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LINDSEY ARCHAEOLOGICAL SERVICES

Skegness Water Reinforcement Scheme
(Chapel St Leonards, Addlethorpe, Ingoldmells, and Skegness Parishes)

NGR: TF 558 706 – TF 569 659

Site Code: SWRS 04

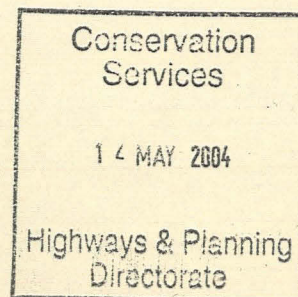
LCNCC Museum Accn. No.: 2004.105

Archaeological Desk-Based Assessment

Report prepared for
Network Archaeology Ltd
on behalf of
PDM Associates Ltd and Anglian Water Services Ltd

by
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LAS Report No. 752
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Summary

The proposed pipeline crosses an area which was dry land in the early prehistoric period, but became inundated by the Iron Age and was gradually reclaimed by the late medieval period.

Before the area was reclaimed, sea-water was collected and evaporated to produce salt, which was a valuable commodity with long distance trading routes. The industry continued here from about the Early Iron Age to the Roman period, and deeply buried sites are thought to be densely spread across the area, the known ones being a small proportion of the total present. Any 2m deep pipeline in this part of the Outmarsh can be therefore expected to disturb such saltern sites.

Roman Bank, a substantial sea flood defence thought to have been constructed in the Saxon period, is crossed by the route.

The pipeline route also affects one known medieval earthwork site, possibly part of a shrunken medieval village, at the periphery of Addlethorpe and Ingoldmells villages. A re-route is suggested at this point. There is a slight chance that a prehistoric burial mound also may be present on or close to the route at this location.

The assessment has also tentatively identified a block of fields close to the northern end of the route which may represent the site of a minor medieval settlement. This hypothesis is not corroborated by air photographic records.

It is recommended that a mitigation scheme be arranged and approved by the regional archaeological curator (Lincolnshire County Council), that successfully manages the impact of the proposed pipeline on any archaeological remains along its route.

Introduction

Lindsey Archaeological Services (LAS) was commissioned in April 2004 by Network Archaeology Ltd (on behalf of PDM Associates Ltd and Anglian Water Services Ltd) to prepare an archaeological desk-based assessment on the route of a proposed new water main serving the Skegness area (Figs. 1 and 2).

The purpose of the desk-based assessment is to identify the archaeological potential of the affected route by collating available existing information, and to highlight locations where mitigation measures may be appropriate.

The Proposed Route

Anglian Water Services intends to install a pipe, linking an existing main at the Chapel St Leonards/Addlethorpe parish boundary with another at Winthorpe Avenue, Skegness, a total distance of about 6.2km. The pipe is expected to be laid with cover of about 2m. From the northern end of the route as far south as Roman Bank (outside Butlins), the pipe is to be 450mm diameter, decreasing in diameter to 355mm for the southern end of the scheme. Across farmland, a working width of about 30m will be defined during excavation and installation. Most of the route will be open-cut, with directional drilling used for crossing larger drains and roads. The main contractors' compound is expected to be sited in a field 150m from the northern end of the route.

Planning Background

The archaeological desk-based assessment has been requested by Lincolnshire County Council. It is intended to inform those involved as to the archaeological potential of the land crossed by the proposed pipeline route. It may form the first stage of a programme of archaeological mitigation works.

Methods and Sources

A desk-based assessment of the pipeline route, within a 0.5km surrounding area, was undertaken in order to identify and assess all archaeological constraints. Research for the assessment was conducted by G. Tann between April 22nd – 28th 2004. The following sources were consulted and available information researched:

- Lincolnshire County Council County Archaeology Office (Sites and Monuments Record, National Mapping Programme overlay of cropmarks, 1971 vertical air photographs, oblique air photographs, parish files, previous reports)
- Lincolnshire Archives Office (Manuscript maps, Ordnance Survey maps, other documentary and published sources)
- Lincoln Central Library Reference Department, Local Studies Collection (published sources, press cuttings, Ordnance Survey maps)

Topography and Geology

The proposed pipeline route is on soils classified as 813 Wallasea 2 Association pelo-alluvial gley soils (Soil Survey 1983). It lies within the zone of the Outmarsh in the Lincolnshire Marsh area. The Outmarsh consists of virtually flat ground below 10m OD, separated by the Middlemarsh zone of

slightly undulating land between 10m and 25m OD from the Lincolnshire Wolds (Van de Noort and Davies 1993, 20). The flatness of the Outmarsh is the result of the uneven post-glacial surface becoming covered with sediment deposited during marine inundations.

The post-glacial coastline lay some kilometres east of the present shore, with the ground surface uneven with small hillocks. A dense woodland of oak, elm, birch and yew covered part of the area before the late Neolithic period and the remains of this are exposed as fallen trunks, branches and stumps at low tide. A peat formation covered the fallen timber, reflecting a sea-level rise that had produced a drainage deterioration which waterlogged the ground and killed trees. The earliest formation is generally referred to as the Lower peat and may have begun to grow by 4500 BP until about 4000BP. Close to the base of the peat, pollen analysis has found evidence of species suggesting nearby agriculture.

The Lower peat was covered by a deposit of Triglochin clay by the Middle Bronze Age. This clay, up to 3m thick, represents a marine incursion and was laid down on an eroded peat surface, implying that deposition began later than the initial inundation. Most of the Outmarsh area became populated by saltmarsh species indicating a zone of occasional flooding. Above the clay is a deposit of Phragmites clay containing freshwater reed material; the terminal date for that layer is also believed to be the Middle Bronze Age.

Higher deposits cannot be traced over the broad area of the Outmarsh but have been studied at specific locations. The earliest was a higher peat only noted close to Chapel Point where it was dated to the mid-late Bronze Age/Iron Age (radiocarbon date 3340 +/- 110BP [Q-686]). A covering layer of Scrobicularia clay indicates a second inundation phase dated to the early Iron Age. An Upper peat horizon, observed at Ingoldmells but not at Chapel Point, marks another marine regression, thought to be mid Iron Age/Roman. The Outmarsh was then blanketed by another thick layer of Scrobicularia clay from a Roman or post-Roman inundation. The clay (often of silt consistency) was deposited in floodwater both from sea and freshwater sources, mixed and spread by different processes of deposition and movement (Aram 1993, 6).

The chronology of the last sea level rise producing marine and freshwater flooding until the date at which the sea regressed from the Outmarsh has not been reliably established, but the eastern edge of the Middlemarsh has a distribution of Anglo-Saxon placenames which indicates that the salt marsh may by then have become suitable at least for seasonal grazing. The natural process of regression and salt-marsh development was aided by the construction of successive flood banks as sea defences, and the excavation of artificial drainage ditches.

Boreholes

Borehole logs produced by A.F. Howland Associates for this scheme were consulted and interpreted by LAS for this assessment.

The most northerly location BH1 was in farmland close to the northern end of the route. Brown topsoil over a brown silty clay was present for the upper 1.2m, overlying a very soft brown clay or silty clay to a depth of 2.45m below ground level. Beneath this, at -0.14m OD, was 0.55m of soft grey/brown clay, described as slightly organic, overlying a 5m thick similar deposit with rare shell inclusions. Below about 6.5m, the material darkened in colour, with pockets of peat at about 8m deep (above -5.69m OD). At this location, the evidence suggests prolonged phases of marine inundation, with sediment deposition; the evidence for regression episodes is slight, and there is no suggestion of any human activity such as salt processing. The peat may indicate dry land in the near vicinity.

Borehole 2A, to the north-east of the Ingoldmells Mill Hill road junction, encountered 1.2m of very soft and loose soil, which was interpreted as possible fill. The plotted position suggests that this was part of a drainage ditch, later backfilled to provide a field entrance. The 0.8m thick underlying red/brown mottled grey clay contained flecks of organic matter. This may be flood-transported material eroded from a nearby area of land, but there is no trace of salt processing debris. Below this were soft clays, becoming slightly sandier at depths of about 6m below ground level. A light brown, firm clay with some flint and chalk gravel, at -5.76m OD, appears to represent glacial boulder-clay.

Borehole 3, set back north of School Lane Ingoldmells, cut through 0.1m of topsoil. Below that thin layer was a series of grey/brown clays, continuing without interruption to at least 8m below ground level (-5.54m OD).

A window sampler pit, WS1, was excavated in the northern verge of Bolton's Lane. A 0.1m thick topsoil layer covered 0.3m of clay mixed with gravel, brick and slag, which could be associated with metalling of the lane. Below this was 2.1m of clay, covering over 4.5m of dark clay with pockets of peat (to below about -5.7m OD). As with the boreholes, the presence of peat suggests land nearby.

Borehole 4, south of School Lane, Ingoldmells, and on the northern side of the Main Drain, passed through thin topsoil and 0.25m of chalk. Under this were layers of clay with chalky and limestone gravel, to 1.4m below ground level. All this material may be upcast from excavation of the drain; some of the silts and clays below could derive from redeposited higher deposits, and no useful interpretation can be made of the thick silt layer with organic matter and shells recorded between 2.8m and 7m below ground level. An unknown part of that material is probably *in situ*, and the lowest recorded deposits of clay with chalky gravel (from 7m below existing surface level) could be boulder-clay. Unfortunately, no

level relative to Ordnance Datum was recorded for that location, and no nearby spot height has been identified.

None of these ground investigation locations revealed a post-glacial boulder-clay land surface within the expected pipeline trench depth, and consequently, in the vicinity of these points, the likelihood of prehistoric or Roman archaeological sites being present here is felt to be low. As, however, the various flood episodes have blanketed a previously uneven ground surface, this impression cannot be assumed along the remainder of the route; at the Ingoldmells Sewage Treatment Works, a Late Bronze Age/Early Iron Age ground surface was found much higher, at 0.7m OD (Tann, Angus, Booth, and Mordue 2001). Deposits at that level might be affected by the proposed pipeline.

Archaeological and Historical Background

Archaeological finds have been recognised and reported from the study area for many years. Previously recorded sites and findspots are listed in the Lincolnshire Sites and Monuments Record. These have been allocated Primary Record Numbers (PRNs) and these are used in the text. A summary list of entries in the vicinity is provided in Appendix 1, and their locations are shown on Fig. 3.

Prehistoric

The thick layers of Scrobicularia and other clays ensure that prehistoric finds cannot usually be discovered in situ at ground level in the Outmarsh. Deep incisive groundworks such as major drainage ditches, boreholes and coastal erosion provide the only processes by which early material can become visible. Palaeolithic flints have been reported from Addlethorpe and Ingoldmells, but not close to the proposed pipeline. Most Palaeolithic sites would have been removed or disturbed by the final glacial activity, and the artefacts may have become redeposited at their findspots.

Skeletal remains (SMR 41820) of at least three bodies, including a skull, were found at the level of the most easterly groynes on the Ingoldmells beach in 1983, close to the Skegness/Ingoldmells parish boundary. It has been suggested that these could be of Bronze Age date, perhaps contemporary with the earliest salt processing activity in the area.

The mid-nineteenth century Tithe maps for Ingoldmells and Addlethorpe mark a 'tumulus' beside Mill Hill Cottages (LAO D335; LAO I 329). This could have been a prehistoric burial mound protruding from a buried land surface, as the parish boundary passes beside it, but it could have constructed as a windmill mound in the medieval period.

Iron Age and Roman

There is extensive evidence for Iron Age and Roman salt recovery along the Lincolnshire coast, especially in the vicinity of Ingoldmells and further inland. The localised dense cluster of known Roman and earlier saltern sites around Orby, Addlethorpe, Hogsthorpe and Ingoldmells is the result of early chance observations on the Ingoldmells foreshore, complemented by subsequent fieldwork inland by local enthusiasts including Betty Kirkham and Mary Boulton. In the absence of extensive similar fieldwork it is not possible to determine whether the dense distribution scatter reflects the industry or is very misleading. It is possible that the uneven boulder-clay surface in the region (since masked by late Roman marine silts) particularly suited salt recovery in the early stages of marine regression or inundation (Lane 1993, 26-7).

The few radio-carbon dates obtained indicate an Early Iron Age origin for the industry, although Late Bronze Age examples have been identified (as at Tetney further to the north). No reliable date has been obtained for the cessation of the salt-making but it may have been during the early Roman period as in Essex and Sussex, or perhaps as late as the 2nd-3rd century AD date as at Denver in Norfolk (Lane, 1993, 26). The methods used to reclaim salt from sea-water, to clean it, and to package it for trade, remain uncertain despite much study and debate. One certainty is that parts of the process involved evaporation, both naturally in broad shallow depressions and by heating in shallow ceramic troughs. Vast quantities of simply prepared clay supports were used to separate stacks of troughs; after subjection to heat, the supports were discarded, together with fragments of the troughs (presumably broken to remove the salt slabs). The ceramic material is known as 'briquetage' and is common in parts of the Lincolnshire Outmarsh. The saltern sites are buried below up to about 3m of flood silts, but remain instantly recognisable because of the partially flood-levelled mounds of red briquetage, charcoal and trough fragments. Some sites have been revealed on the beach, after seasonal scouring of sand. Study has shown that the sites are at the limit of seasonal flooding, allowing the easy collection of sea-water, but also access on foot and a reasonable working environment. There is some evidence that later waste mounds were used as the beginnings of flood defences, and there may be a correlation between sea banks and saltern sites.

Archaeological work undertaken during extension of the Ingoldmells Sewage Treatment Works in 1999 and 2000 revealed a hearth area, briquetage, pottery, charcoal and animal bone from a late Iron Age salt-processing site. The briquetage covered a 0.08m thick layer of peat, with its surface at 0.7m OD. Radiocarbon dates were obtained from the peat, dating it to the late Bronze Age/early Iron Age. Other sites have been dated by comparison of briquetage forms, and by pottery on the few sites where this has been found. Amateur fieldworkers based in Hogsthorpe and nearby villages have searched the beach and the sides of field ditches for briquetage, and have plotted a dense distribution of sites around Orby, Addlethorpe and Ingoldmells. This is thought to represent only a small proportion of the

actual saltern sites, and archaeological interventions in the area frequently produce evidence of further sites. At least eight salterns have been identified along the southern side of the Addlethorpe/Ingoldmells Main Drain, under about 1m of clay and alluvium. This group is beside the proposed pipeline route (SMR 41654-41656; 41812-41816), and it will probably represent only part of a more extensive complex there. A scatter of Roman pottery (SMR 41631), from cleaning of the Main Drain in 1967, probably relates to salt processing. Further evidence has been reported from north of the Drain, close to High Street (SMR 43729). Beside School Road, Ingoldmells, a saltern (SMR 41659) is recorded, but the original six-figure National Grid reference is insufficient to locate it more closely. To the north of the road another saltern (SMR 41821) is recorded on the pipeline route at a depth of 1.75m, and in 1964 roadwork (presumably on the A52) revealed another (SMR 41817) on the proposed route north of Ingoldmells.

Identified possible Late Iron Age routes mostly ran parallel to the modern coastline on the high land of the Wolds (May 1993, 12-3). Bluestone Heath Road, thought to fossilise the course of a prehistoric trackway, diverges from the Caistor High Street (now B1125) and runs towards Burgh-le-Marsh along chalk ridges. Barton Street (another possible prehistoric route which runs along the eastern scarp of the Wolds, linking Barton-on-Humber with Alford) may have continued to Burgh-le-Marsh (May 1976, 9). The town is now known to have been a Roman settlement of some importance, perhaps a port, and the Bluestone Heath Road has been extended to Burgh-le-Marsh, published as Margary 27 (Margary 1973). Between Burgh and Skegness the projected alignment of the Roman road coincides with the Croft/Skegness boundary, referred to in 17th century documents as Stone Ridge, Stone Cawsey or Chequer Cawsey, perhaps implying a paved road (Owen 1984, 48).

The Roman coastline of south Lincolnshire has been tentatively mapped, using the present 10m OD contour as an indicator, and supplemented by artefact findspots and other physical evidence (Simmons 1993, 20-21). On that basis, the proposed pipeline is sited on a peninsula, separated from Burgh-le-Marsh by a marine inlet, but connected with land to the north. There is considerable evidence for a Roman settlement, possibly a town, close to Skegness. The actual site is believed to have been to the east of the present coastline, and some finds have been made on the foreshore. Further traces of occupation have been found to the west of the beach, including a late-third century coin near Vickers Point,

There is an unconfirmed report of a Roman tessellated pavement (SMR 41812) at a depth of about 1.2m, seen in the side of the Ingoldmells Main Drain in about 1967 during construction of the Blue Anchor. Groundworks on, and beside, the Butlin's holiday camp site have reportedly produced Roman pottery (SMR 41633, 41640). The presence of second and third century Roman pottery to the east of Roman Bank implies that as a sea defence the bank must be later. Past attempts to date the bank

have been inconclusive: correspondence from J. Giles in 1931 refers to an intact earthenware vessel found about 3m down in a sewer trench dug in Roman Bank in Winthorpe, but it was removed by workmen before identification could be made. Continued monitoring of trenches in 1937 recorded Roman pottery below Wainfleet Road (west of Roman Bank), but it was stated that no Roman pottery was found below Roman Bank itself (Skegness parish folder, SMR).

Roman pottery (SMR 41611) has been found 3m below ground level to the north of Trunch Lane, Chapel St Leonards, about 500m north of the northern limit of the proposed scheme.

Saxon and Medieval

The place-name *in Guldesmere* (Ingoldmells) appears in the *Domesday Survey* of 1086, indicating a settlement apparently named after an Old Norse personal name of Ingolf, with associated sand-banks or dunes. *Arduluetorp* (Addlethorpe) is also documented in the *Domesday Survey*, with its name implying it was a secondary settlement, probably of Ingoldmells. *Wintorp* (Winthorpe, now part of Skegness) is documented from the late twelfth century, probably using an Old English personal name of *Wine* to label a secondary settlement (probably of either Skegness or Ingoldmells). *Stix* and *Shegenesse* (Skegness) are recorded from the mid- and late- twelfth century, deriving from the Old Danish personal name Skeggi, and a term for headland. Skegness is also suspected to equate with *Tric* in the *Domesday Survey* (Cameron 1998). Mention of these settlements in the *Survey* indicates that they had been established by the end of the Saxon period, but also provides information about the coastline and the limit of habitable land. The parish boundaries, especially of Addlethorpe, Ingoldmells and Orby, were contorted in places until rationalisation in the twentieth century, with pockets of land trapped within other parishes. This arrangement is probably a result of piecemeal reclamation of salt-marsh for grazing, with the parishes being extended eastwards whenever possible but constricted by tidal channels.

The A52 road through Skegness runs along the top of an artificial raised feature known as 'Roman Bank'. This is thought to be an Anglo-Saxon feature, but confirmation has not been found. A watching brief identified a ditch beside the western edge of Roman Bank at Fantasy Island, Ingoldmells, which appeared to be associated with that feature but could not be dated. A fragment of clinker in its backfill indicated a coal fuel, probably medieval or later but possibly Roman (Tann 2000). Lesser and earlier flood banks may lie unrecognised to the landward side of Roman Bank, and others may have been lost to sea erosion. Sections of parish boundaries (such as the Addlethorpe/Ingoldmells) may reflect an early limit of seasonally useable land, and a correlation of these with saltern sites is possible.

Air photographs show traces of medieval or later ridge and furrow cultivation on and beside parts of the proposed pipeline route. Earthworks remain visible in pasture to the south-west of the Ingoldmells Mill

Hill road junction, where 1971 air photographs record several blocks of plough furrows respecting abandoned former lanes (HSL Run 55 fr 0066-0068). The photographs show a small mound in the northernmost corner of the field, around which the modern road deflects. The most likely explanation is that this was a medieval or post-medieval windmill mound associated with the name of Mill Hill Cottages (to the east of the junction). The feature is not in the position of the 'tumulus' as marked on the Tithe Maps, and there may have been more than one mound near this junction. In 1842 the field south of Church Lane, west of the junction, was called 'Pit Close', which may refer to a small pond marked on a recent Ordnance Survey map but not shown on earlier sources (LAO I 329; OS 1971).

In addition to the ridge and furrow, lanes and mound in that field, there is a suggestion of small rectangular features on its western side which may be medieval house platforms. These are visible as earthworks from the ground, and on the air photographs.

The First Edition Ordnance Survey 6" map marks a small enclosure and building in the angle between the track and the A52 Skegness Road, close to the northern end of the proposed route (OS 1892). The map indicates a footpath leading across fields from that building to the Addlethorpe Rectory and to Addlethorpe Church. Old Hall Farm/Addlethorpe Hall, formerly west of the road, lay in a block of fields extending either side of the road and bounded by an irregular curvilinear boundary. The suggested land block is almost entirely north of the Ingoldmells parish boundary (Fig. 4). The hall site and the footpath may be indicators of a medieval hamlet within Addlethorpe which has since disappeared. In 1086, the *Domesday Survey* recorded seven holders of land in Addlethorpe, and two churches (Foster and Longley 1924). The proposed pipeline route crosses the northern side of the suggested settlement area.

Post-medieval and Modern

The pipeline route crosses the site of a building between the A52 and the track leading to its northern end. The building was extant in 1887 but had been removed by 1905 (OS 1892; OS 1906).

Research for this assessment has not identified any wartime defensive features affected by the proposed pipeline route. The beach is known to have contained numerous structures, and various pillbox fortifications are recorded along Roman Bank.

Site Visit

A site visit was made on April 24th 2004. It had not been possible to arrange access onto parts of the route crossing private land, but some field conditions were assessed from public roads and paths.

At the northern end of the route, the pipeline is to be laid to the south of a metalled farm track leading off the A52 Skegness-Chapel Road. Close to the main road, the track (along the Addlethorpe/Ingoldmells parish boundary) is bordered to the south by oak trees (Pl. 1). No sign was seen of the post-medieval building which stood there.

The route is then positioned in the eastern verge of the A52 until shortly north of the road junction beside Mill Hill Cottage. In order to cross the junction, the route enters the eastern field, and will be directionally drilled below the junction into a field south of Church Lane. This pasture field contains a variety of earthwork features, the most obvious of which are sunken thoroughfares aligned approximately east-west. There are possible medieval house platforms at the western side of the field, close to the existing properties (Pl. 2).

School Lane, Ingoldmells, crosses a narrow ridge to the east of the proposed crossing point; the location is not associated with the parish boundary as the line here dates from about 1960. To the south of the Main Drain, a large soil mound was seen in a field corner crossed by the route (Pl. 3). The assessment has produced no indication as to the nature of that feature. Immediately north of Bolton's Lane, the route crosses a grassed plot which is uneven and partly raised (Pl. 4). This could be an archaeological feature, but no supporting information was found. *where is it?*

The original course of Roman Bank survives as a raised broad bank, along part of which the nineteenth century Skegness to Chapel St Leonards Road was aligned. Much of the bank is straight, but irregularities mark creeks and watercourses around which the sea bank was constructed. The modern A52 road has straightened some of these curves (Pl. 5).

Elsewhere along the route, no features of potential interest were seen.

Scheduled Ancient Monuments and Listed Buildings

The proposed works do not affect the setting of any Scheduled Ancient Monuments or Listed Buildings. The nearest scheduled monument is a medieval churchyard cross (SAM 22705), standing in St Nicholas' churchyard, Addlethorpe.

Hedgerows

Early maps for most of the route are not available, and there is no reliable basis for establishing whether affected hedgerows are of particular antiquity.

Archaeological Potential of the Proposed Route

A pipeline excavated along the proposed route has high potential to disturb salt-processing sites of prehistoric or Roman date. Previously reported saltern sites include several which may be disturbed again by the proposed works, and there must be the assumption that others will be found close to the already known examples. Additional clusters are certain to be present in the area, and the chances of the pipeline encountering unknown salterns is high along the entire route. Archaeological monitoring of a nearby 7km-long rising main in 1993 recorded twelve saltern sites, seven of which had not been known (Tann 1993). One particularly significant result of that project was the production of a profile across part of the Outmarsh, indicating the buried topography and the different peat horizons marking sea-level rise. The present project offers similar opportunities. The depth of the pipe trench will be significant, as some inland sites lie below 0m OD; others are recorded at 0.4m OD.

Other than saltern remains, the route is likely to disturb medieval earthworks south-west of the Ingoldmells Mill Hill junction. The earthworks include ridge and furrow blocks and former lanes or tracks, but may include house platforms from a shrunken medieval settlement. There is an enigmatic cropmark feature on the route in that field which could be a medieval windmill mound or an earlier burial mound.

This report has also suggested the site of a minor deserted medieval settlement in Addlethorpe parish, north of Ingoldmells, which will be crossed by the route. This land has been ploughed, and no features have been identified on air photographs.

The pipe-trench crosses, but is unlikely to penetrate below, the bank of Roman Bank, but the flood defence might incorporate securely stratified material which would help date the feature.

Potential Archaeological Impact of the Proposed Route

The contractors expect to lay most of the 450mm/355mm diameter pipeline using open cut techniques. At the locations where directional drilling will be used to cross under roads and major drains, larger access pits will be needed. One of these will probably affect land in the field west of the Mill Hill road junction, where earthworks are present, and, either side of Main Drain, saltern remains are anticipated. Along the route across farmland, a 30m-wide easement will be defined, and most of this will be stripped of topsoil to enable access by contractors' vehicles. Topsoil stripping is unlikely to reveal saltern remains, but will affect earthwork remains and any levelled medieval or post-medieval features.

Recording of archaeological deposits below the A52 Skegness Road will be restricted because of limited working areas and the need for contractors to reduce traffic inconvenience to a minimum.

Contractors' Compounds

The main contractors' compound is expected to be placed in farmland beside the route, near to its northern end. Topsoil stripping could affect medieval settlement remains which this report has suggested may be present there. The siting of intermediate compounds has not been notified.

Conclusion and Recommendations

The potentially most damaging impact of the proposed pipeline is considered to be in the field south-west of the Mill Hill road junction, at the Addlethorpe/Ingoldmells parish boundary. Earthworks probably representing medieval settlement and possibly earlier features are present. Most of the surviving earthworks could be avoided by moving the route eastwards into a cultivated field beside the A52 before returning to the intended route around development at the southern side of the field. If the proposed route is not changed, an earthwork survey followed by evaluation trenching and possible archaeological excavation along the easement route would enable assessment and recording of the site prior to its partial removal.

Land beside the A52 at the northern end of the route will also prove archaeologically sensitive, if remains of a medieval settlement are present. This could affect the contractors' compound site as well as the pipeline itself. Fieldwalking, geophysical survey or evaluation trenching could determine if this site exists.

The potential for the proposed pipeline to disturb as yet unknown Iron Age/Roman saltern sites also is considered to be high. A watching brief along the route during contractors' groundworks may be the most appropriate method of locating such features, as well as any other archaeological deposits. Access into the excavated trench will be limited because of health and safety restrictions and depth, width and ground conditions; salvage recording should, though, be possible from ground level. Exposed sites of significance might deserve further attention (eg. excavation) during the groundworks.

Archaeological investigations in Ingoldmells and Addlethorpe have demonstrated that the siting of salterns reflects the uneven prehistoric and Roman topography, now buried below silt. A 2m deep linear trench for the proposed water main would affect the higher features of that buried landscape, both natural and artificial. Adequate recording of those features will provide a context within which other saltern sites in the vicinity can be interpreted.

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Lindsey Archaeological Services
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References and Background Sources

- Aram, J. 1993 'Drift Geology' in Bennett and Bennett 1993, 6-7.
- Baker, F.T. 1960 'The Iron Age Salt Industry in Lincolnshire' *Lincolnshire Architectural and Archaeological Society Reports and Papers*. New Series 8, 26-34.
- Bamforth, M. 2003 *Archaeological Watching Brief at Fantasy Island, Sea Lane, Ingoldmells, Lincs*. Archaeological Project Services Report No. 84/03, April 2003.
- Bennett, S. and Bennett, N. (eds.) 1993 *An Historical Atlas of Lincolnshire*. Hull.
- Cameron, K. 1998 *A Dictionary of Lincolnshire Place-Names*.
- Cope-Faulkner, P. 1998 *Desktop Assessment of the Archaeological Implications of the Proposed Northern Bypass, Addlethorpe, Lincs*. Archaeological Project Services Report No. 75/98, October 1998.
- Cope-Faulkner, P. 1999a *Archaeological Watching Brief of Development at Sun City, Ingoldmells Point, Ingoldmells, Lincs*. Archaeological Project Services Report No. 40/99, April 1999.
- Cope-Faulkner, P. 1999b *Archaeological Watching Brief of Test Pits and Boreholes along the route of the Proposed Northern Bypass, Addlethorpe, Lincs*. Archaeological Project Services Report No. 53/99, May 1999.
- de Brisay, K.W. and Evans, K.A. 1975 *Salt: The Study of an Ancient Industry*.
- Ellis, S., Fenwick, H., Lillie, M., and Van de Noort, R. (eds.) 2001 *Wetland Heritage of the Lincolnshire Marsh*.
- Fawn, A.J., Evans, K. A., McMaster, I. and Davies G.M.R. 1990 *The Red Hills of Essex: Salt Making in Antiquity*. Colchester Archaeological Group; published separately but as part of Annual Bulletin 30.
- Foster, C.W. and Longley, T. 1976 *Lincolnshire Domesday and the Lindsey Survey*. Lincoln Record Society 19 (1924), reprinted 1976.
- Field, J. 1972 *English Field Names: A Dictionary*.
- Grant, S.M. 1904 "Ancient Pottery Kilns" *Lincolnshire Notes and Queries* 8, 33-8.
- Hill, J.H. 1870 "Exhibition of Briquetage from Orby" *Transactions of the Leicestershire Architectural and Archaeological Society* 2, 88-9.
- Lane, T. 1993 "Salt Making I: Iron Age and Roman" in Bennett S. and N. (eds.) *An Historical Atlas of Lincolnshire*. 26-7.

- LAO A 303 Orby Tithe map and Award, 1843. Lincolnshire Archives.
- LAO D 335 Ingoldmells Tithe Map and Award, 1842-44. Surveyed by S. Hill and Son. Lincolnshire Archives.
- LAO H 103/J Plan of Winthorpe, 1799. Lincolnshire Archives.
- LAO H 523 Winthorpe Tithe Map and Award, 1846. Lincolnshire Archives.
- LAO HIG 18/3/7 Plan of R. Manner's Estate, Winthorpe, 1790. Lincolnshire Archives.
- LAO I 329 Addlethorpe Tithe Map and Award, 1842. Surveyed by S. Hill and Son. Lincolnshire Archives.
- LAO Lindsey Encl. 123 Enclosure Plan for Hogsthorpe, Mumby and Chapel St Leonards, 1811. Lincolnshire Archives.
- LAO 3LRA 9/8 Drainage plan, Ingoldmells, 1831. Lincolnshire Archives.
- LAO MM 15/3/6 Plan of the Massingham Estate, Ingoldmells, 1803. Lincolnshire Archives.
- LAO MCD 851/25 Plan of the Crown Estate, Ingoldmells, 1782. Lincolnshire Archives.
- LAO 3 NOTT 3/67 Plan of Ingoldmells, undated. Lincolnshire Archives.
- LAO TINN 2/3 Plan of R. Manner's Estate, Orby, 1790. Lincolnshire Archives.
- LAO TP 2/44 Plan of Winthorpe, 1830. Lincolnshire Archives.
- Margary, I.D. 1973 *Roman Roads in Britain* (3rd edn.).
- May, J. 1976 *Prehistoric Lincolnshire*. Lincoln (History of Lincolnshire 1).
- OS 1824 Ordnance Survey 1:63,360 map, Sheet 84.
- OS 1892 Ordnance Survey 1:10,560 map, Lincs. Sheet 76 SE. Surveyed 1887.
- OS 1892 Ordnance Survey 1:10,560 map, Lincs. Sheet 84 NE. Surveyed 1887.
- OS 1906 Ordnance Survey 1:10,560 map, Lincs. Sheet 76 SE. Surveyed 1887, revised 1905.
- OS 1956 Ordnance Survey 1:10,560 map, Sheet TF 56 SE.
- OS 1956 Ordnance Survey 1:10,560 map, Sheet TF 56 NE.
- OS 1970 Ordnance Survey 1:10,000 map, Sheet TF 57 SE. Surveyed 1967.
- OS 1971 Ordnance Survey 1:10,000 map, Sheet TF 56 SE. Surveyed 1966-67.
- OS 1971 Ordnance Survey 1:10,000 map, Sheet TF 56 NE. Surveyed 1966-67.
- OS 2000 Ordnance Survey 1:25,000 Explorer map, Sheet 274. Revised 1999.
- OS 2002 Ordnance Survey 1:50,000 Landranger map, Sheet 122. Revised 2001.

- Owen, A.E. 1984 "Salt, Sea-Banks and Medieval Settlement on the Lindsey Coast" in Field, N. and White, A. (eds.) *A Prospect of Lincolnshire*.
- Platts, G. 1985 *Land and People in Medieval Lincolnshire*. (History of Lincolnshire 4).
- RCHM(E) 1994 *National Mapping Programme: Lincolnshire*. Air photograph plot, 1:10,000 scale. Copy held at SMR.
- Simmons, B. 1993 'Iron Age and Roman Coasts around The Wash: Archaeology' in Bennett and Bennett 1993, 20-21.
- Soil Survey 1983 *Soils of Eastern England: Sheet 4*. Soil Survey of Great Britain.
- Swinnerton, H.H. 1932 "The Prehistoric Pottery Sites of the Lincolnshire Coast" *Antiquaries Journal* 12, 239-253.
- Tann, G. 1994 Brogden's Farm, Mill Road, Addlethorpe: Archaeological Monitoring of a Building Development. LAS Report No. 79, March 1994.
- Tann, G. 1995 *Burgh-le-Marsh – Ingoldmells Rising Main: Archaeological Watching Brief*. LAS Report No. 128, April 1995.
- Tann, G. 2000 *Roman Bank, Ingoldmells, Lincs. - New McDonald's Restaurant, Fantasy Island Theme Park: Archaeological Watching Brief*. LAS Report No. 404, March 2000.
- Tann, G., Angus, C., Booth, W. and Mordue, J. 2001 *Ingoldmells Sewage Treatment Works Extension: Archaeological Watching Brief, Salvage Excavation and Evaluation*. LAS Report No. 508, March 2001.
- Thompson, F.H. (ed.) 1980 *Archaeology and Coastal Change*. The Society of Antiquaries of London Occasional Paper (ns) 1.
- Thomson, S. 2002 *Archaeological Watching Brief at Fantasy Island, Sea Lane, Ingoldmells, Lincs*. Archaeological Project Services Report No. 182/01, February 2002.
- Van de Noort, R. and Davies, P. 1993 *Wetland Heritage: An Archaeological Assessment of the Humber Wetlands*.
- Warren, S.H. 1932 'Prehistoric Timber Structures associated with a Briquetage Site in Lincolnshire' *Antiquaries Journal* 12, 254-6.
- White, A. J. 1976 'Archaeology in Lincolnshire and South Humberside, 1975' *Lincolnshire History and Archaeology* 11, 55-64.
- Wilson, C.M. 1972 'Archaeological Notes for 1971' *Lincolnshire History and Archaeology* 7.

Air Photograph reference:

HSL UK 72 45 16/4/1972, Run 55, fr 0066 -0068; Run 57, fr 0098 – 0100 (Lincs County Council, verticals).

Archive Summary

Correspondence

Developer's plans

Photographs: colour prints, LAS film nos. 04/55/28a-36a; 04/61/0-9

APPENDIX 1

APPENDIX 1

Archaeological Sites near the Proposed Pipeline Route

(Source: Lincolnshire County Council Sites and Monuments Record)

SMR PRN No.	NGR	(all TF)	Description
41611	55900	71000	Romano British greyware, Chapel St Leonards
41617	55200	70700	latten spoon found in Chapel St Leonards
41631	55900	68500	Romano British pottery from Ingoldmells
41632	57140	67980	bronze horse shoe-shaped artefact found in Ingoldmells
41633	57400	67900	possible Romano British pottery from Ingoldmells
41637	5755	6865	ditch with Roman pottery
41639	5743	6866	Romano British occupation site
41640	57290	67680	Romano British pottery, Ingoldmells
41641	57440	68150	Romano British site, Ingoldmells
41642	55950	68820	restored cross, Ingoldmells
41643	55950	68830	church of St Peter and St Paul, Ingoldmells
41647	56590	67010	clay cylinders and bricks found in Ingoldmells
41647	5659	6701	briquetage
41650	57550	67800	handbricks and base of gritty jar, Ingoldmells
41654	56500	68500	saltern site, Ingoldmells
41655	56200	68500	saltern site, Ingoldmells
41656	55900	68500	Iron Age saltern site, Ingoldmells
41657	55600	68300	saltern site, Ingoldmells
41659	55600	68800	early Iron Age saltworkings, Ingoldmells
41662	57450	67420	Iron Age saltworking site, Ingoldmells
41663	57450	67510	Iron Age saltworking site, Ingoldmells
41664	57470	67760	Iron Age saltworking site, Ingoldmells
41665	57520	67770	salt working site, Ingoldmells
41666	57520	67810	Iron Age saltworking site, Ingoldmells
41670	57500	66600	human remains found in Ingoldmells
41675	56700	66900	moated site, Skegness
41810	55090	69090	St Nicholas Church Addlethorpe
41811	55101	69079	churchyard cross, Addlethorpe
41812	55300	68600	saltern sites seen in main drain, Addlethorpe
41813	55400	68600	saltern sites seen in main drain, Addlethorpe
41814	55500	68600	saltern sites seen in main drain, Addlethorpe
41815	55600	68500	saltern sites seen in main drain, Addlethorpe
41816	55700	68500	saltern sites seen in main drain, Addlethorpe
41817	55500	70000	Iron Age saltern site to NE of Addlethorpe
41819	55200	68700	an Iron Age saltern site, Addlethorpe
41820	5520	6820	Iron Age salterns
41821	55500	69000	a saltern mound in Addlethorpe
42774	55060	69110	Addlethorpe almshouses
43281	57300	66700	gun emplacement of coastal crust at Jackson's Corner
43283	57000	67700	pill box of coastal crust at Skegness
43704	5750	6780	briquetage
43729	55600	68800	possible briquetage fragments
43825	5709	6855	Roman Bank, ?medieval sea defence
43831	5628	6910	cropmarks of medieval or later drainage system
43853	55100	69120	Post-Medieval settlement remains at Addlethorpe.
43926	55500	69300	One sherd of medieval pottery, Anchor Lane/A52
43927	55020	69270	Medieval pottery scatter, south of White House

THE FIGURES



Fig. 1. Location of Chapel St Leonards, Addlethorpe, Ingoldmells and Skegness (b) based on the 1:50 000 Ordnance Survey map, Landranger Sheet 122. © Crown Copyright, reproduced with the permission of the Controller of HMSO. LAS Licence No. AL 100002165).



Fig. 2 The Pipeline route, based on the Ordnance Survey 1:25 000 Explorer map Sheet 274. © Crown Copyright, reproduced with the permission of HMSO. LAS Licence No. AL 100002165).

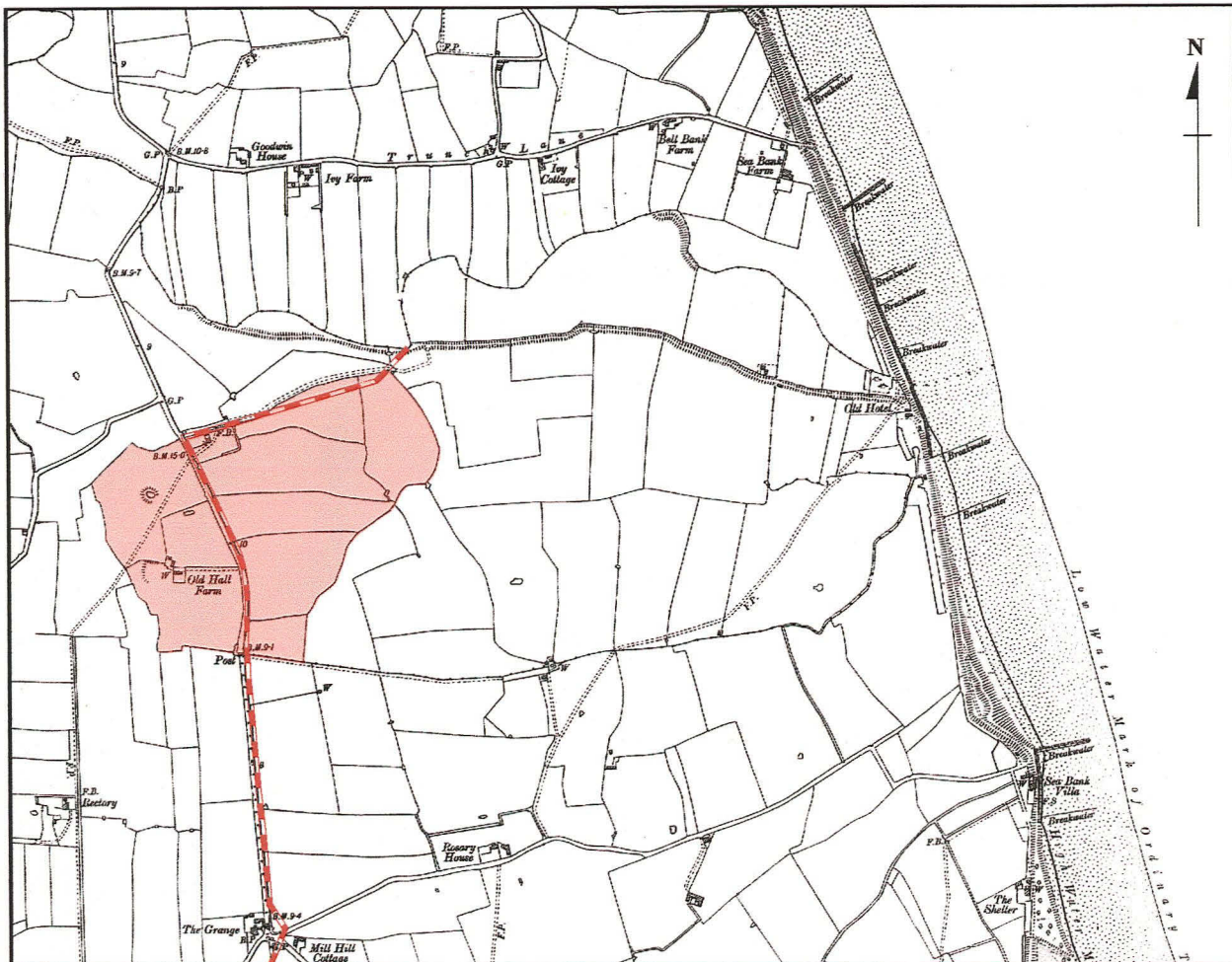


Fig. 4 Extract from the 1906 Ordnance Survey 1:10,560 map, Lincs. Sheet 76 SE, showing the suggested extent of a possible medieval settlement or land block in Addlethorpe parish. Reproduced at reduced scale.

THE PLATES



Pl. 1 Track along the Addlethorpe/Ingoldmells parish boundary (looking east from the A52). A building is recorded to the right of the trees, and the track may mark the northern edge of a deserted medieval settlement or estate.



Pl. 2 Earthworks in the pasture field west of the Mill Hill road junction (looking south).



Pl. 3 Main Drain, Ingoldmells, looking west. The origin of the mound is not known.



Pl. 4 Landscaped bank and possible earthworks north of Bolton's Lane (looking NW).



Pl. 5 Part of the raised sea defence known as Roman Bank, Skegness (looking NE along a curve in the bank, with caravans on lower land inland).