Permanent changes to the setting of the asset, arising from the presence of the Project within the wider landscape, from the time of construction and throughout its operational duration.	High	Negligible	Minor adverse (Not significant)	Potential for permanent change within the setting of this high value asset that would have a negligible magnitude of impact to the way in which it is appreciated or understood. This would result in a minor adverse effect that is not significant.
Grimsby Haven Lock and Dock Wall 58 Metres Long Adjoining to West (NHLE 1379856) grade II*	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect which is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
People's Park (NHLE 1001505) grade II* registered park and garden	The construction and presence of the Project in the landscape from the time of construction and throughout its operational duration will have no temporary or permanent impact on the setting or value of this asset.	High	No Change	Neutral (Not significant)	The Project does not form part of the setting of the asset and will not alter its value or way in which it is appreciated or understood. This would result in a neutral effect that is not significant.
Designated Heritage Assets of High Value beyond the 5 km Study Area					
The Dock Tower, Royal Dock (NHLE 1379870) grade I	Temporary changes to the setting of the asset arising from construction (such as noise, construction traffic, lighting, temporary pylons and scaffolds) of the Project.	High	Negligible	Minor adverse (Not significant)	Temporary changes to the setting of this high value asset would result in a negligible magnitude of impact having little effect on the way in which the asset is experienced and appreciated. This would result in a minor adverse effect which is not significant.
	Permanent changes to the setting of the asset arising from the presence of the Project, from the time of construction and throughout its operational duration in the wider landscape.	High	Negligible	Minor adverse (Not significant)	The permanency of the infrastructure in the landscape would have little effect on the setting of the asset of high value. This would result in a minor adverse effect which is not significant.
Non-designated heritage assets within the draft Order Limits					
Ridge and furrow in Healing (MNL2233)	Topsoil stripping and ground works ~~Ground reduction~~ for the construction access haul road and working area of pylon 4KG154-N, and landscape mitigation planting will remove or disturb part of this non-designated heritage asset.	Low	Small	Negligible adverse (Not Significant)	Partial removal or disturbance (small magnitude) of this non-designated heritage asset of low value would result in a slight change to is value (negligible adverse effect), which is not significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
Undated cropmarks south of Maud Hole Covert (MNL240)	Topsoil stripping and ground works for the New Grimsby West Substation, construction haul road, associated drainage and landscape mitigation planting will partially remove the asset.	Medium	Medium	Minor adverse (Not significant) following additional mitigation.	The partial removal or disturbance of this non-designated heritage asset of medium value would result in a medium magnitude of impact and a significant change to is value resulting in a moderate adverse effect prior to archaeological mitigation. The use of archaeological mitigation measures i.e. appropriate archaeological investigation and recording offset the loss of part of the asset resulting in a minor adverse effect which would not be significant.
Possible archaeological anomalies representing undated ditches and a rectilinear enclosure (AEC100) identified by geophysical survey	Topsoil stripping and ground works for the New Grimsby West Substation, construction haul road, associated drainage and landscape mitigation planting will partially remove the asset.	Medium	Medium	Minor adverse (Not significant) following additional mitigation.	The partial removal or disturbance of this non-designated heritage asset of medium value would result in a medium magnitude of impact and a significant change to is value, resulting in a moderate adverse effect prior to archaeological mitigation. The use of archaeological mitigation measures i.e. appropriate archaeological investigation and recording offset the loss of part of the asset resulting in a minor adverse effect which would not be significant.
Possible archaeological anomalies representing undated former field	Topsoil stripping and ground works for the new construction haul road and associated drainage will partially remove the asset.	Low	Small	Negligible adverse (Not significant)	Partial removal or disturbance (small magnitude) of this non-designated heritage asset of low value would result in a slight change to is value (negligible adverse effect), which would not be significant.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
boundaries (AEC101) identified by geophysical survey					
Wybers Wood (MNL1562)	Topsoil stripping and ground works for the construction access road, associated drainage basins and working area around the existing pylon 4KG156, have the potential to remove or disturb a small section of this non-designated heritage asset.	Low	Negligible	Negligible adverse (Not significant)	Partial removal or disturbance (negligible magnitude) of this non-designated heritage asset of low value would result in very limited change to is value (negligible adverse effect), which would not be significant.
Maud Hole Covert (MNL1563)	Topsoil stripping and ground works for the construction access road, associated drainage basins and arboricultural works to enable oversailing of the extant woodland by new overhead High Voltage cables.	Low	Small	Negligible adverse (Not significant)	Partial removal or disturbance (small magnitude) of part of this non-designated heritage asset of low value would result in a change to its value. This would result in a negligible adverse effect which would not be significant.
Aylesby Lane (MNL3481)	Topsoil stripping and ground works for the construction haul road and working area of pylon 4KG152 will remove or disturb part of this non-designated heritage asset.	Low	Small	Negligible adverse (Not significant)	Partial removal or disturbance (small magnitude) of part of this non-designated heritage asset of low value would result in a change to its value. This would result in a negligible adverse effect which would not be significant.
Aylesby Road (MNL3482)	Construction of a new access bell mouth and passing places along Aylesby Road has potential to	Low	Negligible	Negligible adverse (Not significant)	Partial removal or disturbance (small magnitude) of part of this non-designated heritage asset of low value would result in a change to its value.

Heritage Asset	Impact	Value of Asset	Magnitude of Impact	Significance of Effects	Rationale
	remove or disturb a small part of this non-designated heritage asset.				This would result in a negligible adverse effect which would not be significant.
Ridge and Furrow in Great Coates (MNL2232)	Topsoil stripping and ground works required for the creation of a passing place on the north side of Aylesby Road.	Low	Negligible	Negligible adverse (Not significant)	Potential for disturbance of a very small part of this non-designated heritage asset of low value (negligible magnitude), on the boundary with Aylesby Road, which would result in a negligible adverse effect, would not be significant.

5C. Detailed Gradiometer Survey Report

nationalgrid

Contents

5C. Detailed Gradiometer Survey Report

5C.1.1 This appendix provides the report detailing the results of geophysical survey (detailed magnetometry) completed for the proposed New Grimsby West Substation (Section 1). The report presents a brief description of the methodology followed by the survey results and the archaeological interpretation of the geophysical data, accompanied by a series of plans showing both processed survey data as greyscale images and archaeological interpretation.

5C.1.2 The survey was undertaken by Wessex Archaeology using a cart-based gradiometer system. The interpretation of the geophysical survey results used by Wessex Archaeology separates anomalies into four main categories: archaeological, modern, agricultural, and uncertain origin/geological.

Grimsby to Walpole
Grimsby West Substation

Gradiometer Survey Report

Document Ref.: 295220.08
May 2025

wessexarchaeology

Unit R6
Sheaf Bank Business Park
Prospect Road
Sheffield
S2 3EN

www.wessexarch.co.uk

Wessex Archaeology Ltd is a company limited by guarantee registered in England, company number 1712772. It is also a Charity registered in England and Wales number 287786, and in Scotland, Scottish Charity number SC042630. Our registered office is at Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB

Document Information

Document title	Grimsby to Walpole Grimsby West Substation
Document subtitle	Gradiometer Survey Report
Document reference	295220.08
Client name	Arup
Address	One Centenary Way Lyons Queenway Birmingham B3 3AY
Site location	Aylesby Road Great Coates Grimsby DN37 9NU
County	Lincolnshire
National grid reference	522252 409117 (TA 22252 09117)
Museum Accession Code LCNCC	2025.51
Site Code	GTW25/GYWE25
WA project name	Grimsby-to-Walpole DCO - G2W
WA project code	295220
Date of fieldwork	03 September – 05 November 2024
Fieldwork directed by	Daniele Clementi and Bethan Healey
Project management by	Patricia Edwards
Document compiled by	Alastair Trace
Contributions from	Alastair Trace, Andrew Marke
Graphics by	Alastair Trace

Quality Assurance

Issue	Date	Author	Approved by
1	03/03/2025	(ADT)	(TR)
2	01/05/2025	(ADT)	(TR)

Contents

List of Figures

Summary

A gradiometer survey was conducted over land of Aylesby Road, Great Coates, Grimsby, Lincolnshire (centred on NGR TA 22252 09117). The project was commissioned by ARUP/AECOM with the aim of establishing the presence, or otherwise, and nature of detectable archaeological features in support of the Grimsby to Walpole Project, part of National Grid's Great Grid upgrade and will play an important part in allowing the UK to decarbonise its energy network.

The proposal by National Grid is to reinforce the transmission network with a new 400 kilovolt (kV) electricity transmission line over a distance of approximately 140 km starting from a new 400 kV substation west of the town of Grimsby in North East Lincolnshire and ending at a new 400 kV substation west of the village of Walpole St Andrew and north of the town of Wisbech, in King's Lynn and West Norfolk District. The Project also includes the construction two new 400 kV Lincolnshire Connection Substations located south-west of Mablethorpe in East Lindsey, up to two new 400 kV substations in the vicinity of the Spalding Tee-Point in South Holland District and the decommissioning (in full or part) of the existing Grimsby West Substation.

The site comprises arable fields located immediately south of the village of Healing, covering an area of 38.1 ha. The geophysical survey was undertaken between 03 September – 05 November 2024.

The survey has identified several features that are possibly associated with archaeological remains. These are predominantly located in the north of the site, with additional anomalies located in the southern corner of the site.

These anomalies are associated with linear and curvilinear ditch features forming partial enclosures with sub-divisions of possible Romano-British to Iron Age origin. Further examples of activity have also been identified possibly related to medieval/post-medieval activity. Similar activity has been identified in the surrounding area. Given the heavily fragmented nature of these findings however, a firm interpretation cannot be applied, and the anomalies may simply be related to geological activity or the results of modern agricultural practises on site.

The survey has also identified anomalies of former field boundaries, agricultural features, including drains and agricultural ploughing regimes. Anomalies displaying increased response and modern services have also been recorded. The survey also detected anomalies related to geological and geomorphological origins across the site.

Acknowledgements

Wessex Archaeology would like to thank ARUP/AECOM for commissioning the geophysical survey. The assistance of Hannah Blacknell and Iain Williamson is gratefully acknowledged in this regard.

The fieldwork was undertaken by Daniele Clementi, Bethan Healey, Callum Jervis, Jack Treuman, Manasi Patil, Matt Lester, Cameron Lane, Joe Anderson and Andrew Marke. Alastair Trace processed and interpreted the geophysical data and prepared the illustrations. The final report was written by Alastair Trace. The geophysical work was quality controlled by Brett Howard. The project was managed on behalf of Wessex Archaeology by Patricia Edwards.

Grimsby-to-Walpole
Grimsby West Substation

Gradiometer Survey Report

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology was commissioned by ARUP/AECOM to carry out a geophysical survey located north of Aylesby Road, Great Coates, Lincolnshire (centred on NGR 22252 09117) (**Figure 1**). The survey forms part of an ongoing programme of archaeological works being undertaken in support of the Grimsby to Walpole Project, part of National Grid's Great Grid upgrade and will play an important part in allowing the UK to decarbonise its energy network.

1.1.2 The proposal by National Grid is to reinforce the transmission network with a new 400 kilovolt (kV) electricity transmission line over a distance of approximately 140 km starting from a new 400 kV substation west of the town of Grimsby in North East Lincolnshire and ending at a new 400 kV substation west of the village of Walpole St Andrew and north of the town of Wisbech, in King's Lynn and West Norfolk District. The Project also includes the construction two new 400 kV Lincolnshire Connection Substations located south-west of Mablethorpe in East Lindsey, up to two new 400 kV substations in the vicinity of the Spalding Tee-Point in South Holland District and the decommissioning (in full or part) of the existing Grimsby West Substation.

1.2 Scope of document

1.2.1 This report presents a brief description of the methodology followed by the detailed survey results and the archaeological interpretation of the geophysical data. In format and content, it conforms to current best practice, as well as to the guidance outlined in *Management of Research Projects in the Historic Environment* (MoRPHE, Historic England 2015), the Chartered Institute for Archaeologists' (CIfA) *Standards and guidance for archaeological geophysical survey* (CIfA 2020), Europae Archaeologiae Consilium recommendations (Schmidt *et al.* 2015) and Historic England *Thesauri* (English Heritage 2014).

1.3 The site

1.3.1 The proposed geophysical survey area is located immediately south of the village of Healing and 4 km east of Grimsby town centre in the county of Lincolnshire.

1.3.2 The survey comprises 38.1 ha of agricultural land, currently utilised for arable cultivation and pasture for livestock. This portion of the site is bounded to the north and west by agricultural land, Grimsby West Substation along the eastern extent, and Aylesby Road along the southern extent. Overhead powerlines traverse north-west to south-east across LP_003.

1.3.3 The site lies on an undulating topography between 15 – 19 m above Ordnance Datum (aOD).

1.3.4 The solid geology comprises Chalk of the Burnham Chalk Formation, with overlying superficial geological deposits of diamicton from the Devensian Till Formation (BGS 2024).

1.3.5 The soils underlying this site are likely to consist of stagnogley soils of the 711u (Holderness) association (SSEW SE Sheet 4 1983). Soils derived from such geological

parent material have been shown to produce magnetic contrasts acceptable for the detection of archaeological remains through magnetometer survey.

2 ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

2.1.1 The following historical and archaeological background has been compiled using publicly available online resources, combined with the results of Wessex Archaeology's previous investigations in the area, and in-house resources. It considers the recorded historic environment resource within a 500 m radius of geophysical survey area. The following archaeological background is not exhaustive but discusses known heritage assets relevant to the interpretation of the geophysical survey data.

2.2 Previous investigations

2.2.1 An excavation assessment was undertaken by Wessex Archaeology (2023a) 1 km south of the site between Sandilands and Haugh in 2020. The assessment summaries the results of 99 evaluation trenches, 5 watching briefs, and 5 mitigation areas. Dated remains from the archaeological excavations span the possible Neolithic to modern periods, although the majority of the evidence is Romano-British in date. Archaeological remains included a possible Iron Age sunken feature building, a Romano-British cemetery, a salt-making site, and enclosure systems. Overall, most sites were characterised by ditched field boundaries and traces of later ridge and furrow cultivation.

2.2.2 Further recorded archaeological evaluations have been undertaken 1.4 km south-west of the site by Wessex Archaeology (2023b). The recorded works were part of a larger scheme of archaeological mitigation from East Halton to North Coates as part of the Hornsea Project One Onshore Cable Route. The evaluation revealed six sites of Iron Age and/or Romano-British date including an Iron Age enclosed farmstead closely resembling other examples in the region, a ladder settlement on the littoral fringe, and four irregular settlements. Analysis of the results has revealed that the settlements had varying dates of occupation within the Iron Age and Romano-British periods. The settlements were all low status with limited access to trade and relied on closed subsistence economies exploiting mixed agriculture including wetland pasturing.

2.2.3 Trenching is also visible in fields immediately west of the site (continuing up to 2 km west) on satellite mapping dating from 2021. Although no record of these is listed in the Archaeological Data Service (ADS) or North East Lincolnshire Historic Environment Record (HER), they are likely the result of archaeological evaluation, possibly related to the erection of wind turbines in the area.

2.3 Archaeological and historical context

2.3.1 A review of data held by the National Heritage List for England (NHLE) and North East Lincolnshire HER has found that there are no designated heritage assets recorded within 500 m of the proposed Grimsby West substation site. There are, however, a number of non-designated heritage assets recorded by the North East Lincolnshire HER dating from the prehistoric to post-medieval period.

2.3.2 A cropmark, which may represent an enclosure of Neolithic to medieval date, has been recorded 400 m to the east of the proposed substation. A later prehistoric findspot is recorded 440 m west of the site. An area of possible prehistoric settlement, with a series of ditches and possible enclosures is recorded 330 m to the south-west of the proposed substation site. Also within this area is a possible Roman settlement, with pits, postholes, and domestic waste recorded.

2.3.3 Evidence for medieval and early post-medieval settlement activity has been recorded 400 m south-east of the proposed substation in the form of an artefact scatter. The woodland on the eastern side of the proposed substation site survives as a remnant of Wybers Wood recorded as post-medieval woodland. On the western borders of the proposed substation site is a small wooded post-medieval covert named Maud Hole Covert. Also within this area is an area of suspected ridge and furrow, identified from mid-20th century aerial photography. Further evidence of ridge and furrow has been recorded to the east of the proposed substation. Aylesby Road, Aylesby and Great Coates lies 350 m to the south of the proposed substation and is recorded as a road from the late 16th century onwards. Pyewipe Farm is a non-designated building located immediately south-west of the proposed development.

2.3.4 To the immediate west and abounding the western extent of the site is a post-medieval road. The road is recorded as being marked on an Ordnance Survey (OS) map of 1887 – 1889, with the road being recorded, but not conclusively identified, as a road listed in 1625 and 1590 under two different names (Heritage Gateway 2024).

2.3.5 The 1839 tithe map depicts the proposed substation site as being located within agricultural fields, between the woodlands of Wybers Wood and Maud Hole Covert. The covert is a historic woodland located immediately west of LP_001 and north-west of LP_003. This woodland once existed 80 m into the north-western corner of LP_003. This is reflected within the first edition OS 1888 map, the 1908 OS map, the 1933 OS map, the 1947 OS map, and the 1951 OS map. Several of the post-medieval field boundaries appear to have been removed to allow for larger agricultural fields.

3 METHODOLOGY

3.1 Introduction

3.1.1 The geophysical survey was undertaken by Wessex Archaeology's in-house geophysics team between 03 September and 05 November 2024. Field conditions were good throughout the period of survey. An overall coverage of 35.1 ha was achieved, overhead powerlines traverse north-east to south-west across the centre of LP_003 preventing compete coverage of the area.

3.1.2 The methods and standards employed throughout the geophysical survey conform to that set out in the Written Scheme of Investigation (WSI) (Wessex Archaeology 2024), as well as to current best practice, and guidance outlined by the Chartered Institute for Archaeologists' (CIfA 2014) and Europae Archaeologiae Consilium (Schmidt *et al.* 2015).

3.2 Project aims

3.2.1 The aims of the survey comprise the following:

- To determine, as far as is reasonably possible, the nature of the detectable archaeological resource within a specified area using appropriate methods and practices; and

- To inform either the scope and nature of any further archaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

3.3 Project objectives

3.3.1 In order to achieve the above aims, the objectives of the geophysical survey were:

- To conduct a geophysical survey covering as much of the specified area as possible, allowing for on-site obstructions;

- To clarify the presence/absence of anomalies of archaeological potential; and
- Where possible, to determine the general nature of any anomalies of archaeological potential.

3.4 Fieldwork methodology

3.4.1 The cart-based gradiometer system used a Carlson BRX-7 RTK GNSS instrument, which receives corrections from a network of reference stations operated by the OS. Such instruments allow positions to be determined with a precision of 0.02 m in real-time and therefore exceeds Europae Archaeologiae Consilium recommendations (Schmidt *et al.* 2015).

3.4.2 The gradiometer survey was conducted using hand pushed non-magnetic cart fitted with four, Sensys FGM650/03 gradiometers mounted at 1 m intervals with an effective sensitivity of 0.03 nT over a ±100 nT range.

3.4.3 Data was be collected at 0.25 m intervals along transects spaced 1 m apart, in accordance with Europae Archaeologiae Consilium recommendations (Schmidt *et al.* 2015). Data will be collected in the zigzag method.

3.5 Data processing

3.5.1 Where necessary, data from the survey was subject to minimal correction processes. The precise steps typically comprise a zero-mean traverse function (±5 nT thresholds) to correct for variations in the calibration between the SenSYS sensors used and a de-step function to account for variations in traverse position due to varying ground cover and topography. The data was processed using in-house software which allows greyscale and trace plots to be produced. Interpretation was conducted within the latest version of ESRI ArcGIS Pro. All efforts were made during data collection to limit required processing and no further filtering was applied.

3.5.2 Further details of the geophysical and survey equipment, methods and processing are described in **Appendix 1**.

4 GEOPHYSICAL SURVEY RESULTS AND INTERPRETATION

4.1 Introduction

4.1.1 Results are presented as a series of greyscale plots and archaeological interpretations at a scale of 1:2000 (**Figures 2** and **3**). The data are displayed at -2 nT (white) to +3 nT (black) for the greyscale image.

4.1.2 The interpretation of the datasets highlights the presence of potential archaeological anomalies, ferrous responses, burnt or fired objects, and magnetic trends (**Fig. 3** – **11**). Full definitions of the interpretation terms used in this report are provided in **Appendix 2**.

4.1.3 Numerous ferrous anomalies are visible throughout the dataset. These are presumed to be modern in provenance and are not referred to, unless considered relevant to the archaeological interpretation.

4.1.4 It should be noted that small, weakly magnetised features may produce responses that are below the detection threshold of magnetometers. It may therefore be the case that more archaeological features may be present than have been identified through geophysical survey.

4.1.5 Gradiometer survey may not detect all services present on site. This report and accompanying illustrations should not be used as the sole source for service locations and appropriate equipment (e.g., CAT and Genny) should be used to confirm the location of buried services before any trenches are opened on site.

4.2 Gradiometer survey results and interpretation

4.2.1 A series of positive linear and rectilinear anomalies have been identified in the eastern portion of LP_002 in the north of the site at **GW.4000** (**Figure 5**). These anomalies are between 1 – 2.5 m wide by 16 – 35 m long, broadly orientated either north – south or east – west. The anomalies identified at **GW.4000** are expected to be related to ditched features, possibly combining to form the heavily fragmented remains of a square-shaped enclosure. Given its angular form, it is possibly Romano-British in origin, but a definitive date cannot be applied due to its heavily fragmented nature. The linears are surrounded by small, positive, sub-rounded anomalies between 1 – 3 m in diameter. These anomalies could be refuse or waste pits related to the enclosure. Although angular in form, it is also possible that these anomalies are geological in origin, similar to the large swaths identified in the immediate proximity.

4.2.2 Two positive linear anomalies have been identified 20 m north and 80 m west of **GW.4000** at **GW.4001** and **4002** (**Figure 5**). These anomalies are 1.5 m wide and between 30 – 120 m long, orientated east – west. The combined morphology and geophysical properties of these anomalies are characteristic of ditch-like features. Given their shared orientation and proximity to **GW.4000**, it is likely that they are related, possibly as boundary ditches. It is also possible that these anomalies relate to unmapped former field boundaries or are the result of modern agricultural practises.

4.2.3 Several fragmented groups of weakly positive linear and curvilinear anomalies have been highlighted immediately south of **GW.4000** in the north of LP_003 at **GW.4003** – **4005** (**Figure 5**). Those recorded closest at **GW.4003**, consist of two anomalies 2 m wide by between 16 – 40 m long. The northern-most anomaly is oriented broadly north – south, whilst the southern anomaly is an 'L-shape' in form, with the southern majority of the anomaly orientated east – west. It is possible that these anomalies were once ditches that formerly combined to generate the south-western corner of an enclosure, possibly as an extension of **GW.4000** 40 m to the north-east. The anomalies at **GW.4003** also appear to be on the same orientation as the modern field system which lends the idea that these may be unmapped former field boundaries of post-medieval date.

4.2.4 The remaining fragmented linear and curvilinear anomalies recorded immediately south of **GW.4003** at **GW.4004** and **GW.4005** (**Figure 5**) are between 1 – 3 m wide broadly orientated either north-west to south-east or north-east to south-west. It is possible that these anomalies are ditches of an uncertain origin that were once connected. Given their differing orientation, it is unlikely that they are related to the activity highlighted immediately north. They may relate to a former field system representing a different phase of activity in the area. The fragmented nature of these anomalies, however, makes confident interpretation difficult, and they could equally relate to modern agricultural activity, such as unmapped former field boundaries or field drainage.

4.2.5 Although the relationship between the activity in the northern portion of the site is unclear, its possible archaeological origins could be related to the findings highlighted in the surrounding area. Anomalies **GW.4000** – **GW.4003** could be related the Hornsea One findings 1 km south of site, consisting of several sites of Romano-British activity. Whilst anomalies **GW.4004** and **4005** could be associated with the medieval and early post-medieval settlement activity recorded 400 m south-east of site.

4.2.6 In the southern portion of the site, several weakly positive linear anomalies have been identified at **GW.4006** and **GW.4007** (**Figure 9**). The anomalies are between 0.5 – 1.5 m wide and broadly orientated either NNE – SSW or ENE – WSW. The northern collection of anomalies at **GW.4006** consists of three fragmented linear anomalies, generating a combined length of 135 m, orientated NNE – SSW, with a perpendicular limb extending 55 m west from its southern portion. The anomaly at **GW.4007** appears to be a southern extension of **GW.4006**, with dual linear anomalies extending 40 m ENE from the base of **GW.4006** and an additional linear element continuing SSW for 30 m. These anomalies are likely ditches of an uncertain origin. It is possible that they are related to unmapped former

field boundaries or temporary animal pens associated with Peywipe farm immediately west. They could equally be geological in origin or related to modern agricultural practices such as drains.

4.2.7 Two weakly positive linear anomalies have been recorded centrally within LP_003 at **GW.4008** and **4009** (**Figure 7**). Anomaly **GW.4008** is 1.5 m wide by 105 m long orientated north-east to south-west. Anomaly **GW.4009** is 2 m wide by 70 m long orientated south-east to north-west in a perpendicular relationship to **GW.4008**. Whilst it is possible that both anomalies could be ditches of an archaeological origin, **GW.4008** is in proximity and runs parallel to a pair of fragmented linears recorded at **GW.4010** (**Figure 7**). This pair of anomalies correspond with the locations of known former field boundaries recorded on historical mapping. Anomalies **GW.4008** and **GW.4009** extend both parallel and perpendicular to the known boundary centrally across the field. It is likely that these anomalies are related to unmapped field boundaries or modern drainage.

4.2.8 The survey has detected multiple large-scale swaths of low magnitude anomalies that have been interpreted as geological in origin. These likely relate to natural variation in the soils and background geology. A large example of geomorphological activity has been identified across an area of increased magnetic response in the northern portion of the site at **GW.4011** (**Figure 5**) in LP_002. The activity covers and area 100 m wide by 40 m long. Smaller, more isolated, sinuous examples have also been recorded across the site, possibly related to paleochannels.

4.2.9 An assortment of increased magnetic response has been recorded in the eastern portion of LP_004 at **GW.4012** (**Figure 11**). The collection is fragmented, possibly forming a larger rectilinear feature, 70 m north-west to south-east by 65 north-east to south-west. Whilst it is possible that this area of increased response is related to archaeological activity, it is more likely that it has been generated by the erection and/or demolition of an electricity pylon, visible on mapping in 1961 (NLS 2024). The new pylons are now located centrally in LP_003 connected to the existing National Grid Grimsby West substation immediately north-east.

4.2.10 A strongly dipolar linear anomaly has been identified in the south-western corner of LP_003 at **GW.4013** (**Figure 9**). The anomaly is 6 m wide by 60 m long, orientated north-west to south-east and is engulfed in a rectilinear area of increased magnetic response. The magnetic properties of **GW.4013** are characteristic of a modern service. It is possible that the angular area of increased disturbance is related to a former field boundary or temporary animal pen that has since been removed and replaced with a service, once associated with Peywipe farm immediately west. Additional examples of modern services have been identified in LP_004 at **GW.4014** and **4015** (**Figure 11**).

4.2.11 The remaining anomalies highlighted in this survey are expected to be modern in origin related to agricultural practises such as drains and enhanced agricultural trends. Evidence of ridge and furrow previously identified in aerial photography in the north of the site was not conclusive.

5 DISCUSSION

5.1.1 The geophysical survey has identified several features that are possibly associated with archaeological remains. These are predominantly located in the north of the site, with additional anomalies located in the southern corner of the site.

5.1.2 These anomalies are associated with linear and curvilinear ditch features forming partial enclosures with sub-divisions of possible Romano-British origin. Further examples of activity have also been identified possibly related to medieval/post-medieval activity. Similar activity has been identified in the surrounding area. Given the heavily fragmented nature of these findings however, a firm interpretation cannot be applied, and the anomalies may

simply be related to geological activity or the results of modern agricultural practises on site such as land drains.

5.1.3 The survey has also identified anomalies of former field boundaries, agricultural features, including drains and agricultural ploughing regimes. Anomalies displaying increased response and modern services have also been recorded. The survey also detected anomalies related to geological and geomorphological origins across the site.

REFERENCES

Bibliography

Chartered Institute for Archaeologists [CIfA] 2020 *Standards and guidance for archaeological geophysical survey*. Reading, CIfA.

Schmidt, A., Linford, P., Linford, N., David, A., Gaffney, C., Sarris, A. and Fassbinder, J. 2015. *Guidelines for the use of geophysics in archaeology: questions to ask and points to consider.* EAC Guidelines 2, Belgium: European Archaeological Council.

Wessex Archaeology. 2023a. Post-excavation Assessment Volume 1: *Viking Link Zone 1 Lincolnshire.* Unpublished Grey Literature.

Wessex Archaeology. 2023b. *The Archaeology of the Hornsea Project One Offshore Windfarm Cable Route. Agriculture, settlement, moats and salt working in the Lincolnshire Marshes*. Wessex Archaeology Ltd, Portway House, Old Sarum Ark, Salisbury, SP4 6EB.

Wessex Archaeology. 2024. Grimsby-to-Walpole Substation Survey: Written Scheme of Investigation for an Archaeological Geophysical Survey.

Cartographic and documentary sources

Ordnance Survey 1983 *Soil Survey of England and Wales Sheet 4, Soils of Eastern England.* Southampton.

Online resources

Archaeological Data Service https://archaeologydataservice.ac.uk/archsearch/browser.xhtml (accessed February 2025)

British Geological Survey online viewer http://mapapps.bgs.ac.uk/geologyofbritain/home.html (accessed February 2025)

Historic England (HE) https://historicengland.org.uk (accessed February 2025)

Historic England. 2023. *Aerial Archaeology Mapping Explorer.* https://historicengland.maps.arcgis.com/apps/webappviewer/index.html?id=d45dabecef5541f18255e12e5cd5f85a&mobileBreakPoint=300 (accessed February 2025)

Heritage Gateway website https://www.heritagegateway.org.uk/gateway/ (accessed February 2025)

Lincolnshire County Council HER https://www.lincolnshire.gov.uk/historic-environment/historic-environment-record (accessed February 2025)

National Library of Scotland (NLS) https://maps.nls.uk/geo/explore/ (accessed February 2025)

APPENDICES

Appendix 1 Survey equipment and data processing

Survey methods and equipment

The magnetic data for this project were acquired using a non-magnetic cart fitted with four SenSys FGM650/3 magnetic gradiometers. The instrument has four sensor assemblies fixed horizontally 1 m apart allowing four traverses to be recorded simultaneously. Each sensor contains two fluxgate magnetometers arranged vertically with a 0.6 m separation and measures the difference between the vertical components of the total magnetic field within each sensor array. This arrangement of magnetometers suppresses any diurnal or low frequency effects.

The gradiometers have an effective resolution of ±8 µT over ±1000 nT range. All of the data are then relayed to a CS35 tablet, running the MONMX program, which is used to record the survey data from the array of FMG650/3 probes at a rate of 20 Hz. The program also receives measurements from a GPS system, which is fixed to the cart at a measured distance from the sensors, providing real time locational data for each data point.

The cart-based system relies upon accurate GPS location data which is collected using a Leica Captivate system with a rover and base station. This receives corrections from a network of reference stations operated by the Ordnance Survey and Leica Geosystems, allowing positions to be determined with a precision of 0.02m in real-time and therefore exceed the level of accuracy recommended by European Archaeologiae Consilium recommendations (Schmidt *et al.* 2015) for geophysical surveys.

Data may be collected with a higher sample density where complex archaeological anomalies are encountered, to aid the detection and characterisation of small and ephemeral features. Data may be collected at up to 0.01 m intervals along traverses spaced up to 0.25m apart.

Post-processing

The magnetic data collected during the survey is downloaded from the system for processing and analysis using both commercial and in-house software. This software allows for both the data and the images to be processed to enhance the results for analysis; however, it should be noted that minimal data processing is conducted so as not to distort the anomalies.

The cart-based system generally requires a lesser amount of post-processing than the handheld Bartington Grad 601-2 fluxgate gradiometer instrument. This is largely because mounting the gradiometers on the cart reduces the occurrence of operator error, caused by inconsistent walking speeds and deviation in traverse position due to varying ground cover and topography.

Typical data and image processing steps may include:

- Destripe – Applying a smooth function to remove differences caused by directional effects inherent in the magnetometer;

- Despike – Filtering isolated data points that exceed the mean by a specified amount to reduce the appearance of dominant anomalous readings (generally only used for earth resistance data)

Typical displays of the data used during processing and analysis:

- Greyscale – Presents the data in plan view using a greyscale to indicate the relative strength of the signal at each measurement point. These plots can be produced in colour to highlight certain features but generally greyscale plots are used during analysis of the data.

- XY Plot – Presents the data as a trace or graph line for each traverse. Each traverse is displaced down the image to produce a stacked profile effect. This type of image is useful as it shows the full range of individual anomalies. (XY plots can be made available upon request).

Appendix 2 Geophysical interpretation

The interpretation methodology used by Wessex Archaeology separates the anomalies into four main categories: archaeological, modern, agricultural, and uncertain origin/geological.

The archaeological category is used for features when the form, nature and pattern of the anomaly are indicative of archaeological material. Further sources of information such as aerial photographs may also have been incorporated in providing the final interpretation. This category is further sub-divided into three groups, implying a decreasing level of confidence:

- Archaeology – used when there is a clear geophysical response and anthropogenic pattern.
- Possible archaeology – used for features which give a response, but which form no discernible pattern or trend.

The modern category is used for anomalies that are presumed to be relatively modern in date:

- Ferrous – used for responses caused by ferrous material. These anomalies are likely to be of modern origin.
- Modern service – used for responses considered relating to cables and pipes; most are composed of ferrous/ceramic material although services made from non-magnetic material can sometimes be observed.

The agricultural category is used for the following:

- Former field boundaries – used for ditch sections that correspond to the position of boundaries marked on earlier mapping.
- Ridge and furrow – used for broad and diffuse linear anomalies that are considered to indicate areas of former ridge and furrow.
- Ploughing – used for well-defined narrow linear responses, usually aligned parallel to existing field boundaries.
- Drainage – used to define the course of ceramic field drains that are visible in the data as a series of repeating bipolar (black and white) responses.

The uncertain origin/geological category is used for features when the form, nature and pattern of the anomaly are not sufficient to warrant a classification as an archaeological feature. This category is further sub-divided into:

- Increased magnetic response – used for areas dominated by indistinct anomalies which may have some archaeological potential.
- Trend – used for low amplitude or indistinct linear anomalies.
- Superficial geology – used for diffuse edged spreads considered to relate to shallow geological deposits. They can be distinguished as areas of positive, negative, or broad bipolar (positive and negative) anomalies.

Appendix 3 OASIS form

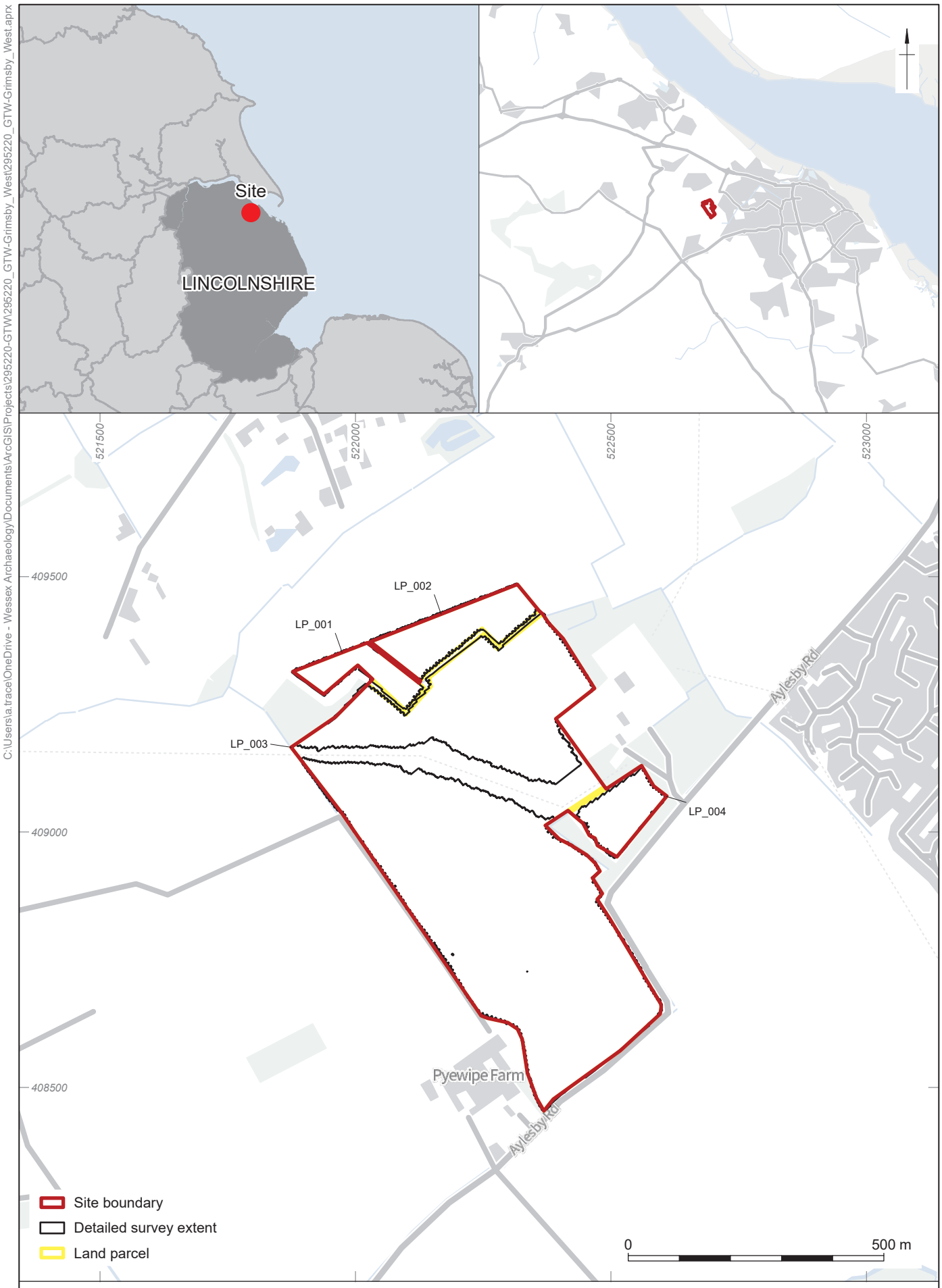
Project Details:

OASIS Summary for wessexar1-532095

OASIS ID (UID)	wessexar1-532095
Project Name	Magnetometry Survey at Grimsby to Walpole: Grimsby West
Sitename	Grimsby to Walpole: Grimsby West
Sitecode	295220
Project Identifier(s)	Geophysical Survey at Grimsby West
Activity type	Magnetometry Survey, MAGNETOMETRY SURVEY
Planning Id	
Reason For Investigation	Planning: Pre application
Organisation Responsible for work	Wessex Archaeology
Project Dates	03-Sep-2024 - 05-Nov-2024
Location	Grimsby to Walpole: Grimsby West NGR : TA 22252 09117 LL : 53.5644329443677, -0.155615129225472 12 Fig : 522252,409117
Administrative Areas	Country : England County/Local Authority : North East Lincolnshire Local Authority District : North East Lincolnshire Parish : Aylesby
Project Methodology	The geophysical survey was undertaken by Wessex Archaeology's in-house geophysics team between 03 September and 05 November 2024. Field conditions were good throughout the period of survey. An overall coverage of 35.1 ha was achieved, overhead powerlines traverse north-east to south-west across the centre of LP_003 preventing compete coverage of the area. The methods and standards employed throughout the geophysical survey conform to that set out in the Written Scheme of Investigation (WSI) (Wessex Archaeology 2024), as well as to current best practice, and guidance outlined by the Chartered Institute for Archaeologists' (CIfA 2014) and Europae Archaeologiae Consilium (Schmidt et al. 2015).
Project Results	The geophysical survey has identified several features that are possibly associated with archaeological remains. These are predominantly located in the north of the site, with additional anomalies located in the southern corner of the site. These anomalies are associated with linear and curvilinear ditch features forming partial enclosures with sub-divisions of possible Romano-British origin. Further examples of activity have also been identified possibly related to medieval/post-medieval activity. Similar activity has been identified in the surrounding area. Given the heavily fragmented nature of these findings however, a firm interpretation cannot be applied, and the anomalies may simply be related to geological activity or the results of modern agricultural practises on site such as land drains. The survey has also identified anomalies of former field boundaries, agricultural features, including drains and agricultural ploughing regimes. Anomalies displaying increased response and modern services have also been recorded. The survey also detected anomalies related to geological and geomorphological origins across the site.
Keywords	

Funder	Private or public corporation Arup
HER	North East Lincolnshire HER - unRev - STANDARD
Person Responsible for work	Patricia Edwards
HER Identifiers	
Archives	

Report generated on: 05 Mar 2025, 12:13



Coordinate system: OSGB 1936 British National Grid

Date: 19/02/2025	Created by: ADT	Revision: 0	Scale: 1:10,000 at A4

Figure 1: Site location and survey extents

C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

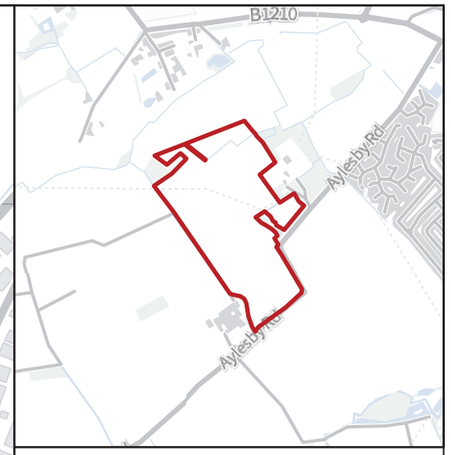
521500
522000
522500
409500
409000
408500

Figure 4

LP_001
LP_002
LP_003
LP_004

Figure 6
Figure 8
Figure 10

Aylesby La
Aylesby Rd
Albatross Dr
Pyewipe Farm



Site boundary
Detailed survey extent
Land parcel

-2 nT
3 nT

0
250 m

Date: 19/02/2025	Created by: ADT
Scale: 1:5,000	Revision: 0

Figure 2: Detailed gradiometer survey results: overall greyscale plots (-2nT to 3nT)

C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

Figure 5

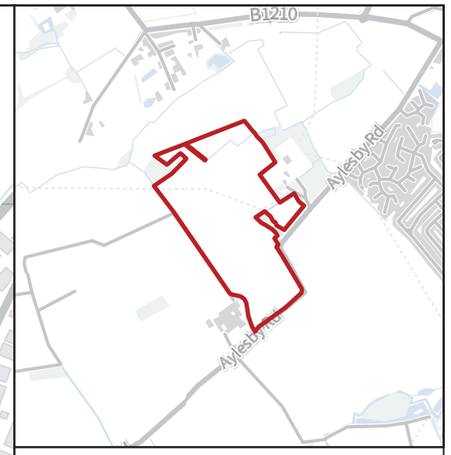
LP_001
LP_002
LP_003
LP_004

Figure 7
Figure 9
Figure 11

Pyewipe Farm

Aylesby La
Aylesby Rd
Albatross Dr

521500
522000
522500
409500
409000
408500



- Site boundary
- Detailed survey extent
- Land parcel
- Possible archaeology
- Former field boundary
- Geology
- Geomorphology
- Modern service
- Increased response
- Ferrous
- Agricultural feature
- Drain
- Trend

0 250 m

Date: 20/02/2025 | Created by: ADT

Scale: 1:5,000 | Revision: 0

Figure 3: Detailed gradiometer survey results: overall interpretation

C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

522000

522200

522400

409400

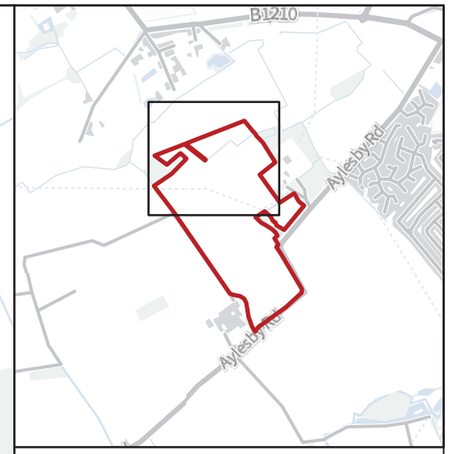
409200

LP_001

LP_002

LP_003

LP_004



Site boundary

Detailed survey extent

Land parcel

-2 nT

3 nT

0

50 m

Date: 19/02/2025 | Created by: ADT

Scale: 1:2,000 | Revision: 0

Figure 4: Detailed gradiometer survey results: greyscale plot (LP_001 - LP_003)

C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

522000

522200

522400

409400

409200

LP_001

LP_002

LP_003

LP_004

GW.4001

GW.4000

GW.4002

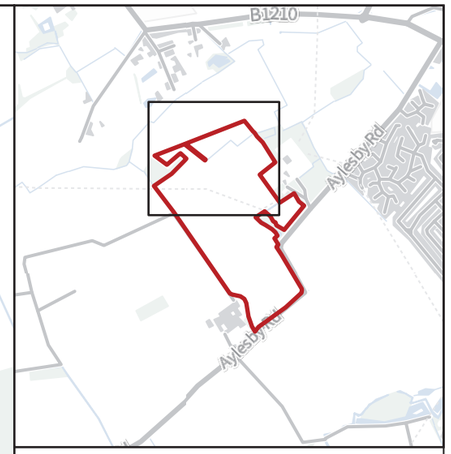
GW.4011

GW.4003

GW.4004

GW.4005

GW:4014



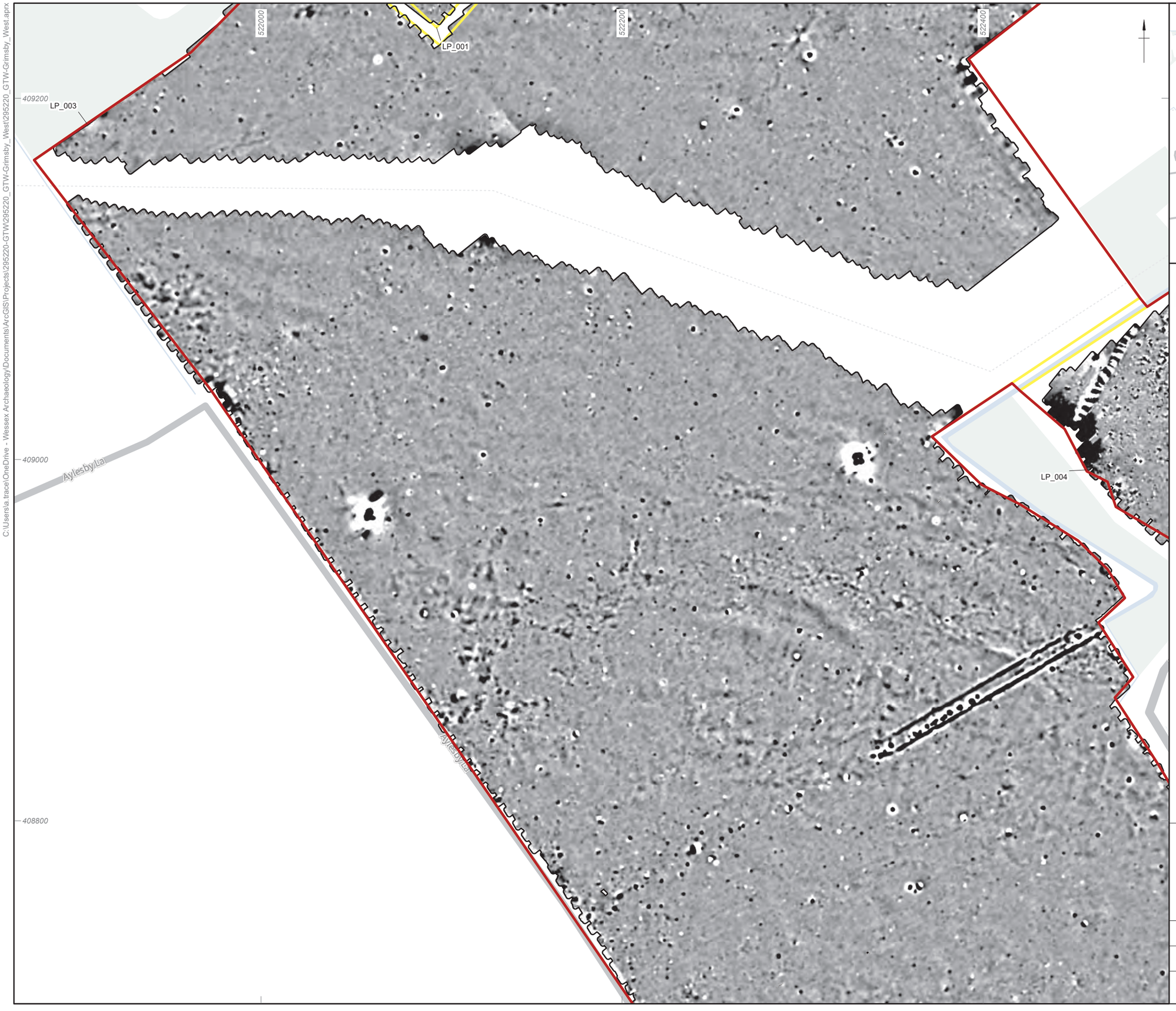
- Site boundary
- Detailed survey extent
- Land parcel
- Possible archaeology
- Geology
- Geomorphology
- Modern service
- Increased response
- Ferrous
- Agricultural feature
- Drain
- Trend

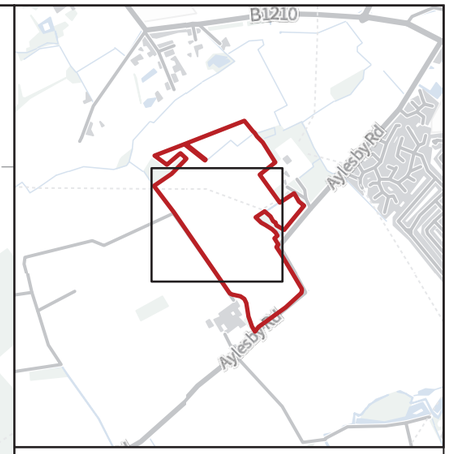
0 50 m

Date: 20/02/2025 | Created by: ADT

Scale: 1:2,000 | Revision: 0

Figure 5: Detailed gradiometer survey results: interpretation (LP_001 - LP_003)





Site boundary
Detailed survey extent
Land parcel

-2 nT 3 nT

0 50 m

Date: 19/02/2025	Created by: ADT	
Scale: 1:2,000	Revision: 0	

Figure 6: Detailed gradiometer survey results: greyscale plot (LP_003)

C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

522000
522200
522400
409200
409000
408800
LP_001
LP_003
LP_004
GW.4014
GW.4010
GW.4008
GW.4009
Aylesby La
Aylesby La
B1210
Aylesby Rd
Aylesby Rd

Site boundary
Detailed survey extent
Land parcel
Possible archaeology
Former field boundary
Geology
Geomorphology
Modern service
Increased response
Ferrous
Agricultural feature
Drain
Trend

0 50 m

Date: 20/02/2025 | Created by: ADT
Scale: 1:2,000 | Revision: 0

Figure 7: Detailed gradiometer survey results: interpretation (LP_003)

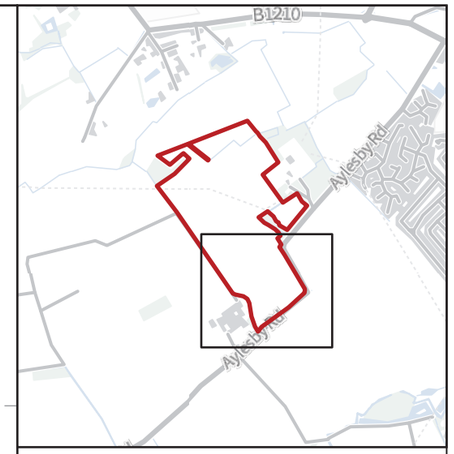
C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

522200
522400
522600
408800
408600
408400

Aylesby Rd

LP_003

Pyewipe Farm



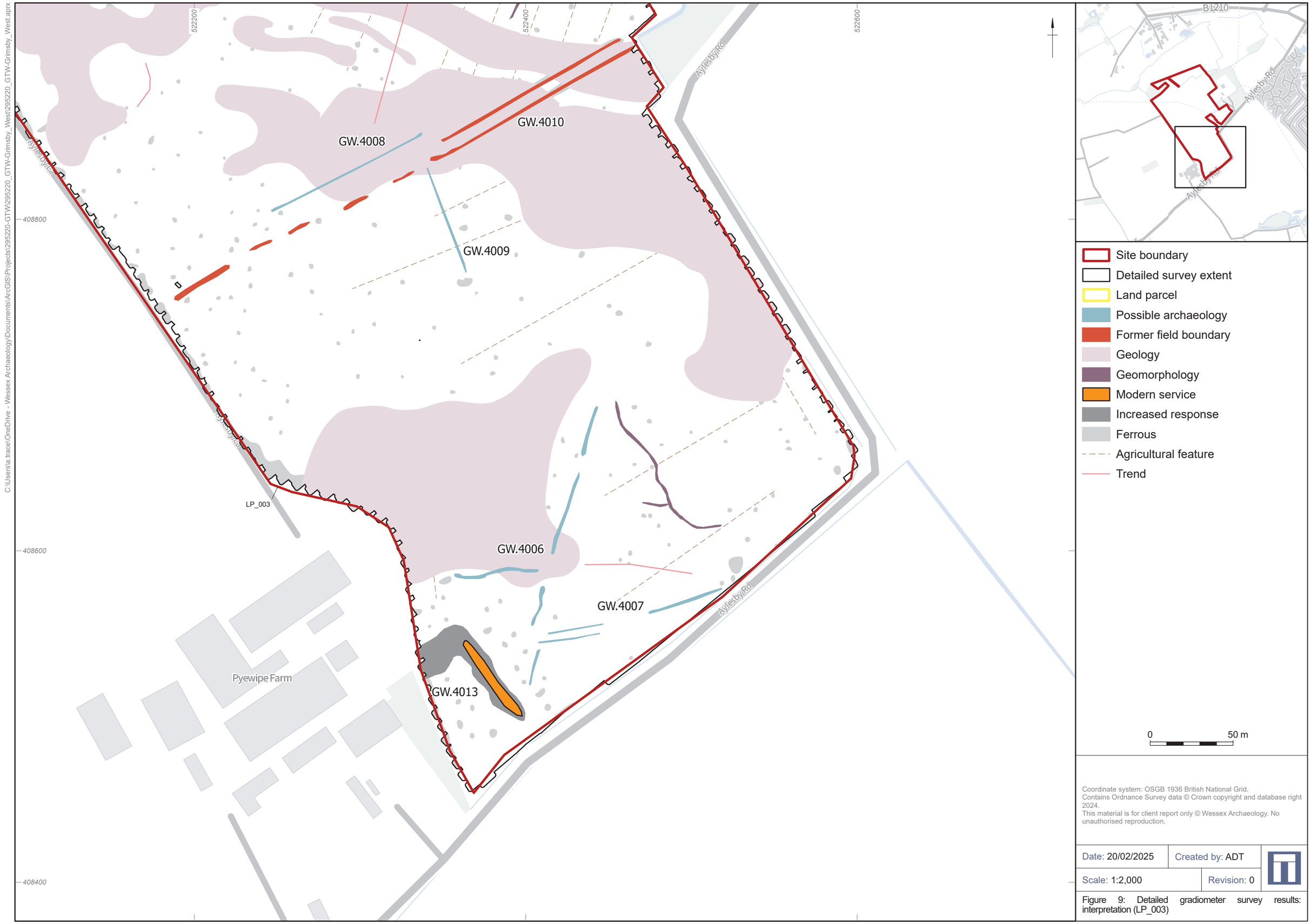
Site boundary
Detailed survey extent
Land parcel

-2 nT
3 nT

0
50 m

Date: 19/02/2025 | Created by: ADT
Scale: 1:2,000 | Revision: 0

Figure 8: Detailed gradiometer survey results: greyscale plot (LP_003)



C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW\295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

Coordinate system: OSGB 1936 British National Grid.

Date: 20/02/2025 | Created by: ADT

Scale: 1:2,000 | Revision: 0

Figure 9: Detailed gradiometer survey results: interpretation (LP_003)

C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW\295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

522200
522400
522600
522800
409200
409000
408800

LP_004
LP_003

Aylesby Rd

B1210
Aylesby Rd
Aylesby Rd

Site boundary
Detailed survey extent
Land parcel

-2 nT
3 nT

0
50 m

Date: 19/02/2025 | Created by: ADT
Scale: 1:2,000 | Revision: 0

Figure 10: Detailed gradiometer survey results: greyscale plot (LP_004)

C:\Users\a.trace\OneDrive - Wessex Archaeology\Documents\ArcGIS\Projects\295220-GTW295220_GTW-Grimsby_West\295220_GTW-Grimsby_West.aprx

522200 522400 522600 522800

409200 409000 408800

GW.4005

GW.4015

GW.4012

GW.4014

GW.4010

GW.4008

GW.4009

LP_004

LP_003

Aylesby Rd

B1210

Aylesby Rd

Site boundary
Detailed survey extent
Land parcel
Possible archaeology
Former field boundary
Geology
Geomorphology
Modern service
Increased response
Ferrous
Agricultural feature
Drain
Trend

0 50 m

Date: 20/02/2025 | Created by: ADT

Scale: 1:2,000 | Revision: 0

Figure 11: Detailed gradiometer survey results: interpretation (LP_004)

Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk

National Grid plc
National Grid House,
Warwick Technology Park,
Gallows Hill, Warwick.
CV34 6DA United Kingdom

Registered in England and Wales
No. 4031152
nationalgrid.com