Frodsham Solar

Environmental Statement: Volume 2
Appendix 11-1: Cultural Heritage Baseline

May 2025

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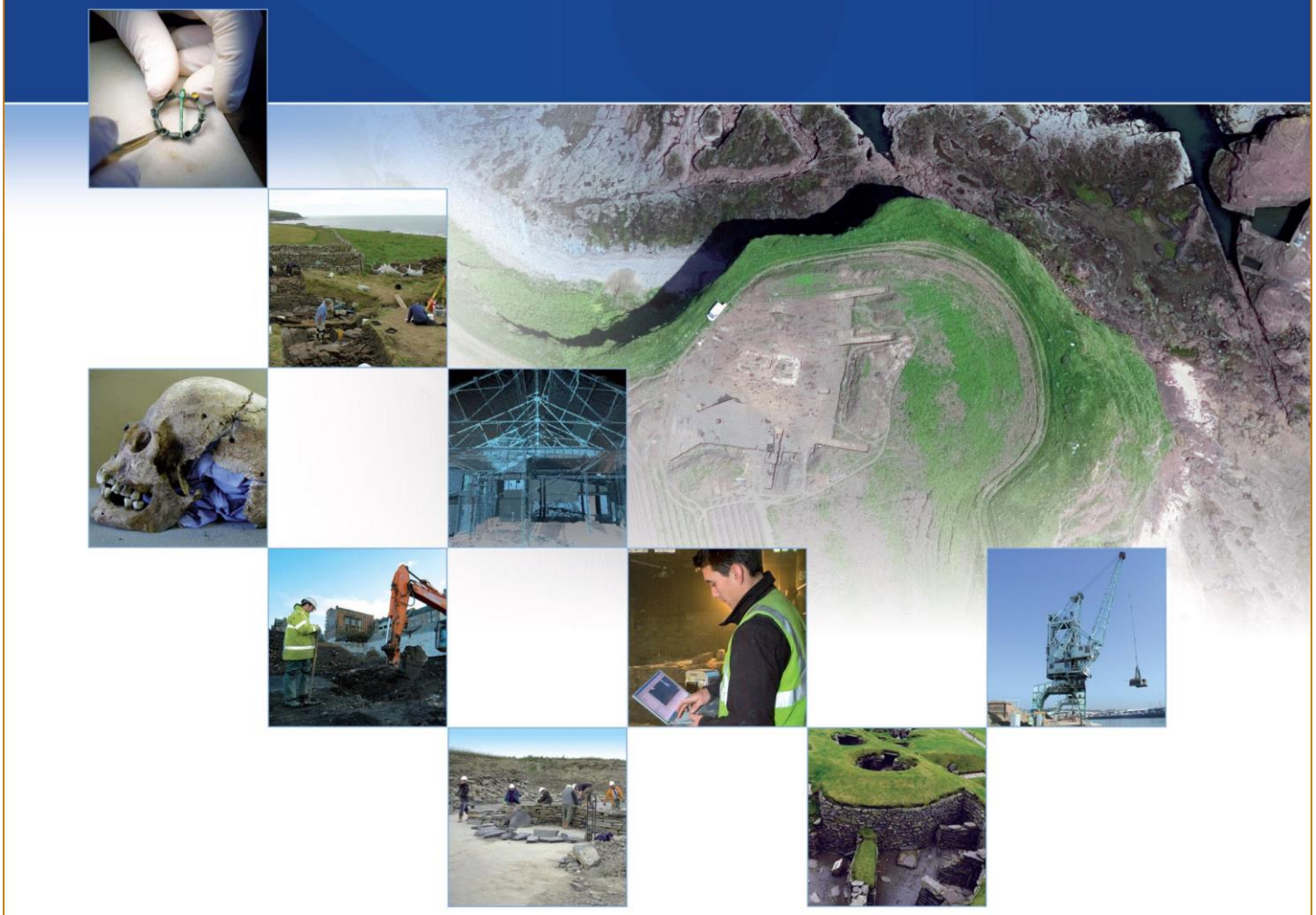
Frodsham Solar DCO, Frodsham Marsh, Cheshire:

Appendix 11-1

Cultural Heritage Baseline

AOC Project Number: 26460

May 2025



AOC Archaeology Group

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Appendix 11-1 Frodsham Solar DCO, Frodsham Marsh, Cheshire: Cultural Heritage Baseline

On Behalf of:	**Axis Ltd** Wells House Barns Chester Road Bretton Chester CH4 0DH
National Grid Reference (NGR):	**SJ 51000 78500**
AOC Project No:	**26460**
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This document has been prepared in accordance with AOC standard operating procedures.

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Draft/Final Report Stage: Final	**Date: May 2025**

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Contents

1 NON-TECHNICAL SUMMARY

1.1 This Cultural Heritage and Archaeology Desk Based Assessment (DBA) outlines the baseline cultural heritage and archaeological conditions at the Site in support of ***ES Vol 1 Chapter 11: Cultural Heritage and Archaeology [EN010153DR6.1]***.

1.2 This DBA has been undertaken in accordance with best practice guidance as detailed in Section 3.1. Where appropriate, reference is made to other environmental topics and other Chapters and appendices within the ES (in particular ***ES Vol 2 Appendices 11-2 Gazetteer of Heritage Assets and Events [EN010153DR6.2], 11-3 Historic Map Extracts and Lidar Data [EN010153DR6.2]*** and ***11-4 Plates [EN010153DR6.2] as well as ES Vol 3 Figures 11-1 to 11-4 [EN010153DR6.3]***).

2 INTRODUCTION

2.1. Proposed Development Site

2.1.1. The Proposed Development site (hereafter 'the Site') is located on Frodsham Marsh, Frodsham, Cheshire (centred on NGR SJ 51000 78500). The Site comprises 314 ha of land (including Main Site Access route, SPEN Grid Connection, Private Wire Connection to local businesses and Skylark Mitigation Area) located between the M56 and the Manchester Ship Canal and bounded to the northeast by the River Weaver; within this, the Solar Array Development Area (hereafter 'the SADA') comprises 290 ha (see ***ES Vol 3, Figure 1-1, [EN010153DR6.3]***).

2.1.2. The Site is currently managed for various purposes, including arable agriculture (fields to the east of Brook Furlong Lane), wildfowling (between Weaver Lane and Brook Furlong Lane) and pasture (to the west of Brook Furlong Lane). Frodsham and Helsby Marshes are divided into parcels by multiple drainage ditches, with water actively pumped into the surrounding canal and river channels, including via Frodsham Pumping Station in the eastern corner of the Site. The western half of the Site is part of the Manchester Ship Canal (MSC) Deposit Ground and comprises six embanked 'cells' or 'tanks' that serve as settling lagoons and storage tanks for dredged silt. Cell 6, to the south of the Site boundary, is still active and currently comprises open water and a large reed bed, but Cells 1 - 5 within the Site are no longer in use and have been restored to agricultural land. Frodsham Wind Farm's 'Eastern Cluster' of turbines is distributed across Cells 1 and 5 in the centre of the Site.

2.2. Proposed Development

The Proposed Development comprises a new ground-mounted solar energy generating station with a total capacity exceeding 50 megawatts and an associated on-site Battery Energy Storage System (BESS) on land at Frodsham Marsh, Frodsham, Cheshire West and Chester. The Proposed Development also includes the associated infrastructure for connection to the local electricity distribution network, as well as a private wire electricity connection that would provide the opportunity to supply renewable energy generated by the Proposed Development directly to nearby businesses. A full description of the Proposed Development is provided in ES Vol 1 Chapter 2: The Proposed Development [EN010153/DR/6.1].

2.3. Topographic and Geological Context

2.3.1. The Site is situated at around 5m above Ordnance Datum (aOD) on low-lying reclaimed marsh land close to the mouth of the River Weaver on the southern side of the Mersey Estuary. The northwestern side of the Site is separated from the saltmarsh of the estuary by the Manchester Ship Canal, and the slightly raised ground (maximum c. 10m aOD) of Frodsham Score. Construction of the ship canal, Weaver sluices, Weaver Navigation and Weston Canal in the 18th and 19th centuries has heavily modified the mouth of the Weaver (formerly tidal as far as Frodsham Bridge), with the flat land of Frodsham, Helsby and Ince Marshes remaining conspicuously open within the belt of industrial works and chemical refineries that have developed along the southern bank of the Mersey.

2.3.2. To the southeast of the Site, the land rises steeply, with settlements such as Frodsham situated on the drier ground overlooking the marshes. Frodsham is located at the northern end of a discontinuous ridge of Triassic sandstone that protrudes through the surrounding glacial tills of the Cheshire Plain to form a series of prominent hills running south. Frodsham Hill (c. 132m aOD), Woodhouse Hill (c. 145m) and Helsby Hill (c. 139) dominate views southwards from the Site; their northern slopes are wooded due to the steep gradients.

2.3.3. The 1:50,000 scale geological mapping (BGS 2024a) shows the Site is underlain by a series of bands of Triassic sand and mudstones that run roughly north-south. From west to east (Main Site Access route,

SPEN Grid Connection and Private Wire Connection)), these are the Kinnerton, Chester, Wilmslow, and Helsby Sandstone Formations, the Tarporley Siltstone Formation and the Bollin Mudstone Member. These sedimentary rocks represent a mix of aeolian and fluvial sediments with varying lithological characteristics and frequent subordinate beds. Mapping at this scale can only give a general indication of their subsurface distribution; their extents are potentially complex and characterised by a variety of transitional, diachronous, laterally progressive and conformable/unconformable boundaries.

2.3.4. The same mapping shows that across the Site the bedrock is overlain by extensive tidal flat deposits (i.e. clays, silts and sands) associated with the Mersey Estuary. A narrow band of glaciofluvial sands and gravels extends along the south-eastern edge of the marsh at the foot of the rising ground, with patchy till deposits present in places on the lower slopes of the sandstone ridge. No superficial deposits are recorded across the higher ground (including at Frodsham, Netherton and Overton).

2.3.5. The 20th-century use of parts of the Site and its surrounds as a dump for material dredged from the canals has resulted in the accumulation of significant deposits of silt, clay and sand within the embanked cells. The ground level within the 'full' cells is now several metres above that of the surrounding land, however, it appears likely that this material lies on top of, and potentially preserves, the earlier ground surface. The surrounding cell embankments appear to comprise imported dredged material.

Previous Geological Investigations on the Site

2.3.6. The BGS Single Onshore Borehole Index (BGS 2024b) contains records of 30 to 40 historical (non-archaeological) boreholes sunk within or immediately outside the Site, with many more located across the 1km Study Area. Many of these appear to be associated with the construction of the M56 and schemes such as the North-West Ethylene Pipeline, and range in date from the 1960s to 1990s (with varying levels of detail publicly available), though several records date from the 1880s and presumably relate to the construction of the Manchester Ship Canal.

2.3.7. A borehole sunk in 1891 (possibly for a well) was undertaken "*alongside Frodsham Marsh Huts*" (Asset 268) close to the southeastern edge of Cell 3 (BGS 2024b: ID 163249/SJ47NE5). The red sandstone bedrock was encountered at a depth of 221 feet (67.3m) below ground level (the investigation was undertaken prior to the deposition of dredged material). This was overlain by clays, with layers of fine sand, coarse gravel and grey sand (each between 6 and 8 ft (1.8m - 2.4m) thick) at depths of 48ft (14.6m), 35ft (10.7m) and 29ft (8.8m) respectively.

2.3.8. Few of the more recent boreholes include investigations to this depth (most are less than 10m), but all are dominated by various (and sometimes numerous) layers of clays and silty clays, demonstrating a range of colours and components, and interspersed with sands. Most of the clays and sands are unlikely to contain retrievable palaeoarchaeological information, and generally reflect phases of alluvial sedimentation (including marine transgressions) during which human habitation would not be expected, although a number of records, particularly those located along the northern and eastern edges of the Site, refer to organic content or remains of decayed vegetation within other sediments (though these layers are not substantial).

2.3.9. More detailed deposit modelling would be required to maximise the information contained in the borehole records but, cumulatively, they suggest that a buried peat deposit extends across a large portion of the marshes between Frodsham and Ince. This is most clearly evident in cores taken to the south and southwest of the Site, where it is possible to trace a layer of peat up to c. 8ft (2.43m) thick at a roughly constant depth in adjacent cores along extended sections of transects undertaken as part of investigations for '*Frodsham New Road'* (no date recorded). The transects run approximately NE-SW through the arable land between the M56 and Cell 6, and on a similar alignment approximately halfway between this line and the MSC. It is not clear how far this deposit extends into the Site itself, as it only

appears in one record from the interior of the SADA, from the centre of Cell 5 (BGS SJ57NW17/C; note that this location, SJ 50150 78580, is taken from scanned original notes rather than the digitised label used in the map viewer, which places it c. 1.3km further east). Numerical measurements are not included, but the scale diagram shows a sequence of deposits comprising c. 1 ft (0.3m) soil overlying a c. 4 ft (1.22m) thick layer of clay, which in turn overlies c. 4 ft (1.22m) of blue clay and a c. 5ft (1.52m) thick peat deposit, to the maximum depth of the sample at 15ft (4.75m) below ground level. It is not, however, possible to tell what condition this layer may be in.

2.3.10. Peat was also recorded in a borehole at the northwestern corner of Cell 3 (SJ 48520 78220), which was sunk to a depth of 117.8m in 1983. A band of peat 0.6m thick was present at a depth of 9.2 - 10m, below layers of sandy clay, sand and sandy clayey silt, and above the sands and clay with gravel and boulders that were found to overlie the bedrock; the bedrock was recorded at a depth of 42m.

2.3.11. The potential for peat deposits to yield palaeoenvironmental data is clearly demonstrated by analysis of pollen and plant macrofossils from boreholes sunk in advance of development immediately north of Moor Lane (which forms part of the Main Site Access Route) at the western end of the Former CF Fertiliser Plant (RSK Environment Ltd 2016) (c. 2.3km from the western boundary of the Site at Cell 3). At this location, two beds of peat were identified, separated vertically and overlain by silts and clays that signified flooding events and inundation of the site. Radiocarbon dates obtained from various points on the sequence showed that the organic material had begun to accumulate in the early post-glacial period and continued (allowing for the intervening phase represented by the water-deposited silt) until the late Bronze Age. Further analysis of peat and plant macrofossils was undertaken upon 3 metre deep peat deposits found to the southwest of the Site in 2010, as part of works associated with the Ince Resource Recovery Park (Event 392). The analysis of the peats and macrofossils (Asset 374) revealed that the earliest dated to the post-glacial period with accumulation continuing up to the Late Bronze Age. Further investigation of the Ince Marsh peat deposits was undertaken in 2017 in association with works within Plot 9 of the Biomass Renewable Energy Plant, Ince Resource Recovery Park (Event 400). These investigations involved the analysis and radiocarbon dating of peats identified within borehole cores taken during ground investigation works. These works identified two layers of peat (Asset 372) at depths of between 3-6m below ground level (bgl) and 10-11m bgl, which are believed to date from the Mesolithic and Bronze Age period respectively. An additional area of shallow peat (0.5–1.5m below the ground, was also dated to the Bronze Age. Further details are included in the relevant chronological baseline section below.

2.3.12. As part of the Frodsham Solar project, a desk-based Geo-Environmental Assessment has been undertaken which forms ***ES Vol 2 Appendix 10-1 [EN010153/DR/6.2].***

2.4. Legislation, Planning Policy Context and Guidance

2.4.1. This Desk Based Assessment has been prepared in accordance with relevant legislation, national and local policy, and guidance on the historic environment which are outlined within Section 11.2 of the ***ES Vol 1, Chapter 11: Cultural Heritage and Archaeology [EN010153/DR/6.1].***

2.5. Planning Considerations

2.5.1. The Site lies within the administrative boundary of Cheshire West and Chester Council, which is advised on archaeological matters by Cheshire Archaeology Planning Advisory Service (CAPAS).

2.5.2. No designated heritage assets are located within the Site. The following 23 non-designated assets have been identified within or on the Site boundary:

- Probable post-medieval flood defence, east of Frodsham Marsh Farm (Asset 258);

- The Manchester Ship Canal (Asset 264) follows the outside of the northwestern Site boundary, with former landing stages and associated structures located at 'Saltport' (Asset 315);
- Site of Frodsham Marsh Wooden Huts (Asset 268);
- Site of a former structure, possible hut or barn, shown on historical maps (Asset 267);
- Findspot of two Bronze Age spearheads from Frodsham Marsh (Asset 226);
- Site of a Victorian rifle range (Asset 269);
- Site of the former Grinsome Farm (Asset 373) - adjacent to existing access route to the southwest);
- Remains of a 19th-century sewage outfall and well (Asset 270);
- Site of a post-medieval sluice on Frodsham Marsh (Asset 265);
- Various parcels of ridge and furrow, identified from historical and modern aerial photographs (Asset 257);
- Various former structures (possibly military) identified from historical aerial photographs (Assets 276 - 282);
- Canal deposit dumps, disused Cells 1, 2, 3 and 5 (Asset 314);
- Possible ventilation shafts (Asset 16);
- Former post-medieval sheepfold, shown on historical maps (Asset 317);
- Former structure (possible huts or farm buildings) at Marsh Farm (Asset 318); and
- Probable peat deposits with the potential to contain palaeoenvironmental data.

2.5.3. Table 1, below, summarises the designated assets located within 5km of the Site. The buffers created for the 3km and 5km Study Areas (for settings assessment) exclude the Main Site Access route, SPEN Grid Connection, Private Wire Connection to local businesses and the Skylark Mitigation Area and are based upon the SADA, SPEN Substation and the NBBMA. This methodology has been utilised as the Main Site Access route, SPEN Grid Connection, Private Wire Connection to local businesses and the Skylark Mitigation Area will not result in any visual above ground changes that would have the potential to impact upon the settings of designated assets at distances of up to 3km and 5km.):

Asset Type	**Asset No.**	**Asset Name**	**Notes** (additional assets contained within Cons. Area boundaries)
Within 1km (all designated assets)			
Conservation Areas	154	Frodsham (Town)	31 x Grade II LBs: Assets 38, 40-46, 48, 50-55, 57-62, 64-66, 68, 76, 87, 90, 92, 96, 97 (51 Locally Listed Buildings)
	155	Castle Park (Frodsham)	
	156	Overton St Lawrence's (Frodsham)	Note that while a small proportion of the CA extends within the 1km Study Area, the majority of the designated area and all its Listed Buildings lie within the 1-3km Study Area: see below).
	158	Weston Village	1 x Grade II* LB: Asset 23 (Parish Church of St John the Evangelist) 6 x Grade II - Assets 146 to 151

Listed Buildings - Grade II	56 71 72 78 85 86 88 145	Mill House Shippon 10m S of Manor Farmhouse L-shaped Stable/Pillared Haybarn/Shippon 50m SE of Manor Farmhouse Cottage and Coach/Cartshed 30m E of Manor Farmhouse Frodsham Viaduct No. 53 Viaduct over Weaver Navigation No.54 Frodsham Bridge Remains of Rocksavage	
Registered Parks and Gardens (RPG) - Grade II	153	Castle Park	
Between 1km and 3km of the Site (all designated assets)			
Scheduled Monuments	1 2 3 14 15	Promontory Fort on Helsby Hill 250m NW of Harmers Lake Farm Hillfort on Woodhouse Hill 500m W of Mickledale Bradley Promontory Fort Above Beechbrook 50m S of Beechmill House Daresbury Heavy Anti-Aircraft Gun Site 400m W of Sutton Fields Farm	
Listed Buildings - Grade I	17 18 20	Church of St Lawrence Halton Castle Sutton Hall	
Listed Buildings - Grade II*	320 27 32	The Old Vicarage The Tricorn Public House The Cottage	
Listed Buildings - Grade II	47, 69, 73-75, 77, 81-84, 89, 91, 93, 94, 98-117	Various: range of ecclesiastical, agricultural, residential and transport buildings (post-medieval).	
Conservation Areas	156	Overton, St Lawrence's (Frodsham)	1 x Grade I LB: Asset 17 (Church of St Lawrence) 1 x Grade II* LB: Asset 22 (The Old Vicarage) 7 x Grade II LBs: Assets 39, 49, 67, 70, 79, 80, 95.
	157	Halton Village	1 x Sched Mon: Asset 6 (Halton Castle) 1 x Grade I LB: Asset 18 (Halton Castle) 4 x Grade II* LBs: Assets 319, 28, 29 and 31 12 x Grade II LBs: Assets 122, 123, 125, 126, 128-130, 135-138, 141
	159	Higher Runcorn	6 x Grade II LBs: Assets 124, 127, 131-133, 143
	312	Overton, Five Crosses	
Between 3km and 5km of the Site (Assets of Highest Significance/Included in the Assessment)			
Scheduled Monuments	4 5 7 8 9 10	Roman Fortlet at Ince Roman Camp on Birch Hill Augustinian Abbey Known as Norton Priory Ince Manor Monastic Grange and Fishpond Middleton Moated Monastic Grange, Eight Fishponds/Connecting Channels Peel Hall Moated Site, Kingsley	

	11	The Maiden's Cross, Wayside Cross
	12	Dovecote at the Site of Aston Old Hall
	13	Duck Decoy Pond 200m SE of Marsh Bridge
	16	Moated Site, Fishpond and Connecting Channel, Elton
	22	Manor House of Abbey of St Werburgh
	36	Church of St James, Pool Lane
Listed Buildings - Grade I	19	Remains of Norton Priory
	21	Church of St Peter
Listed Buildings - Grade II*	24	Former Transporter Bridge Power House
	25	Runcorn Railway Bridge over R. Mersey
	26	Church of All Saints, Church Street
	30	Church of St Mary
	33	Manor House Farmhouse
	34	Alvanley Hall Farmhouse
	35	Rock Farmhouse, Ince Lane
	37	The Manor House
There are no World Heritage Sites, Grade I or II* RPGs or Registered Battlefields within the Study Areas.		

3 OBJECTIVES

3.1. The main objectives of this assessment are to identify the archaeological and heritage value of the Site proposed for development, and the potential for cultural heritage assets to be impacted by the Proposed Development.

3.2. This Appendix outlines the known archaeological baseline of the Site and provides a summary of the archaeological potential within its extent. This will be achieved by examination of a variety of evidence for buried and upstanding remains of heritage interest, including designated and non-designated heritage assets within the Site and the Study Areas, as set out in the following sections of this report.

4 METHODOLOGY

4.1. Standards

4.1.1. The scope of this assessment meets the requirements of current planning regulations set out in the National Policy Statements for Energy (NPS EN-1); renewable energy infrastructure (NPS EN-3); and Electricity Networks EN-5 (NPS EN-5); the Ancient Monuments and Archaeological Areas Act, 1979; Planning (Listed Buildings and Conservation Areas) Act, 1990 as amended by the Levelling Up and Regeneration Act 2023; and local planning policy. It also has reference to the National Planning Policy Framework and Planning Policy Guidance .

4.1.2. AOC Archaeology Group conforms to the standards of professional conduct outlined in the Chartered Institute for Archaeologists' (CIfA) Code of Conduct , Regulations of Professional Conduct ; and the CIfA Standards and Guidance for Historic Environment Desk Based Assessments , Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment and other relevant guidance.

4.1.3. AOC Archaeology Group is a Registered Organisation of the CIfA. This status ensures that there is regular monitoring and approval by external peers of our internal systems, standards, and skills development.

4.1.4. AOC is ISO 9001:2015 accredited, in recognition of the Company's Quality Management System.

4.2. Data sources

4.2.1. The following data sources were consulted during preparation of this assessment:

- The **Cheshire Historic Environment Record** (HER): for data relating to assets, previous archaeological interventions and historic landscape character within the Study Area;
- The **National Heritage List for England** (NHLE): for data relating to designated heritage assets;
- The **CWACC website**: for data relating to the Conservation Areas;
- **Cheshire Archives and Local Studies** (CALS): for sources relating to previous land use;
- The **National Library of Scotland** (NLS) website: for Ordnance Survey and pre-Ordnance Survey maps;
- **TheGenealogist.co.uk**: for copies of tithe maps/apportionments and census returns through AOC Archaeology Group's online subscription;
- **Chester Image Bank** website: for historic photographs of the area;
- **Historic England's Archive** and **Aerial Photo Explorer website** (and other online photographic collections): for historical aerial images of the Site and surrounding area;
- The **Environment Agency National LiDAR Programme** (via DEFRA): for 1m resolution LiDAR data;
- Other **online resources**: for a variety of digitized information e.g. geological mapping (via the British Geological Society website), historical accounts (via British History Online) and open-access publications (via the ADS library or the websites of academic publications).

4.2.2. All sources consulted during the assessment, including publications, archived records, photographic and cartographic evidence, are listed amongst the References in Section 7.

4.3. Report Structure

4.3.1. Each heritage asset or event referred to in the text is listed in the Gazetteer in ***ES Vol 2, Appendix 11-2, [EN010153/DR/6.2].*** . Each has been assigned an 'Asset/Event Number' unique to this assessment, and the Gazetteer includes information regarding the type, period, grid reference, HER number, protective designation, and other descriptive information, as derived from the consulted sources.

4.3.2. Each identified heritage asset and event is plotted on the location maps (***ES Vol 3, Figures 11-1 – 11-4 [EN010153/DR/6.3].***), using the assigned Asset/Event Numbers. The Site (outlined in red) and the Study Area boundaries are shown on these figures.

4.4. Limitations of Scope

4.4.1. This assessment is based upon data obtained from publicly accessible archives as described in the Data Sources Section (Section 4.2). Information relating to designated heritage assets was downloaded from the National Heritage List for England in March 2024. Data from the Cheshire HER was obtained in March 2024. The information presented in the gazetteer regarding known heritage assets is current to this date.

4.4.2. This assessment deals with known and potential archaeological deposits. All identified heritage assets within 1km of the Site have been included as they contribute to an understanding of the historic

environment baseline. The 1km Study Area was considered suitable to enable sound conclusions to be drawn, based on the nature of the Proposed Development, the Site and its surroundings.

5 ARCHAEOLOGICAL AND HISTORICAL EVIDENCE

5.1. Early Prehistory (14,000 - 1200 BC) and Later Prehistory (1200 BC - AD 43)

5.1.1. While data does not currently exist to produce a fine-grained chronology of post-glacial sea level fluctuations in this region, it has been shown that the early prehistoric sea level was substantially lower and, consequently, the coast considerably further west than the present shoreline: it is thought that by 9,000 cal BC sea levels were around 37m below (modern) OD and, despite global- and local-scale rises, by 7,500 BC remained 18m lower than current levels (Myers and Stallibrass 2022). Analysis of pollen and plant macrofossils (Assets 372 and 374) from peat beds on Ince Marsh (c. 2.2km southwest of the Site boundary) found that wet peaty soils began to develop in this area early in the post-glacial period, with samples radiocarbon dated to 10,050 - 9,660 cal BC and 9,570 - 9,550 cal BC (2 sigma confidence level) (RSK Environment Ltd 2016). The Lower Peat deposit, which showed no indication of marine influence, continued to accumulate throughout the Mesolithic period, showing evidence of typical habitat succession from open freshwater reed swamp to sedge fen with birch and willow scrub, and hazel-dominated woodland on higher ground, as the climate warmed and species migrated into the area. Charcoal from the upper section of this peat has been identified as willow and/or poplar and therefore interpreted as "*extremely unlikely*" to be from natural fires, given that these sappy species do not tend to burn easily as green wood, and probably represent fires of transient camps or deliberate clearance (RSK Environment Ltd 2016: 250). A layer of silt overlying the peat signified waterlogging and flooding at the end of the Mesolithic, representing a gap in peat accumulation for some 2500 years from c. 7520 - 7300 cal BC.

5.1.2. Macrofossils from the Upper Peat deposit, the base of which was dated to 4840 - 4690 cal BC, suggested the environment at this location was generally dominated by alder carr until the late Bronze Age (i.e. the upper limit of the peat), with variations in the water table also causing periodic trends towards drier heathland or wetter swamp/fen accordingly. The pollen remains supported this description and indicated that the wider area probably comprised a mosaic of habitats that gradually transitioned from wetter moorland and woodland to include a greater proportion of meadow and grassland, possibly including pasture, with mixed deciduous woodland on higher ground. The cessation of peat accumulation reflected inundation of the area, manifest as a deposit of grey/brown silty, sandy clay. It was noted that the samples showed only tentative indications of marine influences, with salt tolerant species rather than 'obligate halophytes' suggesting the peat may have formed in a basin separate to the main estuary. Nevertheless, the identifiable trends correlate with those seen at other sites around the Mersey basin, which have established that the area provided valuable wet woodland and wetland habitats that underwent human modification from the later Mesolithic, with clearance and small-scale arable cultivation from the early Neolithic, and wider clearances and pastoral phases in later prehistory (RSK Environment Ltd 2016: 259; Myers and Stallibrass 2022).

5.1.3. Given the topographic similarities and proximity of the Site to Ince Marshes, it is likely that conditions were very similar and, as noted above (Section 2.3), records of peat deposits within the Site boundary suggest the potential for palaeoenvironmental evidence to survive, although the extent and current state of preservation of the peat is unclear.

5.1.4. The only HER records of prehistoric archaeology within the 1km Study Area are of chance finds. These include two scrapers of probable Neolithic date (Asset 225) found on the eastern edge of Frodsham, a Bronze Age stone axe hammer (Asset 227) also found in Frodsham, and a possible Bronze Age

inhumation with an incised pygmy cup (Asset 228) from Clifton. Two Middle Bronze Age looped socketed spearheads (Assets 226, 360 and 367) were also found on Frodsham Marsh during construction of the Manchester Ship Canal (MSC); their exact location is unclear ***ES Vol 3, Figure 11-1 [EN010153/DR/6.3].***)) shows each of the provided nominal grid references), but they are likely to have come from the Site.

5.1.5. No specific later prehistoric remains are currently recorded from the Site or 1km Study Area, however, Frodsham Marsh and its surroundings are likely to have been utilised to provide a variety of natural resources including food and materials throughout this period. The Site is overlooked by a group of promontory forts and hillforts located on the sandstone ridge to the south, which have their origins in the Late Bronze Age and were used into the Iron Age. The Promontory Fort on Helsby Hill (Asset 1), the Hillfort on Woodhouse Hill (Asset 2) and Bradley Promontory Fort (Asset 3) (all Scheduled Monuments) all lie within 3km of the Site.

5.2. Roman (AD 43 - 410)

5.2.1. No Roman remains are recorded from the Site itself, which probably continued as part of the estuary edge wetland zone during this period, with any settlement and most activity located on the higher, drier ground to the southeast. Approximately 4km southwest of the Site, the Roman fortlet at Ince (Asset 4; Scheduled Monument) is located on a small promontory of slightly elevated ground, which would have enabled the monitoring of estuarine traffic. Further inland, a Roman camp at Birch Hill, Kingsley (Asset 5), also lies within the 3 - 5km Study Area.

5.2.2. The HER records finds of four Roman coins within 1km of the Site, including two from Frodsham (Asset 229) and two from Runcorn (Assets 230 and 231; note that the location information for Asset 230 is nominal).

5.2.3. The Roman road from Chester to Wilderspool (Asset 232) is thought to have run through the southern part of the Study Area; its course has been identified at Bridge Trafford (southwest of the Site) and at Preston on the Hill (to the northeast), but remains uncertain between these points. The HER also records a pebbled surface hammered into hard red clay and bedded onto sand, located beneath topsoil at the western end of Frodsham, which has been interpreted as a possible Roman road surface (Asset 233).

5.3. Medieval (AD 410 – AD 1540)

5.3.1. Relatively little is known about the Study Area in the early medieval period, although the description of the settlement of Frodsham in the Domesday Book shows that it was an established, and regionally relatively important, manor prior to the Norman Conquest. The placename '*Frotesham'* derives from an Old English personal name, with the 'ham' element signifying a village: 'Frōd's village' (SEPN 2024). A number of '*-ley'* placenames (typically indicating a clearing) within Frodsham parish probably denote smaller satellite settlements and are also of Old English origin, while Helsby, *'village on a ledge'* (a reference to the steep topography), is Old Norse (SEPN 2024). In 1066 the manor of Frodsham belonged to Edwin, Earl of Mercia and was valued at £8 per annum (Powell-Smith n.d.), making it one of the most valuable manors in Cheshire (Shaw & Clark 2003: 4). The manor of Weaverham (valued as having a comparable worth to Frodsham at £10 per annum) was the administrative centre for the salt industry at Northwich, while the nearby manor at Helsby was recorded as worth 12 shillings in 1066 (Shaw & Clark 2003: 4); it seems likely that control of the bridging point of the Weaver (through which the salt trade also passed) may have contributed. It has been suggested that Frodsham developed as a pre-conquest royal estate centre, perhaps centred around the Church of St Lawrence, Overton (Asset 17; Grade I Listed), which contains 12th-century architecture (with later restorations); fragments of carved stone of probable Anglo-Saxon date also survive in the interior and suggest it may have been a high-status site (Shaw & Clark 2003: 4).

5.3.2. By 1086, Earl Hugh of Chester held the lordship and tenancy-in-chief. The value of the manor had dropped to £4 per annum, presumably as a result of wasting of the area by William I in 1069-70. Frodsham had a recorded population of twelve peasants, as well as land for nine ploughs, with two plough teams belonging to the lord and two to the village, three acres of meadow, half a league of woodland, a mill, and (unusually for Cheshire) a priest and church with one virgate of land. The lord also held (in conjunction with his other manors) two and a half fisheries and half a salt house (Powell-Smith n.d.). The village of Ince, to the west of the Site; whose placename is derived from an old Welsh word for an Island (ïnïs) further indicates the marshy nature of the area (SEPN 2024). The Manor recorded at Ince was one of the earliest recorded properties of St Werburgh's Abbey, Chester and the Domesday survey records the settlement as being valued at 15 shillings in 1086 with its recorded resources including ploughlands and meadow.

5.3.3. The Earls of Chester held the manor of Frodsham until 1237, when the hereditary line died out and the estate reverted to the Crown. Earl Ranulph de Blundeville of Chester had obtained a borough charter for the town between 1209 and 1228 and in 1315 there were 110 burgages (Shaw & Clark 2003:5), the boundary plots of which remain identifiable along Main Street, with bond tenements to the south of the village and the manor house (Asset 235) (referred to as the 'Castle') at its western edge. Financial documents relating to the manor in 1280 value '*the messuage upon which the manor-house is built and garden'* at 6s 8d, with the income from three water mills, fisheries and mill ponds at £12 (Dodd 1987: 12). The Norman manor was destroyed by fire in 1654, but documentary references suggest the 13th-century building included a great hall, tower, kitchens, stables and other outbuildings, with further rebuilding and a palisade fortification during the 14th century (Shaw & Clark 2003; HER entry); manorial records suggest that the new 14th-century hall may have replaced the previous building, which was 'propped up' in 1354-5 and collapsed in 1357-8 (Booth & Dodd 1978: 48). Three water mills (Asset 237) and fishponds (Assets 238 - 240) were also associated with the manor at this date. To the northeast of the settlement, economic activity also focused around the bridge (Asset 236) and the informal 'port of Frodsham' that developed on the riverbank at the limit of the river's navigability, and tolls from both would have provided a lucrative income for the manor.

5.3.4. A series of manorial accounts survive from 1315, 1346-47, and almost all of the period between 1349 and 1374, and their analysis (Booth & Dodd 1978) has served to shed light on the manorial administration as well as the economic and physical development of the estate in the 14th century. The evident separation of the estate management into demesne land and land held by the borough was retained into the post-medieval period (hence the separation of 'Frodsham Lordship' and 'Frodsham Township' on the 19th-century tithe and OS mapping). By tracing references to field names through the documentary sources, it was shown that the borough's open arable fields stretched across a roughly triangular area from the Weaver floodplain, as far west as the 'Castle' area and south to the land of Bradley manor (this area is now under the residential spread of Frodsham) (Booth & Dodd 1978: figs. 2 and 4). The northern extent of the two (later three) town fields operating a system of arable rotation coincides with the natural change in slope along the southern edge of the marshes, with Ship Street originally marking a path through 'Ship Field' to '*le schiplendingis'* [the ship landing] close to the bridge (Booth & Dodd 1978: 38; they are emphatic that the name does not originate from 'sheep field'). Sheep were grazed on land rented from the lord, which included the upper slopes to the south and west of the town, where soils on the sandstone were less fertile, and (based on indirect references e.g. to the repair of a sheepfold in 1358), on the marsh (Dodd 1987: 30), which probably included the Site. An account from 1315 records the leasing of '*one acre in sea furlong ... to provide passage for their ewes to go from the fold to reemarsh and back'*; comparison with later field name records show the fold ('*yew croft*') to be located on the southern edge of the marsh, with '*reemarsh'* in the angle between the estuary and the

Weaver (Booth & Dodd 1978: 39-40). In 1315, 800 sheep were grazed on the '*reemarsh'*, with rent to the lordship of 1d per animal (Dodd 1987: 11).

5.3.5. In contrast to the town lands, the demesne lands were extensive and comprised a mixture of arable, meadow and pasture: the latter was split between the marsh and the hill to the south, while the arable and meadow were almost entirely on the marsh. While the arable and meadow closes cannot be located specifically, they are described as quite small and separated by gutters and drains; crops including oats, peas, wheat and barley were rotated according to need, but the parcels were not part of a formal field system (Booth & Dodd 1978: 40-41). However, it is recorded that in the decades following the Black Death, the proportion of demesne land used for arable and meadow decreased significantly, and this land was increasingly turned over to pasture. The balance of manorial livestock also moved away from cattle and towards sheep in the 1350s, with an average flock of 1333 animals, although the flock was subsequently sold off in 1360-61 (Booth & Dodd 1978: 46-47).

5.3.6. In terms of the Site itself, while these sources would suggest that it was cultivated, grazed and partially drained or divided, it is unlikely that it was ever intensively farmed. It is unclear exactly where the coastline lay in this period, but the land would have remained prone to flooding and frequently waterlogged, while records of severe inundation and loss of harvests (i.e. demonstrating that this land *was* used in some years for crops, including hay) recur throughout the 14th century (Booth & Dodd 1978: 45; Latham 1987: 71). Latham cites references to the construction of '*half a dozen'* dikes between Ince and the Weaver in 1312, and the repair and extension of several such features in 1315; in 1325 '*a dike 460 yards long'* (location uncertain) was constructed to protect flood prone land (Latham 1987: 71). On the western edge of Frodsham parish, a large sluice, the '*Holpulgote'*, was built in the 1350s at a cost of over £42 (partly financed by the Abbot of Chester who held the manor of Ince), though it was subsequently washed away (Latham 1987: 71). A reference to '*le morewalle'* from 1365 (Booth & Dodd 1978: 31), reflecting the reinforcement (with brushwood, turves and stones, and later ashlar blocks) of the natural break of slope along the southern edge of the marshes, suggests that water levels reached this point sufficiently often to require the construction of defences.

5.3.7. Booth & Dodd's sketch maps of the parish in 1300-1360 (1978: Figs. 2 and 3) include an earthen bank (labelled '*Sea Wall')* crossing the marsh between the Hoolpool Gutter and the Weaver, separating the salt marsh (described as an area of '*frequent tidal inundation'*) from the freshwater marshes ('*subject to periodic flooding in most years'*). However, no specific references to this feature, or explanation of its mapped location, are made in the accompanying text. Given the references to both defence construction and arable agriculture on the marshes (see previous paragraph), it is reasonable to infer that a flood bank of some description was in existence at this time; it is possible that such a feature was a precursor to the bank mapped on later historical mapping (Asset 258) that continued in use.

5.3.8. Moreover, Booth & Dodd argue that the mid 14th century represented a period of transition for the manor of Frodsham, during which the estate declined both in absolute value and relative to other estates in Cheshire in the same ownership: this is attributed to a combination of mismanagement at the local level and an unfortunate geographical situation with limited grazing land (Booth & Dodd 1978). As such, the accounts record very limited spending on estate maintenance, including ditch repair, and none at all on the repair of sluices or related ironwork (Booth & Dodd 1978: 47-48), perhaps suggesting a decreased likelihood that such remains were present within the Site. The gradual process of piecemeal enclosure of Frodsham Lordship's grazing lands is documented from at least the 14th century by records of taxes and other financial transactions linked to assets; it is unclear whether early enclosure occurred within the Site itself (as some of the most marginal parts of the manor) or, if it did, whether this would suggest an increased likelihood that medieval agricultural remains could potentially survive. It is possible that some of the ridge and furrow remains identified across the Study Area (Asset 257) date from the

medieval period, although it should be noted that the majority of the recorded parcels (shown in ***ES Vol 3, Figure 11-1 [EN010153/DR/6.3]***) have been mapped from historical aerial photographs and have since been destroyed by more recent land use changes, for example, where areas west of Brook Furlong Lane have been used as canal deposit dumps.

5.4. Post-Medieval (1540 - 1900)

5.4.1. The earliest available historical maps of Cheshire, including those by Saxton (1577, not illustrated), Speed (1610, not illustrated) and Blaeu (1662; ***ES Vol 2, Appendix 11-3, Figure 1, [EN010153/DR/6.2]***), show a row of small settlements along the southern side of the Mersey, with prominent hills and the Forest of Delamare to the southeast. Although the locations of the individual settlements are somewhat schematic, Frodsham, 'The Castle' (depicted separately to Frodsham on each of these maps), Netherton and Woodhouses are set back from the coastline, whereas Ince is marked close to the Mersey, reflecting its position on an 'island' of slightly raised ground within the surrounding marshes. Frodsham bridge is depicted, giving an indication of its importance. On the northern side of the Weaver, a large park is shown surrounding the hall at Rocksavage; a new hall was built here for Sir John Savage in 1565 (Asset 145; the remains are Grade II Listed).

5.4.2. Ogilby's 1675 road map (not illustrated) includes the hall at Rocksavage as a landmark on the northern side of the road to Chester on the approach to Frodsham Bridge, as well as Aston Hall on the southern side (the seat of another landowner in Frodsham; only the Dovecote now survives (Asset 12, Scheduled Monument)). The stylised layout shows the key road junctions within Frodsham (leading to Overton) and indicates that the settlement extended along Main Street in a linear fashion. A windmill is drawn at the eastern end of the settlement, and '*the castle'* and *'a mill'* are labelled at the western end, between Frodsham and Netherton. A road to the north (probably Hatley Lane) between Netherton and '*Gods Croft House'* is labelled '*to the Marsh'*.

5.4.3. The Savage family purchased the manor of Frodsham in the early 17th century, and both estates subsequently passed to the Earls (later Marquesses) of Cholmondeley in the 18th century. Over the post-medieval period, the gradual process of enclosing Frodsham and Helsby Marshes continued, and an estate map of the '*Rock Savage Demesne and Lands in the Lordship of Frodsham*' surveyed in 1778 (Cheshire Archive: DCH/H/516) shows that most of the marshes have been divided into rectilinear parcels by this date, with individual fields rendered to show their use as pasture/meadow or arable. Three large fields, located west of Marsh Lane and north of Moorditch Lane (now in Cells 3, 4 and 5) are shown as subdivided into narrow strips (in mixed ownership), divided by marker stones. Although the survey is less accurate than later mapping, it is generally possible to recognise individual fields by comparison with the later tithe maps (***ES Vol 2, Appendix 11-3, Figures 5 to 7, [EN010153/DR/6.2]***) and 1st Edition OS map (***ES Vol 2, Appendix 11-3, Figures 6 to 8, [EN010153/DR/6.2]***). While some change to the field layout is apparent between the 1778 map and the 1830s tithe maps, modifications represent small adjustments, subdivisions or amalgamations within the general pattern that was already established by the end of the 18th century; comparison also shows that the total area of land held by the lordship of Frodsham decreased over this period.

5.4.4. While the dense wooded hedges shown dividing the fields on the 1778 map are likely to be a stylistic device representing the actual boundaries (probably a combination of hedges, drainage ditches and fences), a continuous hedge line is depicted along the western and northern edges of the enclosed fields, which appears to separate them from the unenclosed grassland (saltmarsh) adjacent to the Mersey and Weaver. For much of its route, this boundary (which presumably included a flood bank) appears to follow the line of the flood embankment shown on the later maps along the southeastern side of Frodsham Score (see ***ES Vol 2, Appendix 11-3, Figures 7 to 8, [EN010153/DR/6.2]***). However, the land within the meander of the Weaver (now the former Inovyn Deposit Ground and the eastern part of

the Site) was not yet enclosed when the estate map was surveyed, and the limits of the enclosed land followed Weaver Lane southeast from '*The Lunn'* [Lum] as far as the pre-canalisation course of the Ship Street Course that drained northeast into the Weaver (i.e. between Plots 341/340/329/328 and 326/325 on the tithe map shown in ***ES Vol 2, Appendix 11-3, Figure 5 [EN010153/DR/6.2]***, coinciding approximately with the southeastern Site boundary). A small bridge across the drain is shown on the estate map, providing access to the grazing marsh. Adjacent to a strip of land on the western side of Frodsham Bridge labelled '*The Quay'*, a '*Salt Works'* is also marked on this map (Asset 255), indicating the location of a refinery for rock salt transported from Northwich; the HER records that the refinery had been established by the end of the 17th century and by 1792 was producing 6,000 - 7,000 tonnes of refined salt per annum, but later became redundant following improvements to the Weaver that enabled coal to be transported directly to the salt fields for processing at the production site.

5.4.5. The enclosure of the remaining meadows, commons and wastes in Frodsham was completed by private agreements in 1772, 1787 (Cheshire Archive: DCH/HH/8) and 1792 (DCH/FF/27); although the accompanying maps do not survive, the agreement documents state that the land was divided '*in due proportion (quantity, quality and situation considered)*' as '*the said Commons and Waste Lands are in their present state, of little value, but if divided into specific Allotments and enclosed the same might be very considerably improved whereby a manifest Advantage would result to the several Persons interested therein*' (DCH/FF/27). The current field layout in the eastern half of the Site, and the underlying pattern of routeways and boundary axes (the influence of which can be seen in the design of the later deposit cells), reflects this field system. Mid and later 19th-century maps (e.g. ***ES Vol 2, Appendix 11-3, Figures 8 to 13 [EN010153/DR/6.2]***) show that field boundaries took the form of ditches and hedges, and natural watercourses were formally canalised and incorporated into a system that combined land tenure and drainage.

5.4.6. At the end of the 18th century, Stewart & Burdett's 1794 map (***ES Vol 2, Appendix 11-3, Figure 2 [EN010153/DR/6.2]***) indicates that Frodsham was the largest settlement in the area. Although there is a degree of stylisation in the depiction of features, the map key describes building symbols as '*Market towns, Villages, and Single Houses, in their true Forms'*. Frodsham is represented as a continuous linear settlement along Main Street and Fluin Lane, with more irregular clusters of buildings at Overton (including the church), Netherton, Helsby and surrounding villages. Two water mills are marked to the west of Frodsham, located on a watercourse that runs downslope onto the marsh, where it joins a watercourse running SW-NE to the Weaver; the latter correlates with the Ship Street Course prior to its canalisation and appears to demarcate the southeastern edge of '*Frodsham Marsh'*, which extends southwest as far as Ince and is also bisected by Hoolpool Gutter. Although saltworks are listed in the key, none are marked at Frodsham Bridge on this map.

5.4.7. Ormerod's account of Frodsham, published in 1819, describes the town as:

> *a fair continued street, with handsome buildings, and at the West end of it a fair house, which having been a castle, continues still the name of Frodsham Castle ... The church is fair and pleasantly situated on the hill over the town, and extends the bounds of the parish to a large precinct. Those buildings about the church carry the name Overtown, in relation to another village beneath, called Nethertown, together with the Wood Houses, a member of it; and over them all, a high towering hill, with a beacon upon it; and between all these and Merzey, which here is grown to be a petty sea, lies a fair and fruitful marsh of a large extent ...* (Ormerod 1891: 7).

The marshes along the Mersey are described as '*fertile and fruitful'* (Ormerod 1819: 7) and it is recorded that:

> *from the foot of the hill* [at Frodsham] *a large marsh extends to the Mersey, which once was doubtless the regular bed of the waters, and is still subject to occasional devastations. In the town and lordship of Frodsham there are 697 acres of land liable to be overflowed, which pay a ley per acre for the re-pairs of the embankments, according to the damage likely to be suffered. In 1793 and 1802, the tide burst down these embankments, and flowed over the marshes to within a hundred yards of the centre of the town* [tide stones mark the 1802 water level and a similar event in 1862 (Asset 92; Grade II Listed)]. (Ormerod 1819: 32).

5.4.8. Maps produced in 1830 and 1831 by Swire (***ES Vol 2, Appendix 11-3, Figure 3 [EN010153/DR/6.2]***) and Bryant (***ES Vol 2, Appendix 11-3, Figure 4 [EN010153/DR/6.2]***) cover the whole county and focus on showing the turnpike roads, along with smaller roads, lanes and bridle ways. In view of the other available historical mapping, the slight differences in the features mapped across the Site on these two maps (including positioning of lanes, drains, watercourses and flood banks) can probably be attributed to decisions by the map maker, the small scale of the map and the relatively marginal nature of this area, rather than 'real' developments over the intervening year, although ongoing agricultural management decisions are likely to have resulted in various minor changes at a localised level. These maps show a series of access tracks running from the settlements onto the marshes, which are generally recognisable from the 1778 estate map and from later maps; some are labelled, with names (including Sinaipool, Alder, Moor Ditch and Marsh Lanes) reflecting the wet nature of the surrounding landscape. Bryant's map (***ES Vol 2, Appendix 11-3, Figure 4 [EN010153/DR/6.2]***) shows a substantial flood bank running northeast along Frodsham Score from the mouth of the Hoolpool Gutter as far as Sinaipool Lane (now the eastern edge of Cell 1), whereas Swire's map shows the '*Embankment'* continuing east as far as the Weaver, as well as southwest to Ince, with fainter hachures also suggesting slighter banks along the Hoolpool Gutter itself and following the Weaver towards the Salt Works. Both maps show a channel to the south of the main course of the Mersey (marked on the Swire map as '*Ince and Frodsham Land Water Channel*'), providing access to Ince Pier; the line of an '*Intended Rail Road'* runs southeast from the pier to Helsby, although this appears, from later maps, not to have been built.

5.4.9. No buildings are shown on the marshes, although further detail on Bryant's map indicates Frodsham's post-medieval development as a town, with an Inn, a Tan Yard, a Bank and a Mill all individually marked, reflecting the concentration of commercial, trade/craft and industrial activities in this area, driven by the opportunities afforded along the road as well as the constraining effect of the topography on the growth of the settlement. Following the passing of an *Act for making the River Weaver navigable from Frodsham Bridge to Winsford Bridge* in 1720, various works were undertaken, including the construction of locks, weirs and new cuts (e.g. Assets 83 and 84) that enabled Weaver flats (barges) to transport salt and coal. The remains of such a barge, the Daresbury, constructed in 1772, are located on the north side of the navigation at Sutton Weaver (Asset 14). In 1810 the Weston Canal, an extension of the Weaver Navigation to Weston Point, was completed (***ES Vol 2, Appendix 11-3, Figures 3 and 4 [EN010153/DR/6.2]***), which removed the need for barges to wait at Frodsham for sufficient water levels in the lower (tidal) reaches of the Weaver to continue to the Mersey. The bypassing of the quay at Frodsham by through traffic contributed to its gradual decline, although the Salt Works (Asset 255), marked as '*Disused'* on the 1875 and 1882 OS maps, is shown as *'Weaver Chemical Works'* on the 1898 25 Inch Map (***ES Vol 2, Appendix 11-3, Figure 9 [EN010153/DR/6.2]***), with a *'Bone Works'* (Asset 260) to the south.

5.4.10. ***ES Vol 2, Appendix 11-3, Figures 5 to 7 [EN010153/DR/6.2]*** show extracts from the tithe maps for Frodsham and Frodsham Lordship, produced in 1838. Table 2 (below) summarises parts of the associated apportionments relating to plots within the Site and shows that the area was predominantly in use as meadow and pasture at this time, with only a small proportion under arable cultivation. The field names suggest that much of the marsh had traditionally been used as meadow prior to their

enclosure, while the name '*Tween Mills'*, referring to the eastern part of the Site, presumably indicates nearby windmills (whether for power, grinding flower or for drainage).

Table 2: Extract from tithe apportionments for Frodsham and Frodsham Lordship.

Plot No.	Landowners (and Lessees)	Occupiers	Name/Description	State of Cultivation
Frodsham				
328	William Hayes Esq.	William Hayes Esq.	Tween Mills	Pasture
329	William Hayes Esq.	William Hayes Esq.	Tween Mills	Pasture
330	Rev William Whitley	Richard Spruce	Tween Mills	Pasture
331	Rev Thomas Ashley	William Darlington	One sixth part of Tween Mills	Pasture
331a	The Most Honorable George Horatio Marquis Cholmondeley	William Darlington	One third part of Tween Mills	Arable
331b	Marquis Cholmondeley, Lessee: Rev Thomas Ashley	William Darlington	One half part of Tween Mills	Meadow
332	Rev Thomas Ashley	Joseph Gorst	One sixth part of Tween Mills	Meadow
332a	Marquis Cholmondeley	Joseph Gorst	One third part of Tween Mills	Pasture
332b	Marquis Cholmondeley: Rev Ashley Thomas	Joseph Gorst	One half part of Sween Mills	Meadow
333	Rev Thomas Ashley	William Darlington	One sixth part of Tween Mills	Pasture
333a	The Most Honorable George Horatio Marquis Cholmondeley	William Darlington	One third part of Tween Mills	Arable
333b	Marquis Cholmondeley: Rev Thomas Ashley	William Darlington	One half part of Tween Mills	Meadow
334	Marquis Cholmondeley:	William Darlington	Tween Mills	Pasture
334a	Marquis Cholmondeley	William Darlington	Little Score	Pasture
335	Rev Thomas Ashley	William Darlington	One sixth part of Tween Mills	Pasture
335a	The Most Honorable George Horatio Marquis Cholmondeley	William Darlington	One third part of Tween Mills	Arable
335b	Marquis Cholmondeley, Lessee: Rev Thomas Ashley	William Darlington	One half part of Tween Mills	Meadow
336	Rev Thomas Ashley	Joseph Gorst	One sixth part of Tween Mills	Meadow
336a	Marquis Cholmondeley	Joseph Gorst	One third part of Tween Mills	Pasture
336b	Marquis Cholmondeley: Rev Ashley Thomas	Joseph Gorst	One half part of Sween Mills	Meadow
337	Rev Thomas Ashley	William Darlington	One sixth part of Tween Mills	Pasture
337a	The Most Honorable George Horatio Marquis Cholmondeley	William Darlington	One third part of Tween Mills	Arable
337b	Marquis Cholmondeley, Lessee: Rev Thomas Ashley	William Darlington	One half part of Tween Mills	Meadow
338	Rev William Whitley	Richard Spruce	Tween Mills	Pasture
339	Rev William Whitley	Robert Booth	Tween Mills	Pasture
340	William Hayes Esq.	William Hayes Esq.	Tween Mills	Pasture
341	William Hayes Esq.	William Hayes Esq.	Tween Mills	Pasture
342	Sarah Nickson	William Church	Tween Mills	Meadow
343	Rev John Robert Hall	Samuel Sharps	Little Marsh	Meadow
344	Marquis Cholmondeley	Samuel Sharps	Tween Mills	Meadow
345	Marquis Cholmondeley: Rev Thomas Ashley	Joseph Gorst	Witters Pasture	Meadow
346	Marquis Cholmondeley: Rev Thomas Ashley	Joseph Gorst	Rapdowls	Meadow
347	Marquis Cholmondeley	Samuel Sharps	Rapdowles	Meadow
348	Marquis Cholmondeley: William Antwis	Thomas Janion	Hancocks Meadow	Meadow
349	Marquis Cholmondeley	Richard Janion Junior	Lumb Meadow	Meadow
350	Marquis Cholmondeley: Rev Thomas Ashley	William Darlington	Lumb Meadow	Meadow
351	Marquis Cholmondeley: Rev Thomas Ashley	William Darlington	Horse Pasture and Lane	Meadow
352	Marquis Cholmondeley: Isaac Burrows	Samuel Burrows	Brook Furlong	Meadow

Plot No.	Landowners (and Lessees)	Occupiers	Name/Description	State of Cultivation
353	Marquis Cholmondeley: Isaac Burrows	William Greenway	Brook Furlong	Meadow
355	Frodsham and Stockton Townships	Daniel Holland	Brook Furlong	Meadow
356	Rev John Robert Hall	James Purcell	Brook Furlong	Meadow
357	Rev Thomas Ashley	William Darlington	Part of Rapdowles	Meadow
357a	Marquis Cholmondeley: Rev Thomas Ashley	William Darlington	Part of Rapdowls	Meadow
359	Rev Thomas Ashley	James Howard	Brook Furlong	Meadow
360	John Rowe	James Motteram	Brook Furlong	Meadow
361	John Rigby Pickering	John Rigby Pickering	Brook Furlong	Meadow
364	Marquis Cholmondeley: Rev Thomas Ashley	William Darlington	Tween Mills	Pasture
368	John Rigby Pickering	John Rigby Pickering	Meadow	Meadow
369	Sir Ingram Arthur Aston	James Purcell	Aston Meadow	Meadow
370	Thomas Grice	Thomas Grice	Brook Furlong	Meadow
371	William Higson Esq	Thomas Nickson	Thisleyhey	Meadow
372	Sir Ingram Arthur Aston	William Holland	Aston Meadow	Meadow
373	Sir Ingram Arthur Aston	Joseph Grice	Aston Meadow	Meadow
374	Sir Ingram Arthur Aston	McWaters Thomas	Aston Meadow	Meadow
374a	Sir Ingram Arthur Aston	John Sanders	Aston Meadow	Meadow
374b	Sir Ingram Arthur Aston	Joseph Grice	Aston Meadow	Meadow
374c	Sir Ingram Arthur Aston	William Garner	Aston Meadow	Meadow
375	Marquis Cholmondeley	Joseph Cookson	Oaktree Meadow	Meadow
376	Marquis Cholmondeley	Samuel Wright	Lydials Meadow	Meadow
377	Marquis Cholmondeley	Richard Harrison	Cole Meadow	Meadow
378	Marquis Cholmondeley	Richard Janion Junior	Cobby Meadow	Meadow
379	Marquis Cholmondeley	Richard Janion Junior	Timperley Meadow	Meadow
419	Marquis Cholmondeley	Richard Kersley	Cole Meadow	Meadow
420	Marquis Cholmondeley: Thomas Owen	Thomas Hoose	Cole Meadow	Meadow
420a	Sarah Nickson	Thomas Bate	Cole Meadow	Meadow
421	Marquis Cholmondeley: Isaac Burrows	John Davies	Cole Meadow	Meadow
422	Thomas Bate Junior	Thomas Bate Junior	Cole Meadow	Meadow
423	Margaret Penkeyman	Margaret Penkeyman	Cole Meadow	Meadow
424	Marquis Cholmondeley: Isaac Burrows	John Davies	Cole Meadow	Meadow
425	Rev Thomas Ashley	William Darlington	Part of Cole Meadow	Meadow
425a	Marquis Cholmondeley	William Darlington	Part of Cole Meadow	Meadow
426	Marquis Cholmondeley	Edward Pickering	Cole Meadow	Meadow
427	John Rowe	James Motteram	Score Hatches	Meadow
428	Marquis Cholmondeley	Charles Herbert	Cole Meadow	Meadow
429	Marquis Cholmondeley	Samuel Harrison	Cole Meadow	Meadow
430	John Rowe	James Motteram	Cole Meadow	Meadow
431	William Rowson	James Rowson	Cole Meadow	Meadow
432	Marquis Cholmondeley	Robert Booth	Cole Meadow	Meadow
433	William Rowson	James Rowson	Cole Meadow	Meadow
434	Marquis Cholmondeley	John Grice	Cole Meadow	Meadow
435	William Forster	William Forster	Cole Meadow	Meadow
437	Rev William Whitley	George Woodward	Cole Meadow	Meadow
438	Marquis Cholmondeley	John Grice	Cole Meadow	Meadow
439	Joseph Grice	Joseph Grice	Cole Meadow	Meadow
440	William Higson Esq	Isaac Sutton	Goldenheys	Meadow
441	William Higson Esq	Robert Jones	Goldenheys	Meadow
442	William Higson Esq	Robert Booth	Goldenheys	Meadow
443	Marquis Cholmondeley	Martha Milling	Part of Lords Meadow	Meadow
443a	Marquis Cholmondeley	John Grice	Part of Lords Meadow	Meadow
445	Marquis Cholmondeley: Rev Thomas Ashley	Joseph Gorst	Nine Acres	Meadow
445a	Marquis Cholmondeley	Martha Milling	Part of Lords Meadow	Meadow

Plot No.	Landowners (and Lessees)	Occupiers	Name/Description	State of Cultivation
446	Marquis Cholmondeley: Thomas Owen	Robert Gorst	Nine Acres	Meadow
447	William Higson Esq	James Upton	Goldenheys	Meadow
447a	Marquis Cholmondeley	William Higson	Starkeyhey	Meadow
448	Samuel Davies	John Clough	Part of Mickle Meadow	Meadow
Frodsham Lordship				
243	Lord William Henry Hugh Cholmondeley	William Lewis Jnr	Mickle Meadow	Meadow
245	Executors of Robert Woodier	Widow Woodier	Mickle Meadow	Meadow
246	Marquis Cholmondeley: Richard Berrington	John Peacock	Cole Meadow	Meadow
247	Lord William Henry Hugh Cholmondeley	William Lewis Jnr	Big Meadow	Meadow
248	Lord William Henry Hugh Cholmondeley	Mary Ann Woodcock	Mickle Meadow	Meadow
248a	Marquis Cholmondeley	Mary Ann Woodcock	Mickle Meadow	Meadow
249	Lord William Henry Hugh Cholmondeley: William Lewis Senior	William Lewis Senior	Mickle Meadow	Meadow
252	Lord William Henry Hugh Cholmondeley	William Goist	Mickle Meadow	Meadow
253	Rev John Tweedale	Henry Haspell	Mickle Meadow	Meadow
254	John Robinson	John Robinson	Mickle Meadow	Meadow
255	Daniel Wrench	John Wright	Mickle Meadow	Meadow
256	Thomas Ashton Senr	Peter Sutton	Mickle Meadow	Mowing
257	William Church	William Church	Mickle Meadow	Meadow
258	John Robinson	John Robinson	Mickle Meadow	Meadow
259	Lord William Henry Hugh Cholmondeley	John Clough	Mickle Meadow	Meadow
260	William Hayes Esq	Himself	Big Goldens Hayes	Meadow
261	William Hayes Esq	Himself	Little Goldens Hayes	Meadow
262	Lord William Henry Hugh Cholmondeley	William Lewis Jnr	Cole Meadow	Meadow
263	Thomas Ashton Senr	Peter Sutton	Mickle Meadow	Mowing
264	Marquis Cholmondeley: Richard Berrington	Ralph Jackson	Cole Meadow	Meadow
265	Marquis Cholmondeley	John Grice	Cole Meadow	Mowing
266	Marquis Cholmondeley	Edward Pickering	Cole Meadow	Meadow
267	Margaret Penkeyman	Margaret Penkeyman	Cole Meadow	Meadow
268	John Eaton	John Eaton	Cole Meadow	Meadow
269	Rev John Tweedale	Henry Haspell	Score Hatches	Meadow
270	Lord William Henry Hugh Cholmondeley	William Lewis Jnr	Score Hatches	Meadow
271	Lord William Henry Hugh Cholmondeley	Robert Booth	Score Hatches	Meadow
275	Thomas Ashton Senr	Thomas Ashton Junr	Score Hatches	Mowing
276	Thomas Ashton Senr	Thomas Ashton Junr	Big Score Hatches	Mowing
277	Marquis Cholmondeley: Late Churchman	William Garner	Churchmans Meadow	Meadow
278	John Robinson	John Robinson	Thistle Lay	Arable
279	Marquis Cholmondeley: Thomas Owen	James Andrews	Hooses Meadow	Meadow
280	William Higson Esq	Joseph Oultram	Cribbs	Meadow
281	Thomas Millner	Thomas Millner	Sea Flatts	Meadow
282	Thomas Millner	Thomas Millner	Little Flatts	Meadow
283	Thomas Ashton Senr	Robert Ashton	Brook Furlong	Mowing
284	Lord William Henry Hugh Cholmondeley	Ann Oakes	Brook Furlong	Meadow
285	George Pugh	William Wainwright	Boots	Meadow

5.4.11. The 1st Edition OS map (***ES Vol 2, Appendix 11-3, Figure 8 [EN010153/DR/6.2]***) from 1882 and the 25 Inch OS maps (***ES Vol 2, Appendix 11-3, Figures 9 to 12 [EN010153/DR/6.2]***) from the 1890s show limited change to the internal layout of the Site over the intervening period, but depict several additional discrete features, including a sluice (Asset 265), a small embanked square pool and well associated with the outfall of the local authority sewage system (Asset 270), and a small rectangular building (possibly agricultural or a small dwelling) (Asset 267). A series of former (water-filled) extraction pits at '*Brick Field'* (Asset 266), just outside the southern Site boundary, suggest clay was also sourced from the marshland. The OS maps constitute the most detailed available map of the flood bank surrounding the marshes (Asset 258), although, as noted above, its original date of construction remains uncertain. The site visit showed that the bank remains extant along part of the northern edge of the Site but appears to have been heavily modified or destroyed by later development elsewhere, including the construction of the ship canal, canal deposit cells and modern flood defences. In the northern tip of the Site, the 1882 OS map (***ES Vol 2, Appendix 11-3, Figure 8 [EN010153/DR/6.2]***) also depicts a *'Volunteer Rifle Range'* (Asset 269), located between the flood bank and the river channel, and a small '*sheepfold'* on Weaver Lane (Asset 317) is labelled on the 1898 25 Inch map (not illustrated).

5.4.12. The OS maps also show greater detail within the settlement of Frodsham, including the surviving layout of the medieval burgage plots, many of which are depicted as gardens or orchards. Many of the heritage assets identified within Frodsham (see ***ES Vol 3, Figures 11-1, 11-3 and 11-4 [EN010153/DR/6.3]*** and the gazetteer of assets in ***ES Vol 2, Appendix 11-2 [EN010153/DR/6.2]***) reflect the town's post-medieval development and include a variety of Grade II and Locally Listed Buildings, the majority of which are located within the Conservation Areas of Frodsham Town (Asset 154) and Overton St Lawrence's (Asset 155). The rapid development of transport links in this period is also evident and included the construction of the Birkenhead Railway Line through Frodsham in the 1840s (Assets 253, 85-87), along with the road and canal networks. The OS maps show the beginnings of subsequent large-scale industrial developments, such as those along the north bank of the Weaver (including alkali works at Weston, various bone and charcoal works, and extensive quarries at Runcorn), along with associated housing and nonconformist chapels between Frodsham Bridge and the northeastern side of the town (known as '*Newtown'* by the end of the 19th century).

5.4.13. The Manchester Ship Canal Company was incorporated by Act of Parliament in 1885, with the intention of connecting the manufacturing centre of Manchester directly to the Irish Sea, and thus avoiding dues incurred by the passing of imports/exports through Liverpool Docks. Construction began on the ship canal (Asset 264) in 1887 and it was opened in 1894, running between Eastham Locks and Salford Quays (***ES Vol 2, Appendix 11-3, Figures 9 to 12 [EN010153/DR/6.2]***). The canal company was authorised to:

> *purchase, take on lease, or otherwise acquire, compulsorily, or by agreement, lands, houses, buildings, mills, warehouses, sheds, wharves, foreshore, and other property, and easements thereover, thereunder, or in respect thereof*, *and to vary and extinguish such rights of way, manorial, commonable, and other rights and privileges as it may be necessary or expedient to vary or extinguish for any of the purposes of the Bill, and particularly to purchase, or otherwise acquire, the following ...*
>
> *(t) Lands situate wholly in the said township of Frodsham, being part of Frodsham Score included between the flood-bank on Frodsham Marsh, Ho*[o]*lpool Gutter, the River Weaver, and the southern shore of the said estuary of the River Mersey.* (CALH QDP 618)

The Frodsham section of acquired land is detailed as including the bed and foreshore of the estuaries of the rivers Mersey and Weaver, belonging to the Crown as part of the Duchy of Lancaster, and '*marsh*

land, stream, dykes, rifle range, occupation road and footpath', owned by the Marquess of Cholmondeley (CALH QDP 618: 449-450).

5.4.14. The 1887 Canal Company Book of Reference (CALH QGP 639) details the '*Purchase of Additional Lands in the Parishes of Eastham and Frodsham in Cheshire, compulsorily and by agreement*' and includes 54 individual parcels that together make up:

> *Certain lands, partly in the Township of Frodsham, and partly in the Township of Frodsham Lordship, both in the parish of Frodsham, bounded on the northern and eastern sides by the northern and eastern flood banks on Frodsham Score, on the eastern* [sic. western] *side, by the Holpool Gutter, and on the southern side by a line drawn from the said western to the said eastern boundary, parallel with the said northern flood bank, and at a distance of about 2 furlongs south thereof.'* (CALH QDP 639: 114)

5.4.15. Accompanying maps (CALH QDP 618 and 639), along with a bundle of papers relating to the compulsory purchase of land from the Marquess of Cholmondeley (CALH DCH/FF/18), confirm that the lands to be acquired initially consisted of parts of Frodsham Score to the northwest of the Site and within its northern tip (north of the flood embankment (Asset 258) as far east as the Sewage Outfall (Asset 270), but also came to include a strip of enclosed land inside the northwestern edge of the Site (extending c. 400m southeast from the current southern bank of the canal) and the ten northern-most rectilinear fields (within the flood embankment) in the section of the Site between Brook Furlong Lane and Alder Lane (***ES Vol 2, Appendix 11-3, Figure 13 [EN010153/DR/6.2]***). The majority of the additional parcels are described as '*Field and dykes'* belonging to the Marquess of Cholmondeley, with some also including the '*occupation road'*. Two of the parcels include *'floodbanks'* (parts of Asset 258), and one is also described as *'rough pasture'* (its recorded occupation at this date by the 2nd Cheshire Rifle Volunteer Corps suggests this is the location of the rifle range); a further parcel includes a *'rick enclosure'.*

5.4.16. It seems that the additional strip (in the northwest of the Site) was intended as a '*proposed spoil bank'* to be used '*for the purpose of disposing of part of the material to be excavated from the Ship Canal*' (CALH DCH/HH/7). A cross-sectional plan of the proposed spoil bank (CALH DCH/FF/18) shows it would be a levelled mound of material 18 feet (c. 5.5m) deep, with a gradual incline of 1 in 20 along its northwestern and southwestern sides; along its northwestern side, it would abut the existing upstanding flood embankment and fill the existing drains within the enclosed land. This strip broadly correlates with the area of 'missing' field boundaries along the southeastern side of the MSC channel, as shown on ***ES Vol 2, Appendix 11-3, Figure 13 [EN010153/DR/6.2]***..

5.4.17. The process of canal construction is likely to have been highly destructive, not only within the channel itself, but also alongside it. The cut was intended to be some 34 feet (c. 10.4m) deep in this section (CALH QDP 618) with a seaward bank, and an 1891 painting of the excavation of the Eastham section (with the spoil heap 'Mount Manisty' in the background) by Benjamin Williams Leader[1] gives an impression of the methods employed and resultant conditions. The 1899 6 Inch OS maps (revised in 1897) (***ES Vol 2, Appendix 11-3, Figure 13 [EN010153/DR/6.2]***) show a series of railway tracks running approximately parallel to the canal cut on both banks, along with several cranes located intermittently along the northern bank, although these are not present on later maps and are likely to be

[1] Available at: https://en.wikipedia.org/wiki/Manchester_Ship_Canal#/media/File:Manchester_Ship_Canal_The_Making_of_Eastham_Dock.jpg

associated with the construction phase. A photograph from c. 1900 appears to show substantial piling along both sides of the cut (FDLHG 1995: 92). A powder magazine building (Asset 111, Grade II Listed) is located on Frodsham Score, just beyond the 1km Study Area.

5.4.18. As part of the acquisition process, a land valuation document (CALH DCH/FF/18) dated 1891 includes details of three parcels of land (probably within the north and northwest of the Site) proposed to be sold to the Canal Company. Two of the parcels are described as being:

> *first class meadow lands before the works of the Company were put in operation but they have this season been very seriously damaged by the washing of sand and flooding from the Ship Canal Company's embankment. The watercourses dividing these fields from the Company's lands have been filled with silt and if the Company do not purchase they should be called upon to restore the water courses and remove the silt from the land. ...* [The other parcel in question] *is part of the Salt Marsh Ley and foreshore, and it has through the encroachment of the Company in opening out a sewage outfall into the River been rendered unfit to put stock on it owning to the risk of cattle getting into the cutting.*

5.4.19. The bundle of valuation documents (CALH DCH/FF/18) also includes a statement provided by Mr Henry Bancroft, of the Frodsham and Helsby Drainage Board, relating to further concerns about the condition of the surrounding land as a consequence of the canal's construction. The document does not make clear the full circumstances in which the statement and the attached estimate for 'required' work (a total of £7330 0s 0d) were provided, but even allowing for the bias of commercial interests, it suggests that the impact of the canal on the surrounding agricultural land was a concern while also reflecting the extent to which post-medieval drainage and reclamation of the had been undertaken as an organised process. The statement presents various measurements relating to the discharge and catchment of water courses on the marsh and raises concerns about the Canal Company's proposed plans for sluices and tidal gates, noting that the flood gates on the marsh were currently closed for between two and three hours per tide, but would be closed for double that time:

> *This would in my opinion very seriously affect the drainage of the Marshes.*
>
> *The Marshes cover an area of nearly 2000 acres and probably about one third of this area would be almost if not totally injured for Agricultural purposes.*
>
> *The subsoil of these Marshes is a bastard or marly clay with the exception of a patch of stiffer clay near the South East side near the Village of Frodsham where bricks have been made for a considerable time. The surface of 8 to 9 inches is a rich loamy soil and very suitable for Agricultural purposes. ...* [Under the proposals] *the land drainage water would be raised nearly as high again, this would cause many of the dykes to overflow and back the water up into and under the surface soil and in many instances to flow over the surface of the land. The result would be that the grass and other crops would be totally injured as this irrigation would take place twice every day.*

By way of a solution, Bancroft proposed a syphon at the Hoolpool Gutter, in conjunction with the widening and deepening of the main dykes and their tributary gutters, though it is not clear if any of this was undertaken.

5.4.20. Plans held by the CALH suggest the Marquess of Cholmondeley was instrumental in the construction of an approach road (currently extant), storage ground and wharf just to the south of the confluence of the MSC and the Weaver; the latter was to be constructed from at least three rows of wooden piles, each pile measuring 12 x 12 inches (0.3m) and spaced 6' 3" (1.9m) apart (CALH DCH/FF/18). A collection of landing stages, small rectangular buildings and a warehouse (Asset 315) labelled as '*Saltport*' are marked on the 1896 (***ES Vol 2, Appendix 11-3, Figure 10 [EN010153/DR/6.2]***) and 1898

(not illustrated) 25 Inch OS maps; the latter includes the route of a '*Ferry (Private)'* across the canal from the slipway close to what is now Marsh Farm.

5.4.21. Also associated with the construction of the MSC, the 1896 OS map (***ES Vol 2, Appendix 11-3, Figure 11 [EN010153/DR/6.2]***) shows a collection of buildings (Asset 268) within the western end of the Site, north of Moorditch Lane (now within Cell 3). The 1891 Census (accessed via TheGenealogist.com: Piece 02834; p. 54; summarised in Table 3, below) describes these as '*wooden huts'* and specifies that they belonged to the Manchester Ship Canal Company and were occupied by workers employed in the construction of the canal. The occupants recorded as present on the night of the census are summarised in the following table, which shows that the household makeup varied, but that most of the huts accommodated one family (or sometimes more) with up to eight children, as well as multiple (up to 12) lodgers or boarders, presumably catered for by the wives and children of the household, though four households also employed domestic servants to assist. The lodgers/boarders were almost all single men and recorded as having been born in a variety of places across the UK and Ireland; along with the household 'heads' (and some of the older boys i.e. 14 year olds), they were employed as labourers or in various skilled roles associated with the canal works. One hut was occupied by a preacher and his family, with their lodger serving as a schoolteacher, presumably within the immediate community. The last three entries in Table 3 refer to separate dwellings elsewhere on the marsh and may include the small huts marked on the tithe and OS maps close to Alder Lane (Asst 267). These three huts continue to appear on the 1901 and 1911 census schedules, but the MSC huts were not enumerated in 1901, despite their depiction on the 1912 OS map (***ES Vol 2, Appendix 11-3, Figure 14 [EN010153/DR/6.2]***). The 1912 map shows a '*Chimney'* and a well (see Para 2.3.7, above) at the northern end of the group of buildings, suggesting these features may have been added in the 1890s but fallen out of use following completion of the canal.

Table 3: Summary of information from census returns for Frodsham, 1891.

Inhabited Dwelling	Total No. People	Inhabitants	Range of occupations recorded
Manchester Ship Canal Wooden Huts, Frodsham Marsh. No. 1	16	1 family with 5 children 3 lodgers 6 boarders	Stone dressers; engine drivers; labourers
No. 2	18	1 family with 3 children 1 family with 2 children 9 lodgers	Blacksmith; engine drivers; labourers; miner; masons
No. 3	8	1 family with 4 children 1 married couple	Engine driver; labourer
No. 4	14	1 family with 3 children 9 lodgers	Blacksmith; labourers
No. 5	10	1 married couple 7 lodgers 1 domestic servant	Engine driver; labourers
No. 6	12	1 family with 2 children 8 lodgers	Foreman; guard; labourers; stone dresser
No. 7	6	1 married couple 1 family with 1 child 1 boarder	Labourers; engine driver
No. 8	19	1 family with 5 children 12 boarders	Labourers
No. 9	17	1 family with 7 children 1 family with 1 child	Labourers

Inhabited Dwelling	Total No. People	Inhabitants	Range of occupations recorded
		5 lodgers	
No. 10	13	1 family with 8 children 3 boarders	Labourers
No. 11	13	1 family with 2 children 1 family with 1 child 5 lodgers 1 domestic servant	Labourers
No. 12	13	1 family with 5 children 1 family with 1 child 3 lodgers	Carpenter; guards on engine; labourers; engine driver
No. 13	16	1 family with 5 children 1 domestic servant 8 boarders	Foreman; labourers
No. 14	12	1 family with 6 children 4 boarders	Labourers
No. 15	6	1 family with 1 child 4 boarders	Labourers
No. 16	Unoccupied		
No. 17	10	3 married couples 3 boarders 1 domestic servant	Watchman; labourers; guard
No. 18	18	2 family with 3 children 8 boarders	Labourers
No. 19	14	1 family inc. 5 adults and 3 children 6 boarders.	Labourers
No. 20	Unoccupied		
No. 21	16	1 family with 6 children 1 married couple 6 boarders	Labourers; horse driver
No. 22	14	1 family with 4 children 2 families with 2 children 4 boarders	Labourers
No. 23	14	1 family with 3 children 1 family with 1 child 1 married couple	Foreman; engine driver; labourer
No. 24	17	1 family with 5 children 10 lodgers	Labourers
[S.H.]	13	1 family with 3 children 8 boarders	Engine fitter; crane drivers
[H.H.]	8	2 families with 2 children	Labourer; blacksmith
Mission Hut	6	1 family with 3 children 1 boarder	'Scripture reader'; dressmaker; schoolteacher
No. 25	12	1 family with 3 children 1 boarder 2 visitors 1 family with 2 children	Engine driver
No. 26	8	1 family with 1 child 5 boarders	Engine driver; labourers.
No. 27	3	1 family with 1 grandchild 1 lodger	Labourer.
No. 28	11	1 family with 4 children 5 boarders	Engine fitter's labourer; labourers; horse driver

Inhabited Dwelling	Total No. People	Inhabitants	Range of occupations recorded
Alder Lane, Frodsham Marsh (wooden hut) [3 rooms]	3	1 family with 1 child	Joiner
Alder Lane, Frodsham Marsh (wooden hut) [3 rooms]	4	1 married couple 2 lodgers	Labourers
Wood Cabin, Frodsham Marsh	1	1 adult	General labourer

5.5. Modern (AD 1901 -)

5.5.1. Mapping from the first decades of the 20th century (e.g. ***ES Vol 2, Appendix 11-3, Figure 14 [EN010153/DR/6.2]***) shows a high degree of continuity with previous surveys, and the Site appears to have continued in use as agricultural land, with rough grazing along the foreshore. The longest landing stage at '*Saltport'* (not named as such) is marked as '*Disused'* on the 1912 map, though changes are visible to the layout of the buildings at what is now Marsh Farm. On the 1901 and 1911 censuses, the addresses of three and four households respectively are given as '*Huts, Frodsham Marsh'*; the location of the individual huts is uncertain, but they probably include the same dwellings on Alder Lane listed in Table 3 (and possibly include Asset 67, identified from the 19th-century maps). The same individual, one Eli Proffitt, is recorded as inhabiting a wood cabin with four rooms between 1891 and 1911: he was a widower, originally from Oxfordshire, of '*unknown* [age], *probably 60'* in 1901 and is described as a '*general labourer'* and, in 1911, a *'labourer on farm'*. In 1911, the heads of the three other households living on Frodsham Marsh were also employed in agriculture, as '*Sheaperd'* [shepherd], '*Carter'* and '*Cowman on Farm'* respectively; their huts are described as having three or four rooms and are unlikely to have been substantial buildings.

5.5.2. The use of parts of the Site for the deposition of dredged material from the canal is very apparent by the mid part of the century, with Cells 1-3 in use for this purpose on aerial photographs from 1945. These photographs also show a number of small rectangular buildings distributed along the northwestern side of the Site, which were identified by the NWRCZA survey (Event 276) as military structures, including pillboxes and a weapons pit (Assets 277 and 278), and other contemporary buildings of uncertain function (Assets 276, 279-284). By the late 1960s, the *Canal Deposit Dumps* and their embankments appear on OS mapping (***ES Vol 2, Appendix 11-3, Figure 16 [EN010153/DR/6.2])***), covering the northwestern part of the Site (Cells 1 - 4), although these appear to have been filled gradually as the 1954 map (***ES Vol 2, Appendix 11-3, Figure 15 [EN010153/DR/6.2***]) shows the original line of the flood embankment (Asset 258) bisecting Cell 1; small structures marked on this map, along with a trackway and field boundary in the western part of Cell 3, correspond to the location of Assets 280 and 282, identified from earlier aerial photographs. These features are not present on the 1968 map (***ES Vol 2, Appendix 11-3, Figure 17 [EN010153/DR/6.2]***), which shows redevelopment along the MSC in this location, including extension of the Cell 3 embankment, rectangular pools (possibly associated with bank construction) and newly installed jetties. The Inovyn Deposit Ground was also constructed for the storage of dredged material from the River Weaver in the later 20th century.

5.5.3. The University of Chester and Handforth Parish Council Diverse Narratives Project (UC & HPC 2016) indicate that Frodsham Marsh was used as a sub-camp of the larger Handforth Prisoner of War Camp and housed approximately 200 PoWs in 17 bell tents and an administrative marquee from spring 1918.

The PoWs were reportedly employed by the Cheshire County War Agricultural Committee to undertake marsh drainage. The exact location of this camp is unknown, but the HER also records the location of a WWII PoW camp just over 1km southwest of the Site (Asset 357, Event 288). The need for new drainage works at this time has been attributed to the effects of the MSC, which is thought to have prevented the post-medieval drainage system from functioning, with the result that the marsh '*became a stagnant, saturated expanse of poor pasture*' (Latham 1987: 74). While the scheme set up during WWI proved ineffective, the War Agricultural Executive Commission oversaw an intensive reclamation and cultivation project using PoW labour during WWII (Latham 1987: 74). Indeed, aerial photographs from 1945 appear to show such activities in progress or recently completed (see below).

5.5.4. Given that the Site was not developed by the mid-20th century, the levels of bombing it experienced during WWII were relatively low compared with the surrounding area. However, anecdotal references to bombs dropped in 'Frodsham Marshes' raise the possibility that unexploded ordnance remains in the area. A UXO risk assessment judged there to be a Medium Risk of UXOs on the Site (1st Line Defence 2022).

5.6. Previous Archaeological Works

5.6.1. ***ES Vol 3, Figure 11-2 [EN010153/DR/6.3]*** shows the locations of previous archaeological work undertaken within the 1km Study Area. Archaeological findings directly relevant to the current Proposed Development (e.g. remains located on or close to the Site) are noted in the appropriate chronological section above and included in the accompanying gazetteer of assets (***ES Vol 2, Appendix 11-2 [EN010153/DR/6.2]***).

5.6.2. A number of linear development schemes, including pipelines and cable connections, have occurred within the Study Area, for which archaeological desk-based research, targeted surveys and watching briefs have been undertaken. Two such schemes run through the interior of the Site: Event 296 refers to work (desk-based research, field walking and a watching brief) associated with a section of the North Western Ethylene Pipeline, undertaken by Lancaster University Archaeological Unit between 1988 and 1993. The potential for recovery of prehistoric implements (such as those previously recovered during construction of the Manchester Ship Canal (Assets 226) was recognised, but none found within the Study Area; no stratified finds or features were expected (or reported) where the pipeline route ran alongside the Ship Canal, due to the high degree of historical disturbance associated with the canal's construction (LULA 1993). Event 297 denotes desk-based research associated with works on overhead powerlines. Several desk-based assessments (Events 293, 294, 295, 298, 299) overlap with the north-eastern and south-eastern edges of the Sit: no archaeological remains were identified within the Site.

5.6.3. The western part of the Site lies within the study area of the North West Coast Rapid Coastal Zone Assessment Survey (Event 276), completed in 2009, which involved the identification and transcription of probable archaeological features from aerial photographs of the zone extending 1km inland from the Mean High Water Mark. The Cheshire Environs Project (Event 275), part of the National Mapping Project, which included examination of aerial photographs and lidar data (completed in 2002), extends into the southern part of the Study Area. The gazetteer includes post-medieval and 20th-century assets identified by these projects.

5.6.4. A watching brief in relation to groundworks for Frodsham Windfarm was undertaken in 2015 (Event 288), targeting specific areas where archaeological potential (for medieval and post-medieval features) had been identified by previous desk-based research and walkover survey. While this did not include any intrusive work within the Site boundary, topsoil stripping of an area c. 30 x 18m thought to contain concrete remains associated with a WWII PoW camp was undertaken, located just over 1km southwest of the Site boundary. The excavation reached a maximum depth of 0.2m below ground level and

involved the removal of a dark humic loamy topsoil (0.15 - 0.2m thick) that overlay the natural compact silty clay. Further concrete platforms, one of which contained a length of piping were identified. To the east of this (also outside the Site boundary), a similar depth of top/ploughsoil was observed overlying the natural clay; lumps of clay present within the ploughsoil suggested that post-medieval/modern ploughing had extended into the clay and it was concluded that any earlier archaeological remains that may have been present (and which would be likely to have been relatively ephemeral) would have been heavily truncated or fully destroyed by later agriculture. An inspection of the post-medieval flood bank in the northern part of the Site recovered surface finds of late post-medieval ceramics and glass bottles among vegetation roots, but no intrusive work was undertaken.

5.6.5. Various other watching briefs and small excavations, which occurred in advance of development, are recorded within the Study Area, and are concentrated within the settlement of Frodsham and its former port/industrial area alongside the River Weaver (Events 304 - 310). Where archaeological features were identified, these primarily related to late post-medieval features including wall footings, a well and relatively recent pits, with finds such as clay pipe stems and 19th-century pottery. Excavation at Saltworks Farm in 1990 (Event 292) reported features probably associated with a glue works that is documented as having reused the 17th-century salt refinery site.

5.7. Aerial Photography and Satellite Imagery

5.7.1. A priority search of the Historic England Archive held in Swindon was undertaken (images relating to the Study Area are listed in Section 7.4). The online catalogues of the Historic England Aerial Photo Explorer (APEX) collection were also searched, and images of the Site and Study Area consulted online (see Section 7.4). The online catalogues of the National Collection of Aerial Photography (held by Historic Environment Scotland but also containing material covering England), Cambridge University Collection of Aerial Photos and Britain From Above were also searched, however, no further digitised images of relevance were identified. As noted above, parts of the Site and 1km Study Area are covered by the NWRCZA, the transcriptions from which were included in the data obtained from the HER.

5.7.2. A collection of aerial photographs taken in 1945 cover the Site (RAF/106G/UK/626_rs and RAF/106G/UK/626_rp) and show the field boundaries, general layout of the area and features (such as the Lum pool, sewage works outlet and pylons) much as indicated on historical mapping. Along the northwestern edge of the Site, the 1945 photographs show Tanks 1, 2 and 3 in use as canal deposit dumps, with Tank 3 partially full of silt, with possible standing water across the western half. The Manchester Ship Canal (Asset 264) is in use by shipping. Soil marks indicative of post-medieval or modern ploughing appear more widespread across the Site than the polygons on ***ES Vol 3, Figure 11-1 [EN010153/DR/6.3]*** , particularly in eastern and central parts of the Site, although many of the fields were in use as pasture at the time the photograph was taken; the proportion of fields in arable use at this date increases both to the southeast (as the ground rises towards Frodsham) and the southwest (in Ince parish) of the Site itself. Immediately north of the eastern part of the Site, the land within the Weaver meander (now the Inovyn Tank) appears as marsh (north of the post-medieval flood bank) and reclaimed pasture (to the south), within which a large palaeochannel is prominent, curving south to meet Weaver Lane. Assorted land improvement works are also visible in the photographs, including an extensive network of land drains, trackways, ditches and banks, either recently constructed or in the process of construction or clearance; these features are likely to be attributable to the works undertaken by the PoW camp (see Section 5.5).

5.7.3. The various small structures, identified as ‘military buildings’ (Assets 279-284), pillboxes (Assets 277 and 278) and a weapons pit (Asset 277) by the NWRCZA (Event 276), are visible on the 1945 photographs, though the scale is such that identifiable detail is very limited. A number of additional small rectangular structures are also visible distributed across the Site, some of which have an arched,

corrugated roof; their function is unclear, but they appear insubstantial and are most likely to be temporary stores or shelters, probably relating to agricultural activity (the photograph was taken during harvest) or the land improvement works. They have not been assigned individual asset numbers, due to their frequency and nature (they are unlikely to be associated with significant archaeological remains).

5.7.4. Photographs taken between 1921 (AFL192909) and 1953 (AFL19531004) confirm the gradual growth of Frodsham over this time, showing that development on the surrounding marsh and agricultural land was limited.

5.7.5. A series of recent historical satellite images (accessed via Google Earth) show no significant changes within the Site other than the installation of turbines and access tracks for Frodsham Windfarm. Adjacent to Moorditch Lane, Canal Deposit Tank 6 remains active. While a variety of former creeks and artificial land drains are visible as soil marks in these images, no previously unrecorded potential archaeological features were identified.

5.8. LiDAR

5.8.1. LiDAR data downloaded from the Environment Agency/DEFRA includes 1m resolution LiDAR, collected in 2022 as part of the National LiDAR Programme. The data were visualised using Relief Visualization Toolbox (RVT version 2.2.1) and SAGA GIS, and a Digital Surface Model (DSM) and Digital Terrain Model (DTM) have been produced from manipulation of the point cloud. The DSM and DTM were enhanced by implementing different visualisation techniques, including Analytical (Multidirectional) Hillshading, Sky View Factor, Visualisation for Archaeological Topography (VAT), Simple Local Relief Modelling, Laplacian Filter and combined VAT and Analytical Hillshading.

5.8.2. Hillshading is the most common visualisation technique for archaeological purposes and is effective for identifying earthwork features (Challis et al. 2011). Challis et al. (2011) and Doneus (2013) warn against reliance on a single technique and note that while hillshading may be the most common form of visualisation, it can be the least likely to identify archaeological remains in detail. Simple Local Relief Modelling (SLRM) can greatly enhance the visibility of small-scale, shallow topographic features (Hesse 2010).

5.8.3. By using the Digital Terrain Model (DTM) a mathematical algorithm (applied by the Environment Agency, prior to making the data publicly available) has filtered out 'above-ground' returns, which has the effect of 'removing' buildings, trees or similar features. While this can produce artefacts or smoothing that can inhibit interpretation of some features and in this case it has the advantage of providing information relating to the ground surface below the canopy.

5.8.4. ***ES Vol 2, Appendix 11-3, Figures 18 to 21 [EN010153/DR/6.2]*** show the available 1m resolution Lidar data, presented as a multi-directional hillshade and a local dominance plot respectively. Note the exaggeration of the vertical scale to demonstrate the faint features more clearly. The microtopographic variations indicative of ridge and furrow (Asset 257) are apparent, although in most places these are very subtle and show that the earthwork remains are severely denuded. The straightness and relatively narrow separation of the ridges suggests a later (i.e. post-medieval) date of cultivation, although these remains may have destroyed any surface indication of earlier agricultural practices. The extensive network of palaeochannels that reflect the natural drainage creeks that predate the reclamation of the marshland for agriculture are clearly apparent, particularly in the local dominance plot. Former field boundaries are also visible and accord with the location of those on historical maps.

5.8.5. No other previously recorded archaeological features were identified.

5.9. Site Visit

5.8.6. A walkover survey of the Site was undertaken on 20th March 2024, with the aims of identifying any previously unrecorded upstanding heritage assets, and establishing current land use or any areas of historical disturbance that may have implications for the likely preservation (or otherwise) of any subsurface archaeological remains. Weather conditions were overcast with heavy rain showers, but visibility was generally good. The visit followed an extended period of wet weather and some parts of the Site were inaccessible due to standing water or waterlogged ground. ***ES Vol 2, Appendix 11-4, Plates 1 - 40 [EN010153/DR/6.2]*** support this section.

East of Brook Furlong Lane

5.8.1. The eastern section of the Site (***ES Vol 2, Appendix 11-4, Plates 1 and 2, [EN010153/DR/6.2]***), between Weaver Lane and the River Weaver, comprised agricultural and formerly-agricultural land divided into a series of fields by established but discontinuous hedgerows and drains. The largest drain, the Ship Street Course, runs inside and parallel to the southeastern boundary and represents the canalised course of a watercourse marked historical maps (***ES Vol 2, Appendix 11-4, Plate 3***, ***[EN010153/DR/6.2]***). At the time of visiting, some of the fields were under a young cereal crop (***ES Vol 2, Appendix 11-4, Plate 4, [EN010153/DR/6.2]***); although generally flat, slight surface undulations were apparent and differential crop growth, as well as surface water and uncultivated areas presumably also reflect differential drainage patterns related to underlying natural palaeochannels. Others had been ploughed (***ES Vol 2, Appendix 11-4, Plates 5, [EN010153/DR/6.2]***) or were under sedgy grass (***ES Vol 2, Appendix 11-4, Plate 6, [EN010153/DR/6.2]***). All showed heavy rutting from agricultural vehicles (fresh and historic) and field edges included broad strips of dense vegetation dominated by species typically found on wet ground (including reeds, sedge, alder etc). Two lines of large pylons, carrying overhead power cables, run NE-SW across this area to Frodsham Substation.

5.8.2. The eastern edge of the Site (***ES Vol 2, Appendix 11-4, Plates 7 to 9, [EN010153/DR/6.2]***) follows the raised flood bank along the western side of the Weaver. This is likely to follow the line of the flood embankment shown on 19th-century mapping, but the extent to which it has been improved more recently is unclear. Frodsham Pumping Station (within a small, fenced compound) is located at the southeastern corner of the Site, overlooking wide reedbeds that fringe the river channel. The Substation, on the eastern bank of the Weaver, was not accessible, but views from across the river confirmed satellite imagery and current mapping, which shows buildings and power infrastructure extending close to the riverbank, with a narrow band of trees and an artificial bank to the north (***ES Vol 2, Appendix 11-4, Plate 7, [EN010153/DR/6.2]***), suggesting little potential for the survival of undisturbed subsurface archaeological features.

5.8.3. Adjacent to (outside) the northern boundary of the Site, within the meander of the Weaver, the interior of the Inovyn Deposit Ground was confirmed to be an area of raised artificial ground, now colonised by scrubby vegetation and small trees, rather than open water as shown on some current mapping. It is surrounded by a substantial, vegetated bank, presumably constructed of imported or redeposited local material, from which the proposed wire connection would run to Rock Savage (***ES Vol 2, Appendix 11-4, Plates 9, [EN010153/DR/6.2]***).

5.8.4. The cultivated areas also extend west of Weaver Lane, where several arable fields make up the southeastern portion of the Site section between Weaver Lane and Brook Furlong Lane (***ES Vol 2, Appendix 11-4, Plates 10 and 11, [EN010153/DR/6.2]***). The north and west of this section is currently managed for wildfowling and comprises a collection of somewhat smaller rectilinear parcels separated by water-filled drains and low/gappy hedges. This area was primarily marshy grassland, with various locally dominant vegetation types, including areas of sedge and reed beds (***ES Vol 2, Appendix 11-4,***

Plates 12 and 13, [EN010153/DR/6.2]). The interior of this area was not accessible, due to the ground conditions at the time of visiting, but views were afforded from the elevated surrounding banks. Several pools of open water were located within this area, including 'The Lum', located in the northeastern corner (as per historical maps) (***ES Vol 2, Appendix 11-4, Plates 14 and 15, [EN010153/DR/6.2]***). Various small earthen banks and cut sections (as visible in the LiDAR data) were identified within the grassland along the western side of the pool, suggesting that the probably natural pond may have been modified at some point(s) as part of water management within the marsh. A modern sluice within one of the shallow channels suggests at least part of this work remains in use, but other parts appeared silted or denuded; the earthworks are most likely to be modern or 19th-century.

5.8.5. The public right of way running east-west along the northern edge of this section of the Site appears to make use of the post-medieval floodbank (Asset 258) running along the bank of the Weaver (***ES Vol 2, Appendix 11-4, Plate 15, [EN010153/DR/6.2]***), although the amount of surface vegetation made it difficult to ascertain whether this had been more recently modified. A section of the riverbank is reinforced along the base of the bank where the two run immediately adjacent (***ES Vol 2, Appendix 11-4, Plate 16, [EN010153/DR/6.2]***): the stone is probably a modern addition to protect the slight corner in the bank that is located on the outside of the curve in the river channel.

5.8.6. No indication of any surviving remains of the Victorian sewage outfall (Asset 270) or the sluice (Asset 265) marked on late 19th-century OS maps could be identified due to the density of vegetation at this location, although the clearly defined difference in vegetation between the surrounding grass/sedge and an area of reeds corresponding to the square feature shown on historical maps suggests the change in ground level remains (***ES Vol 2, Appendix 11-4, Plate 17, [EN010153/DR/6.2]***).

5.8.7. Within parcels directly to the south of this, possible traces of ridge and furrow were visible in places, although they were very slight and difficult to identify amongst the vegetation. The southernmost parcels of ridge and furrow visible in the LiDAR, which appear to be the best preserved as earthworks, could not be accessed due to localised flooding This area was visited again in July 2024. The area contained juvenile crops in places but was again waterlogged making it difficult to note whether the earthworks visible in the LiDAR data are visible to the eye.

The Canal Deposit Grounds

5.8.8. The land in the western half of the Site comprises Deposit Ground Cells 1, 2, 3 and 5, and at the time of visiting was largely under short cropped pasture and subdivided by post and wire fences. The cells are divided by substantial landscaped banks, the most prominent of which surrounds Cell 5 (***ES Vol 2, Appendix 11-4, Plates 18 and 19, [EN010153/DR/6.2])*** while the interiors are generally very flat and noticeably higher than the eastern part of the Site and surrounding agricultural land. Access tracks to Marsh Farm and the windfarm continue to use the lines of Brook Furlong Lane and Moorditch Lane (as per historical maps) and have been consolidated with hardcore and subsurface drains. Additional recently-constructed tracks provide access to the individual wind turbines.

5.8.9. Cell 1 is located within the angle of the River Weaver and the MSC. It contains two wind turbines and, within the southern part of the cell, a collection of utility pipes run across the ground surface (with signage indicating buried high voltage cables) (***ES Vol 2, Appendix 11-4, Plate 20 [EN010153/DR/6.2]***). At the time of visiting, the grassland vegetation at the northern end of the cell was taller than the rest of the area, making ground conditions more difficult to determine, but the western corner included artificially excavated, water-filled areas, now overgrown with tussocky grass, small trees and reeds (***ES Vol 2, Appendix 11-4, Plate 21, [EN010153/DR/6.2]***).

5.8.10. Also visible in ***ES Vol 2, Appendix 11-4, Plate 21 [EN010153/DR/6.2]***, are a series of brick structures that were present in the northwestern corner of Cell 1 and along the eastern edge of Cell 2 (***ES Vol 2,***

Appendix 11-4, Plate 22, [EN010153/DR/6.2])At least three were identified in Cell 1, with four in Cell 2 and a further example noted on the boundary bank in the southeastern corner of Cell 1. The structures have a square footprint, with sides between c. 1m and 2m long and are hollow with no roof (although some have metal grids on the top). They are not of uniform height and the top courses of some are incomplete, while others appear to have been repaired using more modern bricks (as in ***ES Vol 2, Appendix 11-4, Plate 21, [EN010153/DR/6.2]***) or had additional courses added around the base (e.g. ***ES Vol 2, Appendix 11-4, Plate 22, [EN010153/DR/6.2]***), perhaps to keep them stock proof. Their date and function are uncertain, although it seems likely that they are related to the use of the area as a deposit dump and may provide ventilation. The four examples observed along the edge of Cell 2 correspond to the positions of very small maculae on the 1945 aerial photographs (e.g. raf_106g_uk_626_rp_3314; raf_106g_uk_626_rp_3326). Given the scale of the photographs, the features are too small to recognise other than through the correlation of their locations once identified on the ground.

5.8.11. The Site boundary follows the cell embankment around the northern side of Cell 1, immediately beyond which is the MSC (Asset 264) (***ES Vol 2, Appendix 11-4, Plate 23, [EN010153/DR/6.2]***). The remains of wooden structures, including vertical posts showing just above the water level to the northeast of the modern landing stage and revetments, are likely to be those visible on aerial photographs and marked on historic maps in this location.

5.8.12. The post-medieval flood bank (Asset 258), as shown on historical maps, originally ran along the line of the MSC, but no longer survives along this section and the ground, modified by construction of the canal, later dredging activity and landscaping e.g. to accommodate anglers, now drops from the interior of Cell 2 to the level of the water in a series of gentle steps and slopes (***ES Vol 2, Appendix 11-4, Plate 24, [EN010153/DR/6.2]***). The flat pasture in Cell 2 extends south and southwest from Marsh Farm (***ES Vol 2, Appendix 11-4, Plate 25, [EN010153/DR/6.2]***).

5.8.13. Separated from Cells 1 and 2 by its surrounding bank, Cell 5 extends across the southern half of this part of the Site (***ES Vol 2, Appendix 11-4, Plates 26 to 28, [EN010153/DR/6.2]***). The eastern half of this area contains four wind turbines, a telecommunications mast and an ancillary windfarm building, linked by a trackway. At the time of visiting, most of this ground was waterlogged. In parts of the field, a pattern of very slight parallel linear depressions was made visible by the pooling water, reminiscent of patterns typical of post-medieval ridge and furrow; however, given that this ground is relatively recent, it is concluded that the effect was the result of modern agricultural techniques or land drainage. The sinuous surface variations associated with silt deposition visible on the LiDAR plots (e.g. in the western half of Cell 5) were too subtle to be visible on the ground.

5.8.14. The southern boundary of Cell 5 follows Moorditch Lane (***ES Vol 2, Appendix 11-4, Plate 29, [EN010153/DR/6.2]***), which is a made track; a bank runs along its southern side, with a significant drop to the current level of Cell 6 (open water and reedbeds). Against the eastern side of the track, an area of recent earthworks was visible, apparently consisting of ditches with upcast banks and young trees including willow (***ES Vol 2, Appendix 11-4, Plate 30, [EN010153/DR/6.2]***). These earthworks are prominent on the LiDAR plots. Although their exact origin is unclear, they appear to be recent and may be related to habitat creation or similar; they are not considered archaeological.

5.8.15. The Moorditch Lane track continues along the southern edge of the Site into Cell 3 (***ES Vol 2, Appendix 11-4, Plates 31 to 34, [EN010153/DR/6.2]***), where various artificial lagoons were evident (as well as additional surface water). Much of the area was under short pasture, with a strip of longer vegetation adjacent to the track. The ground level of this cell was lower than Cell 5, but appears to have been heavily landscaped (presumably to create specific habitats). Appendix 11-4 Plate 34 shows the view northwest towards the Mersey from the approximate location of the former Frodsham Marsh huts (Asset

268); this view highlights the flatness of the area (the trees on the horizon are located on Frodsham Score).

5.8.16. **Main Site Access route** The Main Site Access route to the west of the Site follows that of the existing maintenance track linking the 'Western Cluster' of wind turbines within Cell 4. No access was possible to this cell during the Site visit due to works being carried out in the area, however, ***ES Vol 2, Appendix 11-4, Plates 35 and 36, [EN010153/DR/6.2]*** give indicative views of the northern and southern branches of the track as viewed from the public footpath (Cross Lane) at their eastern end. These views show made tracks running through what appears to be (given the type of vegetation present) soft ground composed of dumped material. At the western end of Cell 4, the track drops down to the level of the surrounding farmland and joins Lordship Lane (also an existing hardcore track) before crossing Hoolpool Gutter (***ES Vol 2, Appendix 11-4, Plate 37, [EN010153/DR/6.2]***), which marks the historic parish boundary. A post-medieval flood bank is also shown on 19th-century maps at this location, but it appears to have been incorporated into or heavily modified by the deposit ground embankment (***ES Vol 2, Appendix 11-4, Plates 37 and 38, [EN010153/DR/6.2]***). This section of the track is flanked by deep, water-filled drains, with agricultural land and new development to its north and the site of the former fertilizer factory to the south (***ES Vol 2, Appendix 11-4, Plates 39 and 40, [EN010153/DR/6.2]***). Along the westernmost section of the route, the roadway is asphalt, with landscaped and wooded verges.

Walkover: General Findings

5.8.17. Overall, it was striking that the various elements of the historical landscape (including topographical and environmental influences and land use trends, as well as settlement patterns and layouts) were clearly recognisable, with their relationships remaining clearly legible. The Site was approached from Frodsham via Weaver Lane, which fossilises a post-medieval (and probably earlier) route between the settlement and its surrounding agricultural hinterland. The elevated situation of the town, the northern side of which remains well-constrained by the gradient (and, now, the motorway corridor), was clearly evident and afforded views across the low-lying marshland to the Mersey. Similarly, the higher ground to the southeast of the Site remained a dominant presence in the landscape when moving across the flat marshes, and the use/re-use, from prehistory onwards, of locations on the sandstone ridge to establish foci of power, authority or dominance (e.g. hillforts, church and manor house) was clearly understandable. Returning to Frodsham along Moorditch Lane (via the M56 footbridge at the western end of the town), the break of slope contributed to a distinct sense of moving 'off' the marsh and approaching the core of the settlement, despite the strongly apparent NE-SW axis of movement created by the motorway.

6. SUMMARY OF ARCHAEOLOGICAL POTENTIAL

6.1.1. The geographical situation of the Site, along with previously recorded archaeological and historical evidence from the Study Area, suggests that, although the area is likely to have been exploited and/or managed for a range of valuable resources from prehistory onwards, it is unlikely to have been intensively occupied at any point. The strong influence of a combination of factors (including geology, geomorphology, topography and hydrology) on human activity and settlement within the evolving landscape remains clearly legible, with Frodsham Marsh forming a marginal, though nevertheless important, hinterland element associated with various foci on the drier ground to the south.

6.1.2. The sources consulted for this assessment cumulatively suggest a limited potential for direct impacts on archaeological remains to result from the Proposed Development. In the first instance, it seems likely that Frodsham Marsh, including the Site, has been used and managed for purposes that would typically be expected to leave little archaeological evidence. While the date at which the Site first became

inundated by saltwater remains unclear, palaeoenvironmental evidence from Ince Marshes demonstrates the likelihood that the area has been prone to waterlogging since soon after the end of last ice age. The documented use of the marsh for agriculture from the medieval period onwards suggests that any surviving remains (e.g. former field boundaries, drainage ditches or ridge and furrow) are unlikely to be of high density or importance in heritage terms, particularly given the traditional bias towards grazing in this area. Repeated documentary and cartographic references to post-medieval and modern land drainage both reinforce the picture of unfavourable ground conditions and raise the possibility that the survival of any earlier remains may have been affected by potentially damaging works such as ditch clearance and drain installation. Records of seasonal and periodic severe floods also suggest that land use on the Site is likely to have been influenced by the possibility of such events, although this possibility in itself explains the presence of a floodbank (Asset 258), parts of which correspond to features depicted on historical maps.

6.1.3. Moreover, the construction of the Manchester Ship Canal (Asset 264) is likely to have resulted in significant ground disturbance, particularly along the northwestern and northern parts of the Site. While the location of former features, such as Frodsham Marsh Wooden Huts (Asset 268) and various small (possibly military) buildings (Assets 276-282), have been identified from cartographic sources and, though no longer extant, have the potential to survive as buried remains, the use of western parts of the Site as storage tanks for dredged material has resulted in a considerable depth of overburden, with between 5.5m and 12m of made ground). Although it is possible that the post-medieval ground surface survives below these deposits, the nature of the Proposed Development is such that any buried remains would be unlikely to be affected.

6.1.4. Overall, in addition to specific post-medieval and modern heritage assets detailed above, based on the current evidence there is considered to be:

- A **High potential** for currently unknown remains relating to post-medieval or modern agriculture and/or land improvement/reclamation to survive within the Site.
- A **High potential** for buried peat deposits to underlie the Site that may have the potential to contain palaeoenvironmental information and/or archaeological (most likely early or late prehistoric) remains.
- A **Low potential** for archaeological remains from earlier periods, or post-medieval and modern remains of other types, to survive within the Site.

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7.2. Archive Materials

The following documents were consulted at the Cheshire Archives and Local Studies centre:

Reference	Title	Date
QDP 639	Manchester Ship Canal Additional Lands	1887
DCH/H/516	A Map of Rock Savage Demesne and Lands in the Lordship of Frodsham belonging to the Right Honourable Earl Cholmondeley.	n.d.
QDP 632	Manchester ship canal, western part	1885
QDP 618	Manchester Ship Canal, Docks, River Mersey and Estuary works ...	1884
QDP 819	Manchester Ship Canal, depth of water	1903
DCH/FF/18	Papers relating to sale by Marquess of Cholmondeley of land at Frodsham to Manchester Ship Canal Co	1887-1896
DCH/FF/27	Copy act for inclosing lands in town and lordship of Frodsham and in township of Helsby, par Frodsham	c 1797
DCH/HH/7	Correspondence and plans relating to land at Frodsham required for the Manchester Ship Canal	1885-1888
DCH/HH/8	Abstracts of articles of agreement and award relating to inclosure of Frodsham Lordship marsh in 1783-1787	1877

7.3. Cartographic References

The following maps were consulted through the National Library of Scotland Website unless stated otherwise (http://maps.nls.uk). Accessed March 2024.

Blaeu, J. 1662-1665. *Cestria Comitatvs Palatinvs*. NLS Shelfmark: EMW.X.017. https://maps.nls.uk/view/104188132

Bryant, A. 1831. *Map of the county palatine of Chester from an actual survey made in the years 1829, 1830 & 1831*. NLS Shelfmark: EME.b.2.1. https://maps.nls.uk/view/220113010

Dock Office Manchester. 1894. Manchester Ship Canal (Plans 1 - 4). Plan No. 1. Eastham to Runcorn. https://upload.wikimedia.org/wikipedia/commons/a/ad/The_Manchester_ship_canal_-_btv1b8441263p_%282_of_4%29.jpg

Ordnance Survey:

6 Inch to the Mile Series

1882. Cheshire Sheet XXIV. Surveyed 1873 to 1874, Published 1882.
1896. Lancashire Sheet CXVIII.SE. Surveyed 1894, Published 1896.
1899. Cheshire XXIV.SE. Surveyed 1897, Published 1899.
1912. Cheshire XXIV.SE. Revised 1908, Published 1912.
Lancashire CXVIII.SE. Revised 1909, Published 1912.
Lancashire CXVIII.SE. Revised 1908, Published 1928.
Cheshire XXIV.SE. Revised 1908, Published c. 1936.
Cheshire XXIV.SE. Revised 1938, Published c. 1945.

25 Inch to Mile Series
1896. Cheshire XXIV.11. Revised 1894 to 1895, Published 1896.
1898. Cheshire XXIV.11. Revised 1897, Published 1898.
1911. Cheshire XXIV.11. Revised 1908, Published 1911.
1899. Cheshire XXIV.15. Revised 1897, Published 1897.
1911. Cheshire XXIV.15. Revised 1908, Published 1911.
1875. Cheshire XXIV.12. Surveyed 1872, Published 1875.
1898. Cheshire XXIV.12. Revised 1897, Published 1898.
1934. Cheshire XXIV.12. Revised 1908, Published 1934.
1935. Cheshire XXIV.16. Revised 1908, Published 1935.
1874. Cheshire XXIV.14. Surveyed 1872, Published 1874.
1896. Cheshire XXIV.14. Revised 1894, Published 1896.
1898. Cheshire XXIV.14. Revised 1897, Published 1898.
1911. Cheshire XXIV.14. Revised 1908, Published 1911.
1896. Cheshire XXIV.10. Revised 1894, Published 1896.
1898. Cheshire XXIV.10. Revised 1897, Published 1898.
1911. Cheshire XXIV.10. Revised 1908, Published 1911.

1:10,560 Scale Map Series:
1954. Sheet SJ47NE - A. Surveyed/Revised Pre-1930 to 1953, Published 1954.
1954. Sheet SJ57NW - A. Surveyed/Revised Pre-1930 to 1953, Published 1954.
1968. Sheet SJ47NE - A. Surveyed/Revised 1962 to 1968, Published c. 1968.
1970. Sheet SJ57NW - A. Surveyed/Revised 1960 to 1970, Published c. 1970.

1937 Land Utilisation of Britain Survey. Sheet 43 - Chester. Surveyed 1931 to 1935.

Stuart, J. and Burdett, P.P. 1794. *The county palatine of Chester.* NLS Shelfmark: EME.s.53. https://maps.nls.uk/view/220113193

Swire, W. 1830. *A map of the county palatine of Chester, divided into hundreds & parishes, from an accurate survey, made in the years 1828 and 1829*. NLS Shelfmark: EME.b.3.17. https://maps.nls.uk/view/220113196

7.4. Photography

The online catalogues of the Historic England Aerial Photo Explorer (APEx) collection, the National Collection of Aerial Photography (held by Historic Environment Scotland but also containing material covering England), Cambridge University Collection of Aerial Photos and Britain From Above were searched, and aerial images of the Site and Study Area consulted online.

The following photographs are available on the Historic England Aerial Photo Explorer website (https://historicengland.org.uk/images-books/archive/collections/aerial-photos/):

Date	Flight/Sortie	Frame No.	Type
10 Aug 1945	RAF/106G/UK/626_rs	4312	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4318	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4319	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4319	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4320	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4321	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4324	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4325	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4326	Vertical

10 Aug 1945	RAF/106G/UK/626_rs	4327	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4328	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4317	Vertical
10 Aug 1945	RAF/106G/UK/626_rs	4318	Vertical
10 Aug 1945	RAF/106G/UK/626_rp	3314	Vertical
10 Aug 1945	RAF/106G/UK/626_rp	3316	Vertical
10 Aug 1945	RAF/106G/UK/626_rp	3317	Vertical
10 Aug 1945	RAF/106G/UK/626_rp	3318	Vertical
10 Aug 1945	RAF/106G/UK/626_rp	3319	Vertical
10 Aug 1945	RAF/106G/UK/626_rp	3324	Vertical
10 Aug 1945	RAF/106G/UK/626_rp	3326	Vertical
1 Sept 1929	AFL192909	EPW029585	Oblique
1 Sept 1929	AFL192909	EPW029586	Oblique
23 Apr 1921	AFL192909	35026_001	Oblique
23 Apr 1921	AFL192909	35026_001	Oblique
23 Apr 1921	AFL192909	35026_001	Oblique
4 Oct 1953	AFL19531004	EAW052631	Oblique
4 Oct 1953	AFL19531004	EAW052633	Oblique
4 Oct 1953	AFL19531004	EAW052632	Oblique
4 Oct 1953	AFL19531004	EAW052636	Oblique
4 Oct 1953	AFL19531004	EAW052634	Oblique
4 Oct 1953	AFL19531004	EAW052635	Vertical
27 Jun 1996	ARSF/1996/08	3708	Vertical
27 Jun 1996	ARSF/1996/08	3707	Vertical
27 Jun 1996	ARSF/1996/08	3706	Vertical









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