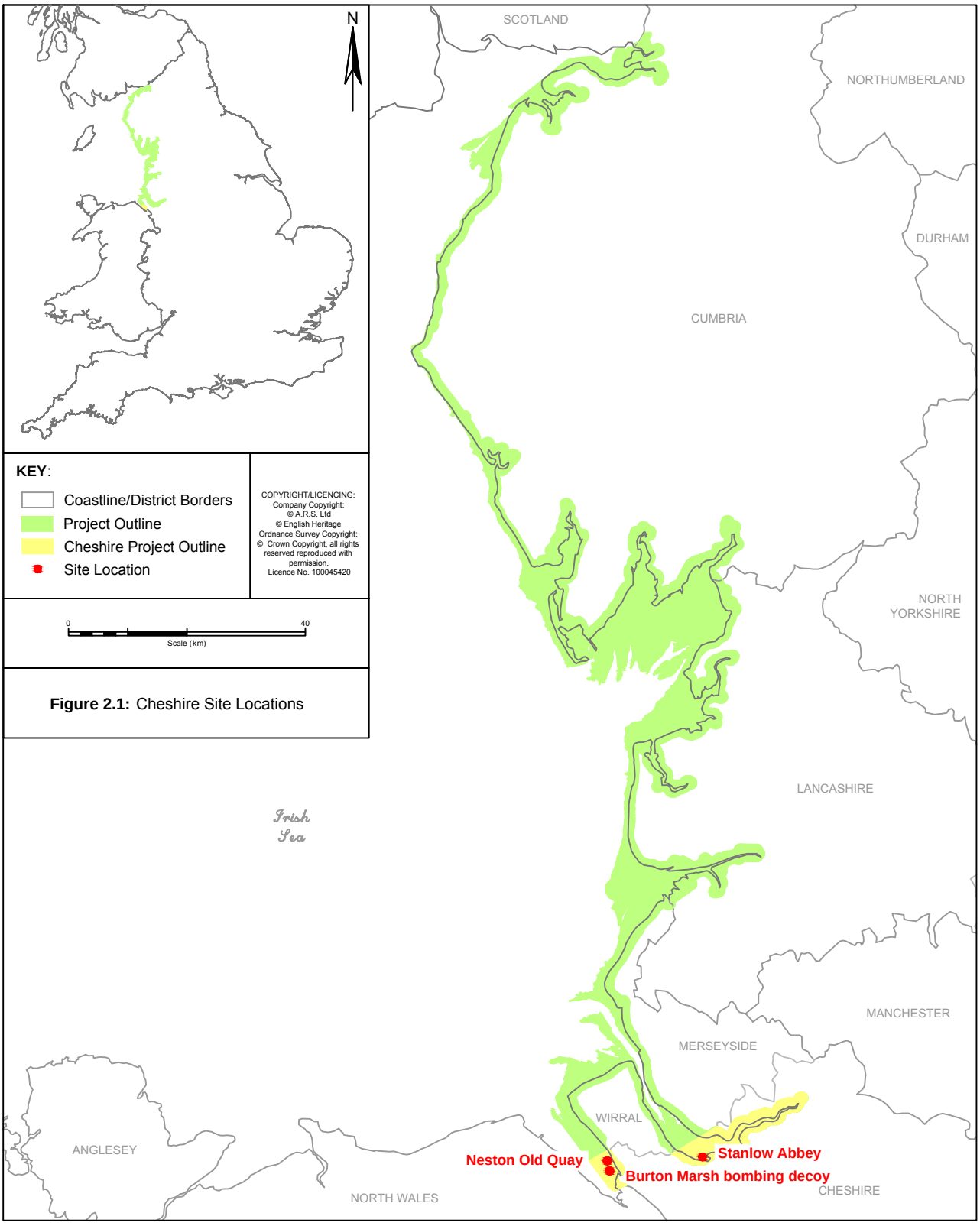

Figure 2.1: Cheshire Site Locations

2. ARCHAEOLOGICAL SURVEY RESULTS: CHESHIRE

2.1 Introduction

The Cheshire coast is the shortest section of coastline in the study area (Figure 2.1). Following the Phase 1 NWRCZA, further consultation with local authority archaeological officers in Cheshire highlighted the sites listed in Table 2.1, below, as being potentially under threat from coastal erosion and worthy of a site visit.

County	Site name	SMP 2 policy at this site	Special Interest	Risk
CH	Neston Old Quay	NAI	Medium	High
CH	Bombing Decoy-Burton Marsh	NAI	Medium	High
CH	Wireless Telegraphy Station/Control Building-Burton Marsh	NAI	Medium	Medium
CH	Stanlow Abbey	HTL	High	Medium

Table 2.1 Sites identified as potentially under threat of erosion in Cheshire.

The specific aims of the survey at these locations were:

- To accurately locate any surviving remains of the quay that was first mentioned in documentation dating to 1541.
- To establish the relationship between the Second World War wireless telegraphy station/control building and the bombing decoy site on Burton Marsh.
- To provide an up-to-date condition assessment of any surviving remains.
- To investigate the extent of erosion and the risk faced to the remains from increased rates of erosion, with reference to the preferred SMP2 policy of No Active Intervention.

The following Chapter discusses the results of the targeted archaeological survey of these sites. In Section 2.2 each survey location is discussed in terms of its landscape setting, topography, previous research, known history and land use. The visible remains are discussed by period and the impact and nature of erosion is considered in relation to these heritage assets. This allows for the quantification and assessment of specific threats which are discussed in Section 2.3, and further in Chapter 7. Each survey location has been given a unique field survey record number specific to the NWRCZA and these are quoted throughout the document.

2.2 Neston and Burton Marsh (Map Figures 2.12 and 2.13)

2.2.1 Location and geology

The town of Neston (SJ 2945 7748) is located on the Wirral Peninsula, on the northern side of the Dee Estuary. It is 18km north-west of Chester and 15km west of Ellesmere Port. It stands at 10m AOD at the coast, rising to 60m AOD further inland. Until the late 19th century it was the largest town on the Wirral (Devine and Clark, 2003, 1).

The Dee Estuary is a drowned valley that formed along a geological fault, between Triassic sandstones and Carboniferous coal measures (SMP2 North West England and North Wales). The bedrock geology of the Wirral Peninsula is predominantly Triassac sandstones with Chester Pebble Beds Formation being dominant in the Neston area.

This is overlain by varying superficial till deposits, such as the Devensian till on the foreshore at Neston, and Holocene salt marsh to the south-west (BGS 2008). The coastal zone in this area is characterised by large areas of low-lying reclaimed salt marshes (e.g. Burton Marsh) that have accumulated as the Dee Estuary has silted-up (Figure 2.2). The surrounding landscape comprises the urban centre of Neston lying within gently undulating grassland and agricultural land that makes use of the predominant deep red loam soils inland from the marshes (Farewell 2007).

Figure 2.2 Stable salt marsh at Burton Marsh in the Dee Estuary south west of Neston, Cheshire, looking west.

Current land use in Neston is predominantly urban with only small agricultural landholdings. The shoreline is in recreational use with a public footpath skirting the boundary between the public access salt marsh and the privately owned land to the east. Remains associated with the quay are found along this foreshore footpath. Burton Marsh, to the south-west, is managed partly as a nature reserve by the Royal Society for the Protection of Birds (RSPB), and partly as an active firing range by the Ministry of Defence (MOD). The Dee Estuary is a designated Site of Special Scientific Interest.

2.2.2 Previous research

The NWRCZA Phase 1 study looked at this part of the coastline as part of Block 1 of the study area (Johnson 2011) and did not highlight these sites as potentially under threat of coastal erosion and requiring rapid survey.

The history of the town of Neston and the Old Quay has received attention in the recent Cheshire Historic Towns Survey of Neston and Parkgate completed by the then Cheshire County Council in conjunction with English Heritage (Devine and Clark 2003). The town survey comprises the results of an analysis of historic mapping, historical documentation and data held within the Cheshire HER. It did not include a fieldwork component, but recommended an examination of the nature and extent of the New

Quay and establishment of its relationship to the medieval anchorage as a priority for future work in the area (Devine and Clark 2003, 18).

The Second World War bombing decoy site on Burton Marsh is listed in Dobinson's survey of the Bombing Decoys of World War 2 (Dobinson 2000, 277). Its extent was mapped as a polygon during the aerial photography transcription exercise in Phase 1 of this project. This also noted a track coming from the decoy inland which appears to terminate at a small building on the edge of the marsh. This building, identified from the aerial photography as an observation post, has also been described as a wireless telegraphy station and a control building for the decoy. Rapid survey of this structure is required to understand its relationship with the decoy site.

2.2.3 NWRCZA Phase 2 Archaeological Investigation
The archaeological survey of this area was targeted on the anchorage and Old Quay at Neston and the Second World War features at Burton Marsh. There was limited opportunity for a walk-over survey as large tracts of the marsh are used by the MOD as an active firing range.

2.2.4 Prehistoric-Early Medieval
No prehistoric, Romano-British or early medieval archaeology was identified during the course of the survey.

2.2.5 Medieval
References to a port or anchorage at Neston date back as far as 1282 when a 'fleet of around 80 ships from the Cinque Ports' were anchored off Neston prior to Edward I's military campaign against the Welsh (Pearson 1985, 8). However, it is possible that this reference relates to an anchorage at Denhall Quay a short distance to the south (Devine and Clark 2003). References specific to Neston are more frequent in the fourteenth and fifteenth centuries when the Chester Customs Accounts detail ships carrying cargoes of wine and Spanish iron being anchored at Neston (Wilson 1969). The exact location of this anchorage is unknown as it was replaced in the early-mid sixteenth century by the New Quay or New Haven at Neston.

The field survey did not identify any remains that could be interpreted as the medieval anchorage and its location remains unknown.

2.2.6 Post-medieval
The earliest reference to the New Quay or 'New Haven' at Neston is from 1541 when a group of Chester merchants petitioned the King's Council to grant them aid to build a new quay. It was to protect Chester's sea borne trade which was under threat due to the silting-up of Chester's port (Devine and Clark 2003, 7). Construction work began in 1545, but the merchants soon ran into financial difficulty and progress was so slow that in 1598 an overseer was appointed to bring the project to completion. The quay is described at this time as being '56 footes in length, in bredth or thickness 24 footes and in height, besides the battlements, 12 foot is decayed and falling down' (British Coal Map 14931). By 1600, however, the New Quay was complete, with references to the importation of fish, timber and pitch from the Baltic States, and wine from France and Spain (Pearson 1985, 11-12).

The New Quay went into decline around 1690, as the silting-up of the Dee Estuary made it difficult for ships to dock. The last reference to its use was in 1704 and by 1737 the

river Dee was canalised and Connah's Quay replaced Neston which became known as the 'Old Quay' (Place 1994, 17-19). In 1799 the stone from the Old Quay was sold to Sir Thomas Mostyn and was reportedly used in the construction of a sea wall at Parkgate (Pearson 1985, 10-13). The Old Quay is marked on modern Ordnance Survey maps and is included in the Cheshire HER (No: 2292).

The field survey recorded several stone walled features as the remains of the Old Quay or walling associated with it (154). The best preserved portion consists of a *c.*69m length of Red Sandstone walling surviving to *c.*1.8m in height (Figure 2.3). At right angles to this, on the southern side, a further *c.*30m length of walling is traceable as standing remains to a height of *c.*1m in places, and buried remains in others. A river channel runs inland alongside this southern extent. The junction between the two walls is heavily eroded, or has been stone-robbed (see Section 2.2.9).

Figure 2.3 Neston Old Quay: Red Sandstone seawall surviving to *c.*1.8m in height.

To the south of this area, further Red Sandstone walls, standing to a height of *c.*1.2m, were recorded that may be related to the remains of the quay. On the east side of the public footpath, these appear to have been remodelled and incorporated into garden walls for an adjacent house, however the gateway into the garden is a reused sluice gate (Figure 2.4). On the north and west side, the walls appear to be original. The west side contains a curved section of walling standing only a few courses high that juts out into the marsh and may be the corner of a section of seawall. The north side consists of a section of original walling with two inserted gateways containing chiselled stone gateposts. The northern side of this walling also contains the springing line of an arch, suggesting that a water channel ran past this section of wall and inland (Figure 2.5).

Figure 2.4 Remains of Red Sandstone walling, possibly associated with Neston Old Quay, remodelled and incorporated into garden walls. (scale = 1m x 2m).

Figure 2.5 Springing line of an arch, possibly showing the location of a former water channel (scale = 2m).

Other features noted during the walkover survey were two sections of handmade brick walling (*c.*27m and *c.*25m in length) with sandstone copings located to the south-west of the remains of the quay (Figure 2.6). The ground behind these walls is substantially higher than the salt marsh, so these may represent retaining walls or revetments. These are unlikely to be associated with the quay. The brick type and size can, however, be

partly dated. The bricks are handmade and measure 9"x3½"x2¼", and therefore pre-date 1803 when a standardised brick size of 9"x4½"x3" was introduced following the brick tax (Cunnington 2002, 147; Iredale and Barrett 2002, 22). Assuming the bricks have not been reused, therefore, these retaining walls pre-date 1803.

Figure 2.6 Handmade brick retaining wall with sandstone copings (scale = 1m).

2.2.7 20th Century

The Second World War bombing decoy site at Burton Marsh (HER No: 4226) was designed after 1940 as a 'Permanent Starfish' type, codenamed 'Special Fires', to deflect enemy bombing from the city of Liverpool and Garston Docks (Dobinson 2000, 86). Starfish decoys consisted of a variety of elements including small fires and major conflagrations and tended to cover large areas of open ground (Lowry 1996, 64). In 1942 a night decoy, or 'QF' decoy, was incorporated into the Burton Marsh site. This consisted of a series of electric lights that simulated the railway marshalling yards and factories associated with a dockyard (Dobinson 2000, 135). Aerial photographs from 1948 show upwards of 50 features associated with the decoy, including a control building, however these are no longer visible on photography from 1971 (Anderton 1999, 64).

The control building described by Anderton (1999) was located at SJ 295 793, however, this grid point is on the north-east side of Neston town over 4km from the decoy. A building identified as a wireless telegraphy station in the Cheshire HER (No: 4114) is located at SJ 295 753 and it is likely that this is the building to which Anderton refers. The aerial photograph transcription exercise undertaken during Phase 1 of this project identified this structure as an observation post (NRHE: 1414626).

Field survey of this structure (155) confirmed that it is most likely to be a control building associated with the bombing decoy site on Burton Marsh, 650m east-south-east. The building is brick-built with a flat concrete base and roof which is typical of decoy

control buildings (Lowry 1996, 64). It is approximately 8m long x 3m wide x 2m high, built into the side of a low mound at one corner of a privately owned field (Figure 2.7). The building is overgrown with trees and shrubbery and the mound on which it stands is undergoing natural erosion as a result of slippage, not connected with coastal erosion. This is undermining the structure and may lead to subsidence and/or collapse in the future.

Figure 2.7 Bombing decoy control building on the edge of Burton Marsh. Note ground erosion at the base that may lead to subsidence (scale = 2m).

The aerial photography transcription identified a trackway leading from this building to the bombing decoy (NRHE: 1467648). No surface evidence of this trackway was visible during field survey.

The bombing decoy site is located on land owned by the MOD and falls within the danger area of Sealand Rifle Range. The field survey identified the remains of the decoy as consisting of a series of water-filled cut features (201). The most prominent of these were two rectangular cuts (*c.*16m x 3m) each with an associated small square cut (*c.*2m x 2m) running alongside a long curving cut feature (Figure 2.8). These water-filled channels would have been arranged in such a way as to mimic the docks at Garston on a smaller scale; the long curving feature possibly mimicking the curve of the River Mersey (this feature was only mapped for a portion of its length owing to safety concerns). At night, lights would be shone on the water to draw attention to the decoy in preference to the real life docks on the other side of the Wirral. Several bomb craters were noted in the vicinity of the decoy site during the Phase 1 aerial photography transcription, possibly attesting to its success in drawing fire away from Garston and Liverpool.

Further water-filled pools were identified as possibly relating to the decoy site, however these were more eroded making their identification as man-made features more problematic (Figure 2.9). Two bridges crossing channels in the marsh were also recorded

in association with the decoy, as these were constructed of rough concrete slabs typical of the Second World War period. However, these may not be in their original locations (Figure 2.10).

Figure 2.8 Water-filled cut features in Burton Marsh interpreted as the remains of the Second World War bombing decoy site for Garston Docks (scale = 1m).

Figure 2.9 Possible further remains of the Second World War bombing decoy site (scale = 1m).

Figure 2.10 Possible remains of the Second World War bombing decoy site that appear to form a small bridge (scale = 1m).

2.2.8 Threat from erosion

Neston and Burton Marsh lie within the inner zone of the Dee Estuary in SMP2 policy unit 11a 5.5. This recommends 'No Active Intervention' for the next 100 years.

The Dee Estuary has been infilling since the end of the last glacial advance and it was originally over 30km long and 8km wide, extending as far as Chester. The estuary ceased to be navigable up to Chester by the middle of the 15th century and siltation has continued to this day. In the last 300 years there has been a 27% reduction in the estuarine area north of Neston, due to land reclamation activities, and Pye (1996) states that the majority of changes seen within the estuary in the last 200 years have been caused by human intervention, particularly canalisation and the erection of training walls put in place to preserve the Crosby Channel (Pye 1996).

The SMP2 states that, although siltation has slowed in more recent years, accretion in the inner Dee Estuary will continue as long as the training walls and embankments to the River Dee remain. The salt marshes should continue to accrete though there may be localised marsh erosion due to changes in channel configuration. Management options elsewhere in the estuary, such as managed re-alignment proposals may also have an impact on the level of accretion in the inner zone (Halcrow 2011).

Based on measurements of the ^{137}Cs concentrations in the marsh, the SMP2 concludes that Burton Marsh has had an average accretion rate of <5mm/year in the last 20 years. Further north, past Neston, accretion for the same period is measured at *c.*10mm/year (Pye 1996). Assuming these trends continue there should be a similar rate for at least the next 20 years. Ongoing accretion should limit the effects of sea-level rise and coastal squeeze and the SMP2 does not envisage a return to an erosion trend for least 100 years.

Nevertheless, policy unit 11a 5.5 does state that the 'No Active Intervention' option will be reviewed if erosion becomes re-established and action reference 2.7 calls for an investigation into whether erosion at Burton Point and Thurstaston cliffs will have an adverse effect on Burton Marsh, for example accelerating salt marsh erosion. This is targeted to begin by 2015 (Halcrow 2011).

Based on these predictions, the sites recorded at Neston (154) and Burton Marsh (155, 201) are not considered to be at immediate, or longer term, threat from coastal erosion. A more likely threat is erosion caused by various channels within the salt marsh, particularly that running past the south side of Neston Old Quay (154) (Figure 2.12), which has apparently already caused some level of damage to the site (Figure 2.11). Should channel configurations within Burton Marsh change significantly, then the Second World War bombing decoy site (201) will also be at risk of localised erosion (Figure 2.13).

Erosion and the risk of future subsidence were noted at the bombing decoy control building (155), however this was not caused by coastal erosion processes and will not be affected by SMP2 policies, or equivalent.

Figure 2.11 Erosion/stone robbing at Neston Old Quay (scale = 2m).

Figure 2.12 Location of sites surveyed at Neston

Figure 2.13 Location of sites surveyed on Burton Marsh

2.3 Stanlow Point (Map Figure 2.21)

2.3.1 Location and geology

Stanlow Point (SJ 42653 77402) is located on the north side of the Wirral Peninsula, in the inner zone of the Mersey Estuary. It is 10.5km south-west of Runcorn and sits on then north side of the Manchester Ship Canal near Ellesmere Port on the west side of the River Gowy. It stands at 1m AOD at the Mersey, rising to 2m AOD inland beside the canal.

The Mersey Estuary is a drowned valley that formed along a geological fault which has been modified by sub-glacial meltwaters infilling after the last glacial re-advance (Halcrow 2002). The bedrock geology of the Wirral predominantly consists of Triassic sandstones, with Pebble sandstones in the upper reaches of the estuary around Runcorn and Widnes. Stanlow Point is a low-lying Keuper Sandstone outcrop (Ainsworth 2010). The superficial geology of the Mersey Estuary is dominated by Devensian Till deposits with a complex sequence of coastal deposits (BGS 2008). Within the River Mersey, there are extensive Holocene tidal flat deposits. The principal soil in Stanlow is Saltmarsh, which is suited to summer grazing and recreational uses (Farewell 2007). The Mersey Estuary is a designated SSSI.

Stanlow Point became isolated from the mainland by the construction of the Manchester Ship Canal on its southern extent in the late 19th century (Ainsworth 2010). This has essentially turned Stanlow Point into an island. Industrialisation of the southern banks of the shipping canal, with Shell's Stanlow Oil Refinery and Petrochemicals Plant, has seen Stanlow Point become further isolated (Figure 2.14). There is now no public access to the 'island' which is currently owned by Peel Ports.

Figure 2.14 An entrance to Shell's Stanlow Oil Refinery and Petrochemicals Plant showing the built-up nature of the area south of the Manchester Ship Canal.

2.3.2 Previous research

The NWRCZA Phase 1 study looked at this part of the coastline as part of Block 1 of the study area (Johnson 2011) and did not highlight Stanlow Abbey as potentially under threat of coastal erosion and requiring rapid survey. This was due to the Shoreline Management Policy of 'Hold the Line' for this stretch of coast. However, through a reappraisal of the site and consultation with Stewart Ainsworth of English Heritage, it was revealed that the existing sea defences are currently failing causing localised flooding to the interior of the site (Ainsworth pers comm.). This, together with the threat of rising sea level, has led to its inclusion in Phase 2.

Little research has been conducted into the physical remains on Stanlow Point, largely due to its isolated location and the difficulties of gaining access to this privately owned site. The Scheduled remains of the Cistercian Abbey were placed on the Heritage at Risk Register due to unmanaged tree growth and this prompted English Heritage to conduct an initial survey assessment of the remains in 2010. This was carried out by Stewart Ainsworth in 2010 and provides recommendations on appropriate survey strategies for the site. English Heritage is currently in negotiations with the landowners as to the best way forward in terms of managing the site and it remains a sensitive issue (Stopford pers. comm.).

The abbey was mapped as an 'extent of area' in the Phase 1 aerial photography transcription (NRHE: 69550).

2.3.3 NWRCZA Phase 2 Archaeological Investigation

No archaeological survey of Stanlow Point was conducted during Phase 2. This was due to several factors, but principally to the difficulties of obtaining access to the site, as well as the relationship between English Heritage and the landowners. It was considered prudent to use Ainsworth's assessment survey as the basis for the following discussion, rather than potentially compromise efforts made by the Heritage at Risk team.

2.3.4 Medieval

Stanlow Abbey was founded as a Cistercian House in 1178 by John de Lacy, Baron of Halton (Ormerod 1882). It was a daughter house of Combermere Abbey near Crewe and was dedicated to St Mary. In 1287 documentary evidence describes flood damage to the abbey caused by a bad storm, this destroyed the church tower and much of the surrounding masonry (Ormerod 1882). This was followed by a major fire and flooding in 1289, prompting the monastic cell to appeal for a dispensation to relocate the abbey to a more suitable location. The majority of the monastic cell transferred to Whalley Abbey, northeast of Preston, in 1296, leaving the abbot and five monks to maintain Stanlow as monastic grange (Ormerod 1882). There are references to sheep farming during the 13th and 14th centuries and it was listed as a grange in 1535 (Ainsworth 2010, 2). The land passed into the hands of Sir Richard Cotton at the Dissolution and became a farmstead with buildings dating to *c.*1750 (Ainsworth 2010, 2). Ainsworth's assessment survey of the site provides a map regression analysis which charts the development of the farmstead through to its abandonment and the development of the industrial complex to the south of the site (Ainsworth 2010, 2-6).

The site is described in the Scheduled Monument Notification (1993) as;

'…both upstanding and buried remains of the monastery and the grange which succeeded it. Because the monastery and grange buildings were later incorporated into now demolished post-medieval farm buildings, the exact interpretation of the upstanding remains is uncertain, but they retain a range of architectural features which identify them with the core buildings of the monastery. These upstanding remains include a sandstone wall running east-west across the site; this is two courses thick and stands 1.5-2m high and was latterly used as part of the north wall of the farmhouse and adjacent buildings. At the western end of this wall is a re-used medieval doorway 1m wide. A second sandstone wall runs north-south across the side, slightly apart from the farmhouse and at an angle to it. This wall is up to 3m high and was latterly used as the west wall of farm outbuildings. Amongst other buried features, the monument includes a tunnel cut into sandstone and running west to east. This is lined with four courses of sandstone blocks and formed part of the main drain which led to the River Gowy.'

Ainsworth (2010) assess the upstanding remains as follows;

'Sandstone walls which are likely to be part of the monastic complex can be still identified along the north, west, south and south-east sides of the courtyard portrayed on the [Ordnance Survey] 1872 map. At the west, they still survive to a height of 2.5m …at the north-west of the courtyard, a chamfered doorway is in-situ along the north wall [Figure 2.15]…south of this wall a section of round column was found on the visit, but does not appear to be in-situ. Two possible walls which may be the remains of internal building divisions were noted projecting from the north courtyard…There area of the courtyard to the east of these structures has been platformed into the natural slope and may be part of the original abbey topography…the courtyard could indicate the survival of an original monastic enclosed area…towards the eastern centre of the former courtyard, the remains of the underground monastic culvert/drain [Figure 2.16] are visible heading off in a north-east direction towards the sea'
(Ainsworth 2010, 6)

Figure 2.15 *In-situ* medieval doorway
(Ainsworth 2010, © English Heritage)

Figure 2.16 Remains of monastic drain
(Ainsworth 2010, © English Heritage)

Ainsworth's assessment describes the site as heavily overgrown, preventing a detailed analysis of any earthwork remains. These remains are of particular importance in Cistercian foundations, as the Cistercian's are renowned for their manipulation of the landscape to suit their agricultural ideals (Wright 2010, 6). Added to this is the change

from abbey to grange at this site, which may be reflected in a change of land management techniques.

Based on his observations Ainsworth proposes two possible arrangements for the abbey buildings, which in Cistercian houses were of a fairly standardised plan form (Coppack 2006, 50). The second of Ainsworth's possible arrangements is reproduced as Figure 2.17, as this is the arrangement in which he places the most faith, albeit tentatively (Ainsworth 2010, 7). He states in this scenario, a significant part of the main conventual buildings may have been lost to quarrying in the late 19th century, including the lay brother's dormitories, western part of the cloister and most of the nave. However, the transepts, presbytery and east end of the church may have survived complete destruction (Ainsworth 2010, 7).

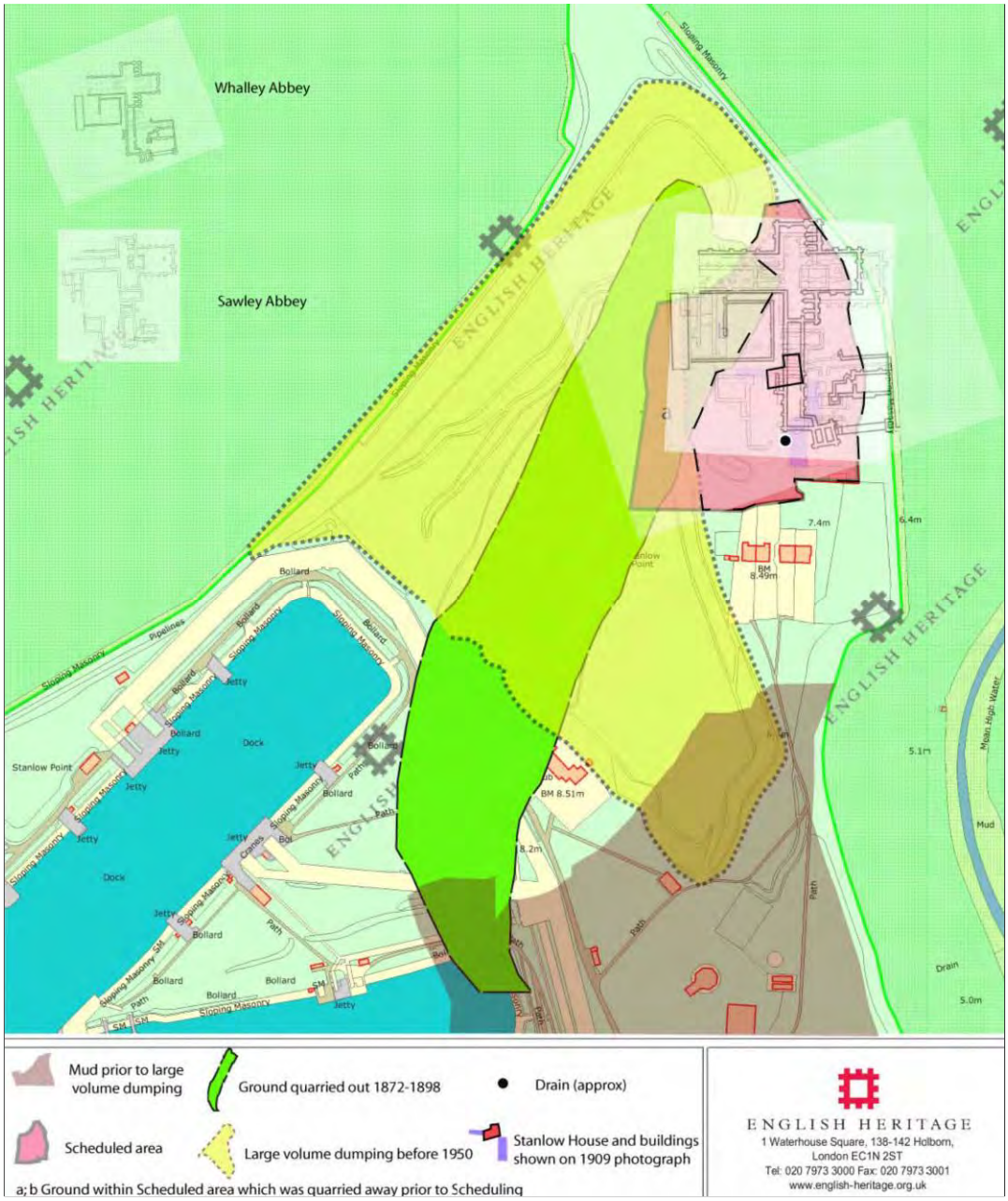

Figure 2.17 Possible arrangement of buildings at Stanlow Abbey overlaid on map of the modern landscape and its historical development. (Ainsworth 2010, © English Heritage)

2.3.5 Threat from erosion

Stanlow Point lies within the inner zone of the Mersey Estuary in SMP2 policy unit 11a 7.3. This recommends 'Hold the Line' for the next 100 years.

The Mersey Estuary extends from the mouth at Liverpool to the tidal limit at Warrington. It is bottle-shaped in plan with a narrow deep entrance channel and a wide inner basin leading to the meandering channel. The inner zone is 5.5km wide and extends for *c.*20km (Halcrow 2011). The strong tidal currents in the Narrows reduce upstream as the estuary widens, leading to deposition of sand and mud, which form extensive inter-tidal banks at low tide (Blott *et al.* 2006). There is a mean spring tidal range of *c.*9m and this large range results in the estuary almost completely drying out at low tide.

Up until *c.*1842 the Mersey Estuary had only two main channels, where it now has three, and until the Manchester Ship Canal was constructed in 1894 the channels oscillated over the whole width of the estuary (Halcrow 2011). By 1936 all three channels had become more defined and the main channel had moved significantly northwards, resulting in erosion along Dungeon Bank to the north and accretion along Stanlow and Ince Banks to the south. By 1977, this situation had reversed as the channel shifted southwards, resulting in accretion along Dungeon Bank and erosion in the south. Between 1906 and 1977, the sediment levels in the estuary generally increased and mapping evidence shows that around Stanlow Point *c.*300m of land has been reclaimed since the Ordnance Survey 1st Edition map (Figure 2.21).

Historical references to flood events at Stanlow Abbey, and the presumed loss of the abbey buildings' easternmost extent and possibly the precinct, indicate that significant erosion has occurred at Stanlow Point throughout its history (see Section 2.3.4). Ainsworth states that it is 'not clear as to what extent coastal erosion will have impacted on the survival of remains particularly at the north east of the site. The possibility also that landings and fish-traps etc existed here as part of the wider monastic landscape cannot be discounted as these might be expected at a coastal location' (Ainsworth 2010, 8). The SMP2 policy for Stanlow Point states that it will 'manage flood and erosion risks by maintaining existing defences to an adequate standard' for the next 20 years, and 'manage flood and erosion risks by maintaining/upgrading existing defences' for the next 80 years (Halcrow 2011). If this policy is enacted, this should mitigate future erosion of Stanlow Abbey, however there are other factors to be taken into account.

The current flood defences at Stanlow were erected in the Victorian era and are already failing in places (Figures 2.18 and 2.19) causing flooding in the abbey's courtyard area (Ainsworth pers. comm.). The responsibility for maintenance of these defences under a 'Hold the Line' policy for the next 100 years would usually lie within the public sector. The SMP2 states, however, that 'the economic viability of the policy may depend on knock-on benefits from flood defence function of the Manchester Ship Canal which lies between the Estuary and a large flood risk area at Stanlow and Ince Marshes. Protecting the industrialised hinterland and avoiding potential contamination…policy delivery in the noted frontages may be compromised by funding prioritisation due to low Benefit Cost Ratio, and therefore opportunities for co-funding need to be investigated.' This investigation is proposed under action reference 2.3 and is scheduled for 2015-2018 (Halcrow 2011). Given the economic and environmental risks of flooding the Stanlow Oil Refinery, it is unlikely that this investigation will prove to be unsuccessful. It should be noted, however, that the impetus to maintain defences will not be the protection of

the abbey ruins, rather the protection of the oil refinery which lies *c.*0.5km inland from the Point.

Figure 2.18 Victorian defences on the north and north-west end of Stanlow Point (© Robert Edwards, Cheshire West and Cheshire Council)

Figure 2.19 Failing Victorian defences on the north and north-west end of Stanlow Point (© Robert Edwards, Cheshire West and Cheshire Council)

Based on the current policy of 'Hold the Line', the remains of the Cistercian Abbey at Stanlow are not considered to be at immediate or long-term threat of coastal erosion. That being said, the delivery of the policy is reliant upon an agreement between government bodies and the private sector and the details and outcomes of this agreement may have the potential to negatively impact upon the known upstanding and unknown buried remains. As the site has never been fully recorded, any groundworks associated with the maintenance and erection of seaward defences will have the potential to impact on archaeologically sensitive deposits. Recommendations for a full survey have been produced as Ainsworth's assessment report concluded with a five-stage survey strategy. This would see the site undergo ecologically-sensitive clearance and recording to Level 3 standard (Ainsworth *et al* 2009) under contract, with input from English Heritage and Cheshire West and Cheshire Council (Ainsworth 2010, 9). His recommended survey area is reproduced as Figure 2.20. At the time of writing, this survey strategy has yet to be implemented and it should be marked as a priority for future work.

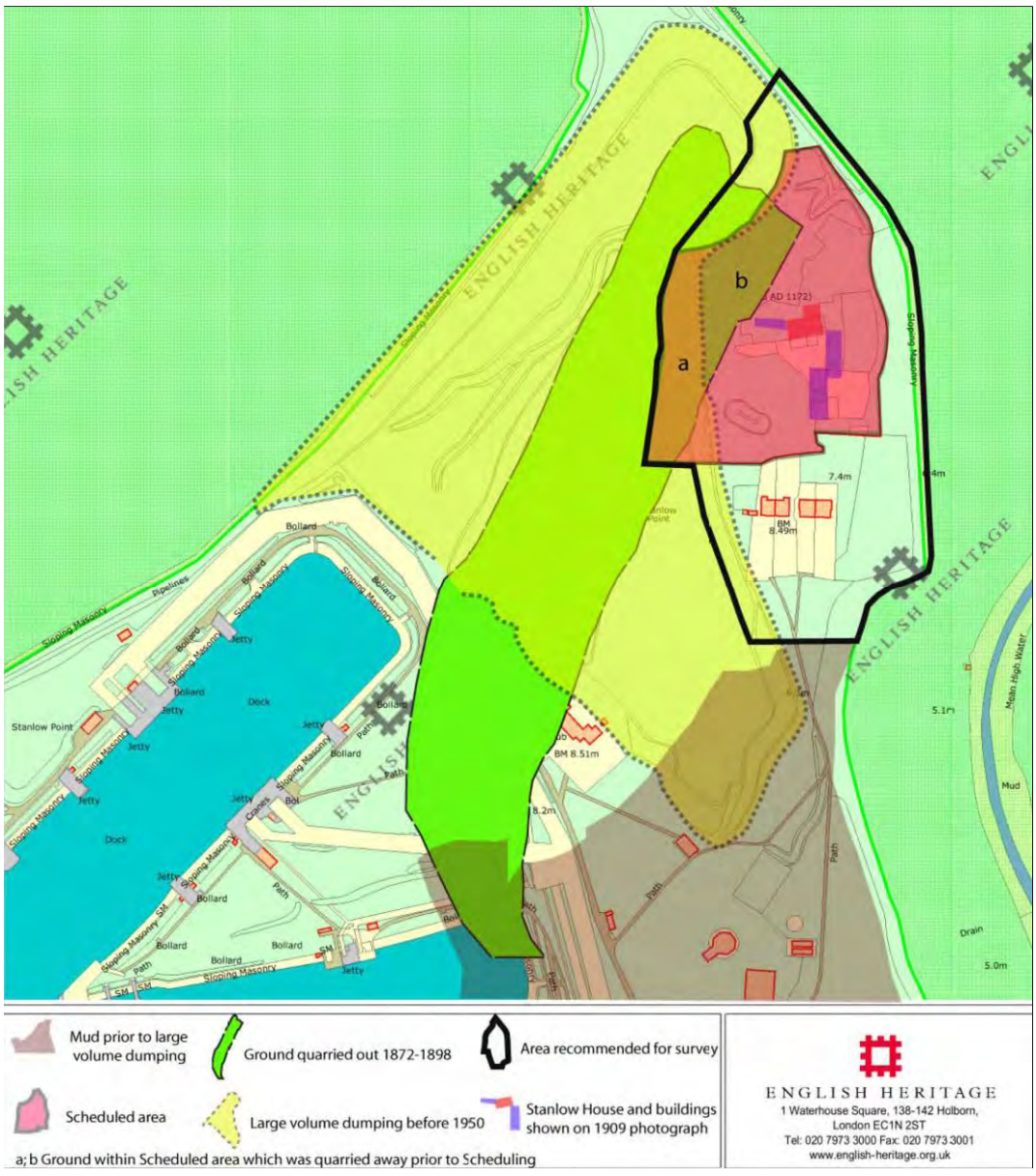

Figure 2.20 Recommended survey area (Ainsworth 2010, © English Heritage)

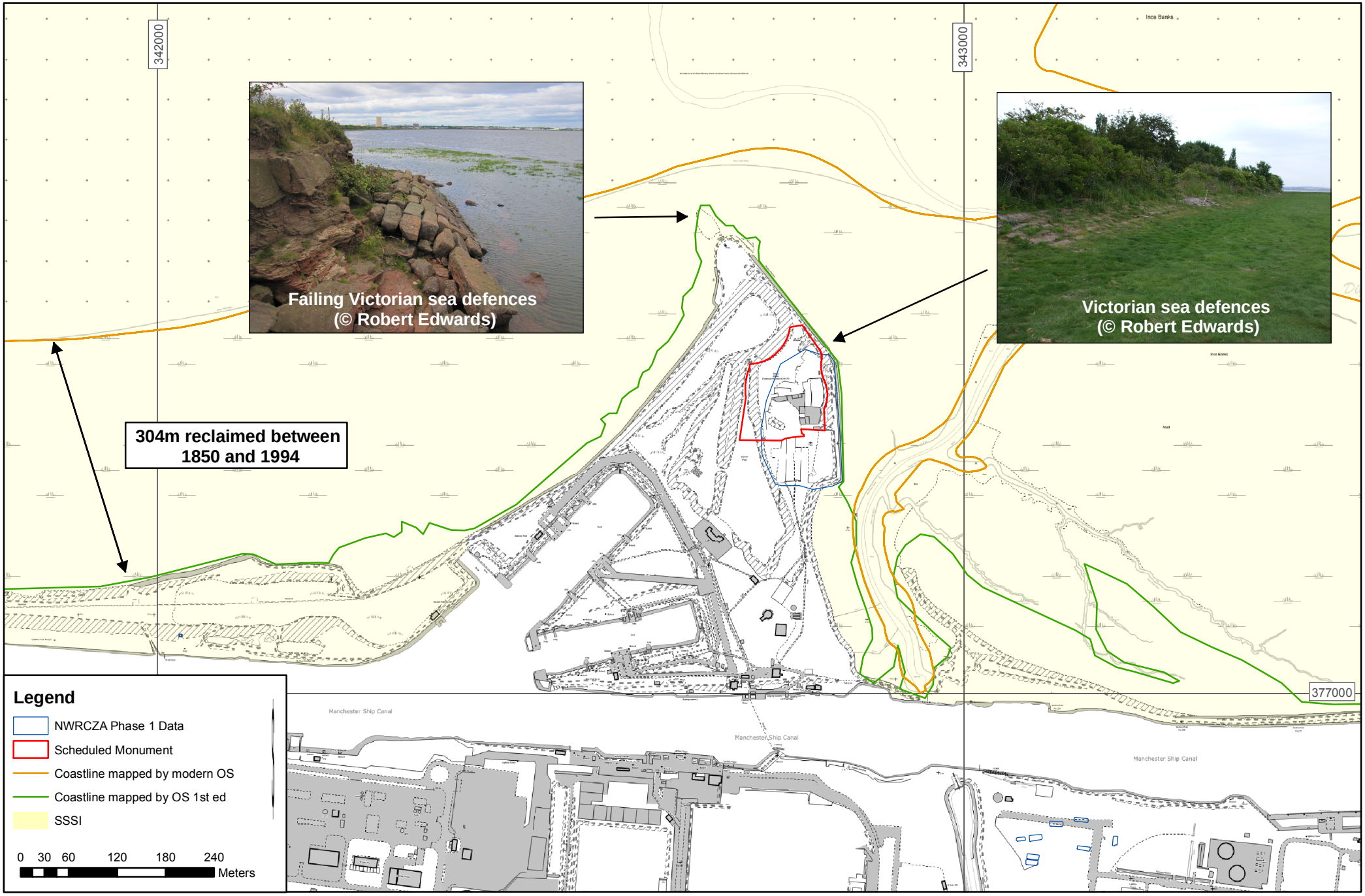

Figure 2.21 Location of Stanlow Abbey at Stanlow Point

2.4 Summary and conclusions

The archaeological survey of the Old Quay at Neston (154), built in the sixteenth century, revealed the remains of a Red Sandstone-walled quay and associated Red Sandstone structures, possibly part of a seawall and sluice gate. No remains of the earlier, medieval anchorage were located. On Burton Marsh the survey confirmed that the enigmatic building (155), variously identified as a wireless telegraphy station, control building and observation post, is in fact a control building associated with the bombing decoy site (201), 650m east-south-east. A trackway leading from this building to the decoy was mapped from aerial photography during Phase 1, however no remains of this track were identified during the field survey. The bombing decoy site was found to consist of a series of water-filled cut features, possibly associated with a number of concrete slab bridges across deep channels in the marsh. Several water-filled pools were noted, however, identifying all of these as definite man-made structures was problematic and only the most convincing pools were mapped.

Neston and Burton Marsh lie within the inner zone of the Dee Estuary in SMP2 policy unit 11c 5.5. This recommends 'No Active Intervention' for the next 100years. The Dee Estuary has been infilling since the end of the last glacial advance and in the last 300 years the siltation has intensified, largely due to human intervention. The SMP2 predicts that the salt marsh will continue to accrete at a rate of *c.*5-10mm/year for the next 20 years and it does not envisage the re-instatement of erosion during the next 100 year period.

The Scheduled Monument of Stanlow Abbey lies within the inner zone of the Mersey Estuary in SMP2 policy unit 11a 7.3. This recommends 'Hold the Line' for the next 100 years. The Mersey Estuary has three main channels which have stabilised in recent years following the construction of the Manchester Ship Canal in the late 19th century. The levels of erosion and accretion within the estuary are largely dependent upon the oscillation of these channels which is, in turn, dependent upon human intervention. Under a 'Hold the Line' policy, the threat of erosion should be nil, however the construction and maintenance of sea defences may impact upon archaeological deposits.

Levels of threat have been assessed by the project team for each of the sites surveyed. These are measured from 1-10 and can be found in the gazetteer of prioritised sites reproduced in Chapter 7. These are used as the basis to assess the level of threat to heritage assets along each stretch of coast in the project area. Based on SMP2 predictions, the sites recorded at Neston (154) and Burton Marsh (155, 201) are not considered to be at immediate, nor longer term, threat from coastal erosion. A more likely threat is erosion caused by various channels within the salt marsh, particularly if channel configurations within Burton Marsh change significantly in the future.

The low risk of coastal erosion at these sites precludes the necessity to produce complex coastal erosion management proposals. The proposed investigation into the effects of erosion at Burton Point and Thurstaston cliffs will provide a more detailed model of how Burton Marsh will respond to changes further along the estuary. This is recommended. The proposed investigation into co-funding opportunities for the frontages at Stanlow should monitored with a focus on how this may affect the conservation and future management of the remains

From an archaeological perspective, further research in the Neston area could focus on historical research of the medieval anchorage, moving towards pinpointing its exact location, prior to a further assessment in the field. Owing to the level of salt marsh accretion since the medieval period, there is potential for buried remains of the anchorage to survive intact. At Stanlow the Level 3 survey recommended by Ainsworth (2010) should become a priority for the future as it will add significantly to our understanding of this Scheduled Monument and will also inform future management by identifying the extent of archaeological remains and their level of preservation.

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