

Map 3: EASTER LOVAT TO TARRADALE HOUSE

Hinterland Geology and Coastal Geomorphology: This coastal unit forms the head of the Beulay Firth. Lower Old Red Sandstone underlie the low lying coastline. Fine-grained sedimentary units (carse) and buried peats are laterally extensive forming a flood plain. This is bounded by a Holocene raised shoreline that skirt the lowlands alongside the River Beulay. At Barnyards, sedimentary sequences have been investigated in detail by Firth and Haggart (1989) and provide a detailed record of relative sea-level changes in the Moray and Beulay Firths. Between Easter Lovat and Tarradale House the land is reclaimed and lies below 10m OD. Earthwork flood defences protect the hinterland.

Erosion class: Stability and accretion are the predominant class within this section of coastline. Here at the head of the Firth, the effect of storm conditions are reduced but currents are likely to be strong with high sediment loading brought down the River Beulay. This is leading to the accretion of mud against river channel sides and up against on the saltmarsh that fronts the flood-banks.

Built Heritage and Archaeology: The archaeological remains in this area are very sparse and consists of two relatively modern features. The first, a series of timber piles, were part of a 18th/19th century pier at Wester Lovat farm and built to service the Lovat estate. The second site consists of the extensive embankment system on the northern shore of the Firth, between Barnyards and Tarradale House. They consist of initial low banks at the high water mark (HWM), which appeared to have trapped sediment and initiated extensive reed bed growth, which are in turn backed by the main reclamation embankment. Behind the main bank are small drainage channels which interconnect and outflow into the Firth at particular points. The distinct absence of archaeological remains in this area may be due to the major reclamation works that took place in the 18th century, which has obscured much of the previous land surfaces and altered the estuarine and riverine interface.

Map 3: Hinterland Geology and Coastal Geomorphology

1 North of BALCARSE to north east of EASTER
LOVAT.

NH 560 476

2.3km

Mainly mud

Low edge (<10m)

Carse clays overlying marine deposits

Delta formed on an alluvial fan. Carse clays overlay marine deposits of sand and gravel. The shoreline is irregular and defended by flood banks. Saltmarsh gives way to intertidal flats of estuarine mud.

2 North east of EASTER LOVAT to WESTER
LOVAT

NH 543 470

1.9km

Mainly mud

Low edge (<10m)

Carse clays overlying marine deposits

Upper tidal reach of the River Beulay with carse clays overlying marine derived deposits of sand and gravel. Riverbanks defended by flood banks. Saltmarsh colonisation formed on alluvial mud.

3. South of BARNYARDS FARM to south of
TARRDALE HOUSE

NH 547 475

2.6km

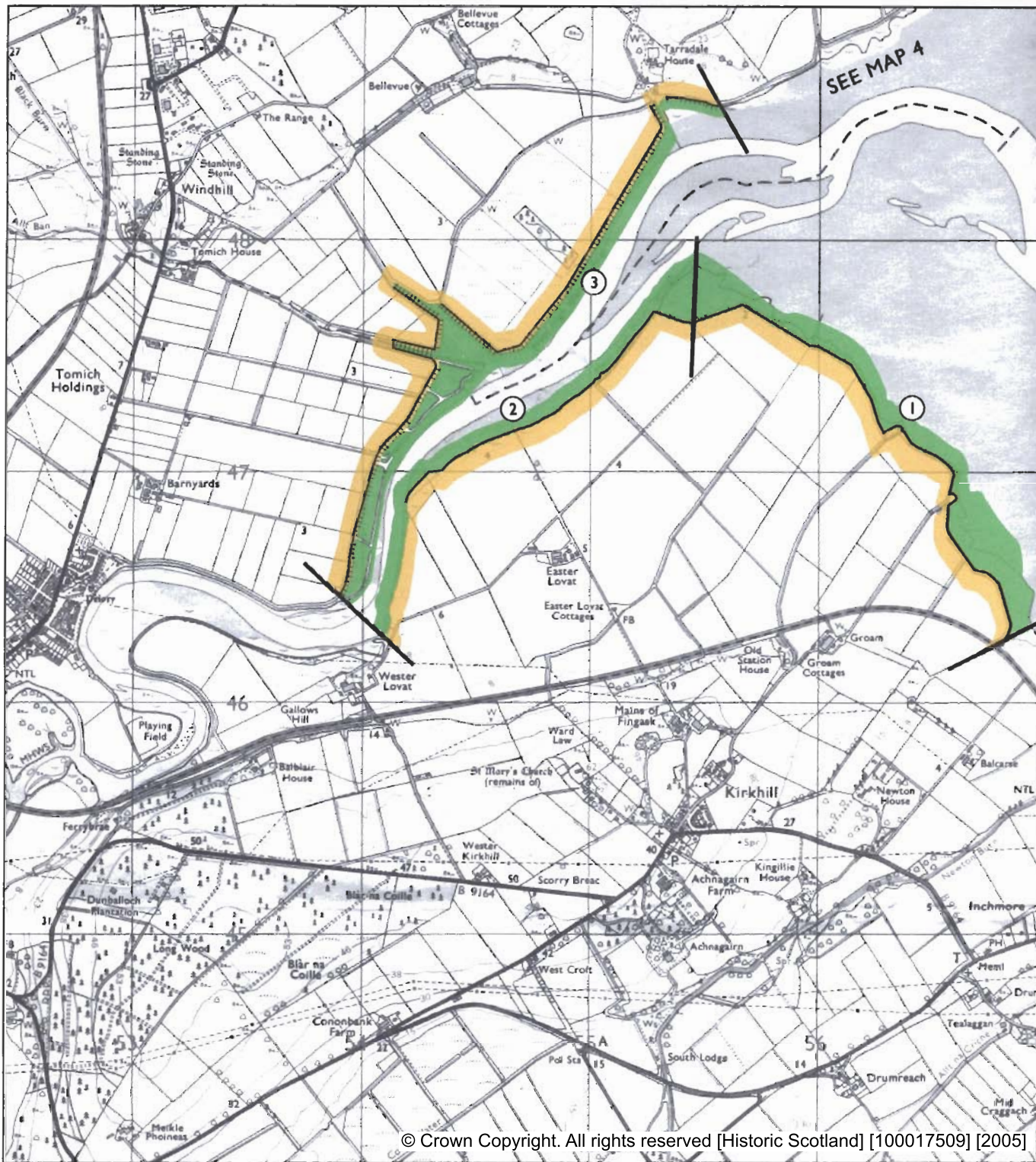
Mainly mud

Low edge (<10m)

Carse clays overlying marine sand and gravel

This unit comprises the lower tidal reach of the River Beulay. Carse clays cover sequences of marine derived deposits in the hinterland.

Floodbanks protect the riverside, which is colonised by saltmarsh vegetation. Meandering river channels are exposed at low tide.



MAP 3: BALCARSE TO TARRADALE HOUSE

MORAY FIRTH SURVEY Grid ref: NH 53-57/44-49

1:25 000

Basemap: O.S. Pathfinder Series Sheet 176

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HINTERLAND GEOLOGY AND FORESHORE GEOMORPHOLOGY

Assessment date: 08 September 1998

Hinterland:

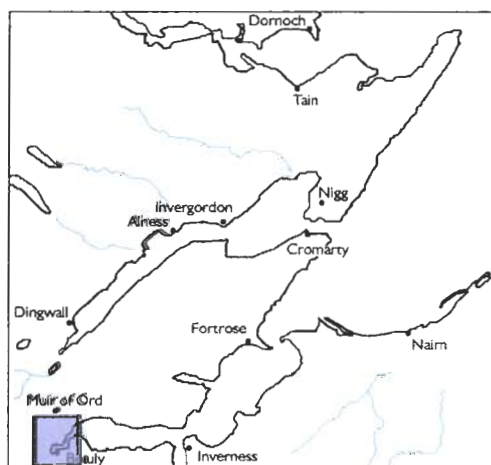
- Drift, boulder clay
- Drift, boulder clay over visible rock
- Raised beach and marine deposits
- Blown sand
- Glacial sand and gravel
- Alluvium

Coast edge:

- Low edge (< 5m tall)
- Cliff over 5m tall
- Man made barrier
- Shingle/storm bank
- Human disturbance

Foreshore:

- Mainly rock platform
- Mainly sand
- Mainly alluvial/marine mud
- Marsh



MAP 3: EROSION

1. North east of BALCARSE to north of
EASTER LOVAT

NH 566 470

2.2km

Both Accreting and Eroding

This unit is defended by floodbanks that are eroding in parts. This unit is close to the head of the firth and its sheltered aspect implies fairly stable condition with accretion further enhanced by alluvial sediment supplied by the River Beulay

2. North east of BALCARSE to WESTER
LOVAT

NH 543 470

2km

Both Accreting and Eroding

Southern shore of the outer tidal reach of the River Beulay. This stretch will be susceptible to erosion at the channel edge. Sediment focusing in parts is due to alluvial transport down the river.

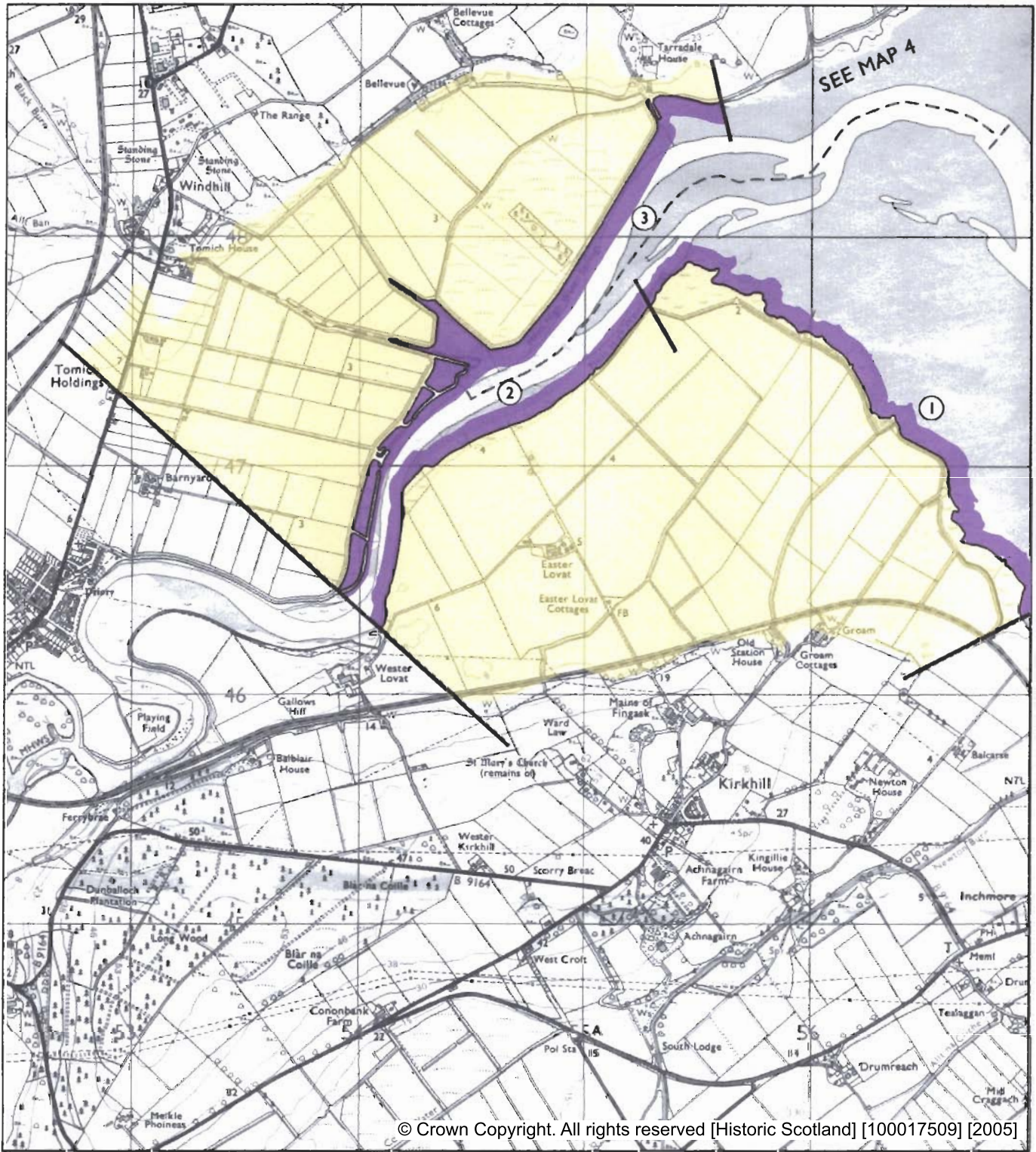
3. North of GALLOWS HILL to TARRADALE
HOUSE

NH 547 475

1.4km

Both Accreting and Eroding

Northern shore of outer tidal reaches of the River Beulay. Undergoing erosion in parts of the river channel and is leading to accretion of mud on the exposed banks. Suspended sediment from further upstream is liable to accrete at the mouth of the river.



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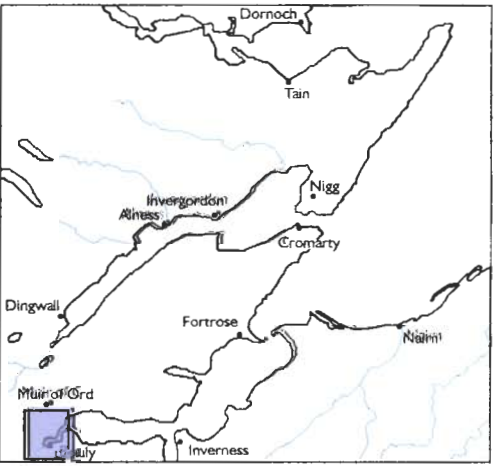
MAP 3: BALCARSE TO TARRADALE HOUSE 1:25 000
 MORAY FIRTH SURVEY Grid ref: NH 53-57/44-49

Basemap: O.S. Pathfinder Series Sheet 176
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EROSION CLASS
 Assessment date: 08 September 1998

- Key:**
- Definitely accreting
 - Accreting or stable
 - Stable
 - Eroding or stable
 - Definitely eroding
 - Both accreting and eroding
 - No access
 - Land below 10m

N.B. The O.S. base map uses an imperial contour interval. Therefore on this sheet, the position of the land below 10m is an estimate.



MAP 3: BUILT HERITAGE AND ARCHAEOLOGY

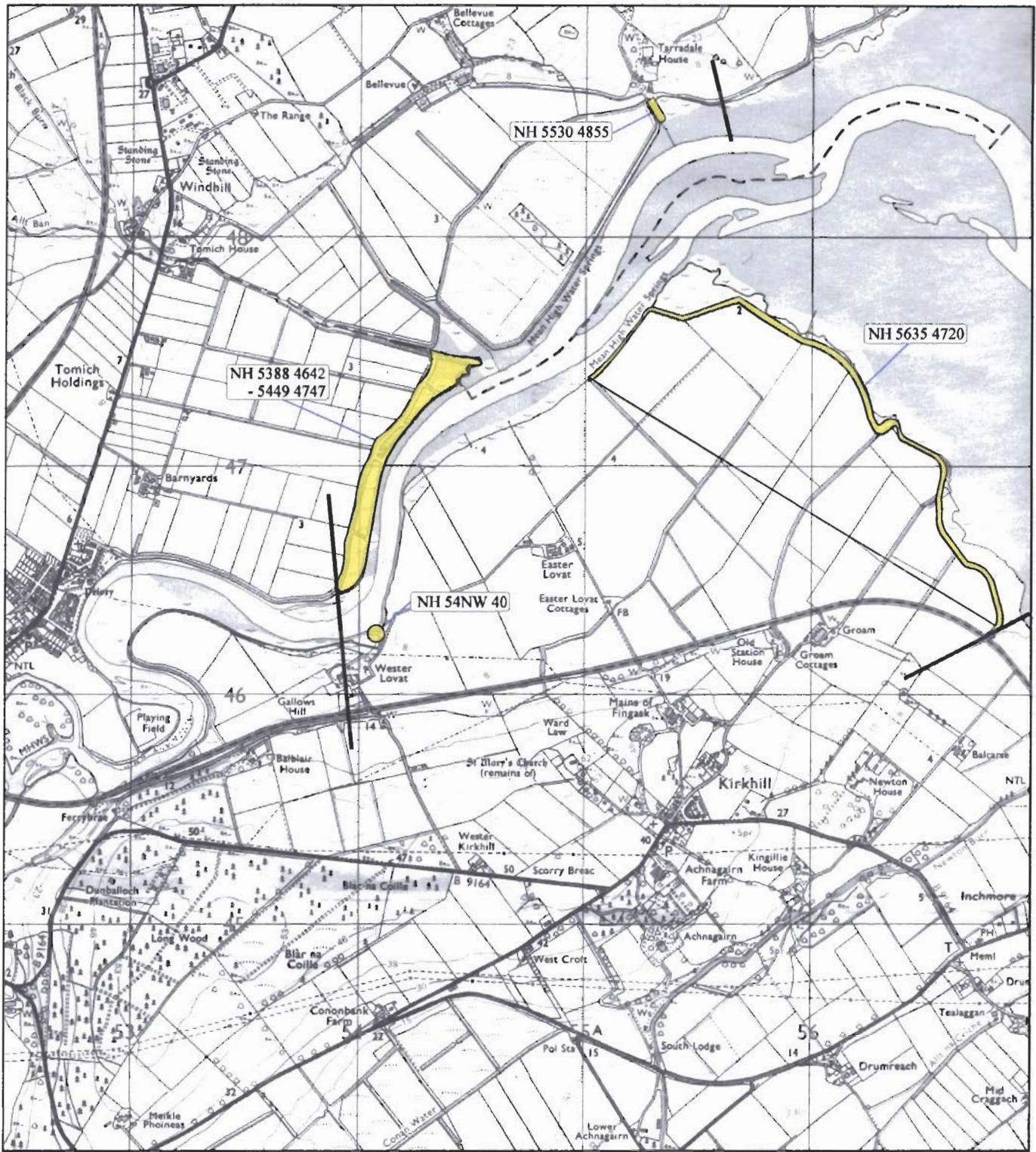
Sites on the Coastal Edge & Foreshore

NH 5635 4720
EASTER LOVAT
Embankment
19th century AD
Good
Nil

NH54NW 40
NH 5412 4637
WESTER LOVAT
Timber piles of pier
18th/19th century AD
Poor
Survey

NH 5388 4642 to 5449 4747
BARNYARDS
Embankment system
18th century AD
Good
Nil

NH 5530 4855
TARRADALE HOUSE
Pier
18th/19th century AD
Fair
Nil



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1:25 000

Basemap: O.S. Pathfinder Series Sheet 176

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BUILT HERITAGE AND ARCHAEOLOGY

Assessment period: September 1998

Key:

Protected Ancient Monument, or area of designated wreck

Listed Historic Building

Monument formally proposed by Historic Scotland for scheduling, or wreck for designation

Other known Ancient Monuments, or Undesignated wreck

Designated Landscape

Insufficient information; more work needed

Probably archaeologically sterile

