

Archaeological monitoring of Kempsey geotechnical works: Bore hole and test pits

The monitoring of the geotechnical works was carried out on 17-11-10 and 25-11-10.

The bore hole monitored was initially hand dug to a depth of 1.20m, the length and width of each sample refers to the hand dug upper section. The test pits were excavated by a JCB backhoe loader excavator.

Only borehole 03 was monitored to a depth of 8.30m. The method used to drill the bore holes made it difficult to identify the presence of any archaeological material. The remaining two bore holes were therefore not monitored.

Previous geotechnical works were undertaken in November 2007 and consisted of the excavation of three test pits. The locations of the current test pits (TP02, TP03 and TP04) fall very close to the previous three and in order not to duplicate results they were not monitored. The results of the 2007 trenches are shown below (figure 1 shows the locations of the 2007 trenches).

Borehole 03

Maximum dimensions: Length: 0.30m Width: 0.30m Depth: 8.30m

Orientation: N/A

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
3000	Topsoil	Firm mid brown clay silt with occasional small stones.	0-0.30m
3001	Subsoil/ Alluvium	Firm mid brown sandy/clay silt.	0.30-2.50m
3002	Natural	Firm becoming stiff with depth mid red brown with patches of green silty clay (Mercian mudstone)	2.50-8.30m+

Test Pit 01

Maximum dimensions: Length: 2.30m Width: 0.60m Depth: 3.95m

Orientation: NE-SW

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
1000	Topsoil	Firm dark brown sandy silt with moderate small to medium stones.	0-0.50m
1001	Subsoil	Firm mid orange brown sandy silt frequent small to large sub-rounded stones.	0.50-1.20m
1002	Natural	Firm mid brown orange silty/clayey sand and gravel	1.20-2.30m
1003	Natural	Firm becoming stiff with depth mid red brown with patches of green silty clay (Mercian mudstone).	2.30-3.95m+

Test Pit 05

Maximum dimensions: Length: 2.50m Width: 0.60m Depth: 4.00m

Orientation: N-S

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
5000	Topsoil	Firm mid orange brown sandy silt with occasional small to large stones.	0-0.35m
5001	Subsoil	Firm mid orange brown sandy/clayey silt with occasional small to large stones. Deposit is more orange and contains more sand than deposit 5000.	0.35-0.75m
5002	Natural	Compact mid brown orange silty/clayey sand and gravel.	0.75-1.75m
5003	Natural	Firm becoming stiff with depth mid red brown with patches of green silty clay (Mercian mudstone).	1.75-4.00m+

Test Pit 06

Maximum dimensions: Length: 2.50m Width: 0.60m Depth: 4.10m

Orientation: N-S

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
6000	Topsoil	Firm mid orange brown sandy silt with occasional small to large stones.	0-0.35m
6001	Subsoil	Firm mid orange brown sandy/ silt with occasional small to large stones. Deposit is more orange and contains more sand than deposit 6000.	0.35-0.75m
6002	Natural	Firm mid orange brown gravely/clayey silt with small to medium rounded stones.	0.75-0.90m
6003	Natural	Compact mid brown orange silty sand and gravel.	0.90-2.60m
6004	Natural	Firm becoming stiff with depth mid red brown with patches of green silty clay (Mercian mudstone).	2.60-4.10m+

Geotechnical works undertaken in November 2007

Test Pit 1

Maximum dimensions: Length: 2.50m Width: 0.60m Depth: 3.10m

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
100	Topsoil	Firm mid brown clay silt. Moderate rooting	0 – 0.25m
101	Subsoil	Firm mid orange brown silty clay	0.25 – 0.65m
102	Natural	Firm mid brown orange slightly silty clay	0.65 – 1.30m
103	Natural	Soft grey orange clay	1.30 – 1.70m
104	Natural	Soft grey blue clay with sand lenses	1.70 – 3.00m
105	Natural	Firm grey blue clay	3.00m +

Test Pit 2

Maximum dimensions: Length: 2.40m Width: 0.60m Depth: 2.40m

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
200	Topsoil	Firm mid brown clay silt. Moderate rooting	0 – 0.60m
201	Subsoil	Firm mid orange brown silty clay	0.60 – 1.20m
202	Natural	Firm mid brown orange slightly silty clay (Mercian mudstone).	1.20m +

Test Pit 3

Maximum dimensions: Length: 2.00m Width: 0.60m Depth: 2.90m

Main deposit description

Context	Classification	Description	Depth below ground surface (b.g.s) – top and bottom of deposits
300	Topsoil	Firm mid brown clay silt. Moderate rooting	0 – 0.45m
301	Subsoil	Firm mid orange brown silty clay	0.45 – 0.85m
302	Natural	Firm mid orange brown clay	0.85 – 1.80m
303	Natural	Firm blue grey clay	1.80 – 2.80m
304	Natural	Friable red orange silty clay (Mercian mudstone).	2.80m +

Archaeological summary

No archaeological deposits were identified in the borehole or any of the test pits at Kempsey. This, however, does not indicate an absence of archaeological material on the site as the sample was too small to make a definitive statement as to the presence or absence of archaeological deposits or features.

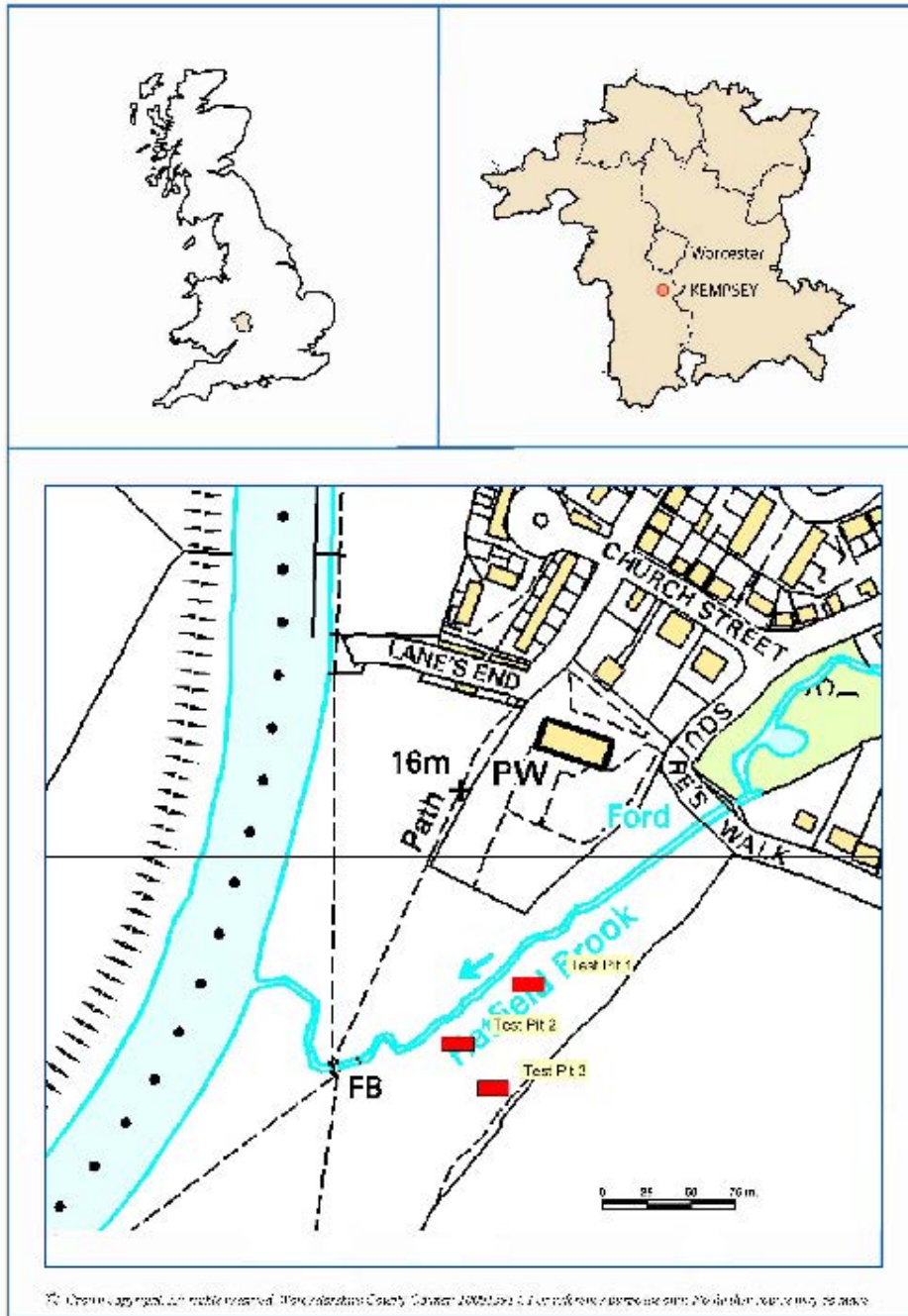
Environmental potential

From reviewing the geotechnical logs provided by Ian Farmer Associates and the archaeological recording, there appears to be moderate potential for the survival of archaeologically significant environmental remains.

In borehole 2 between 2.80m and 5.10m depth, it is noted that there is a "faint organic odour" within very soft, grey sandy silty clay indicating that soil conditions are suitable for the survival of organic remains. This hypothesis of organic preservation is supported by the presence of occasional plant remains as noted at 3.80m – 4.00m and 3.70 – 4.00m in test pit 3 and 4 respectively.

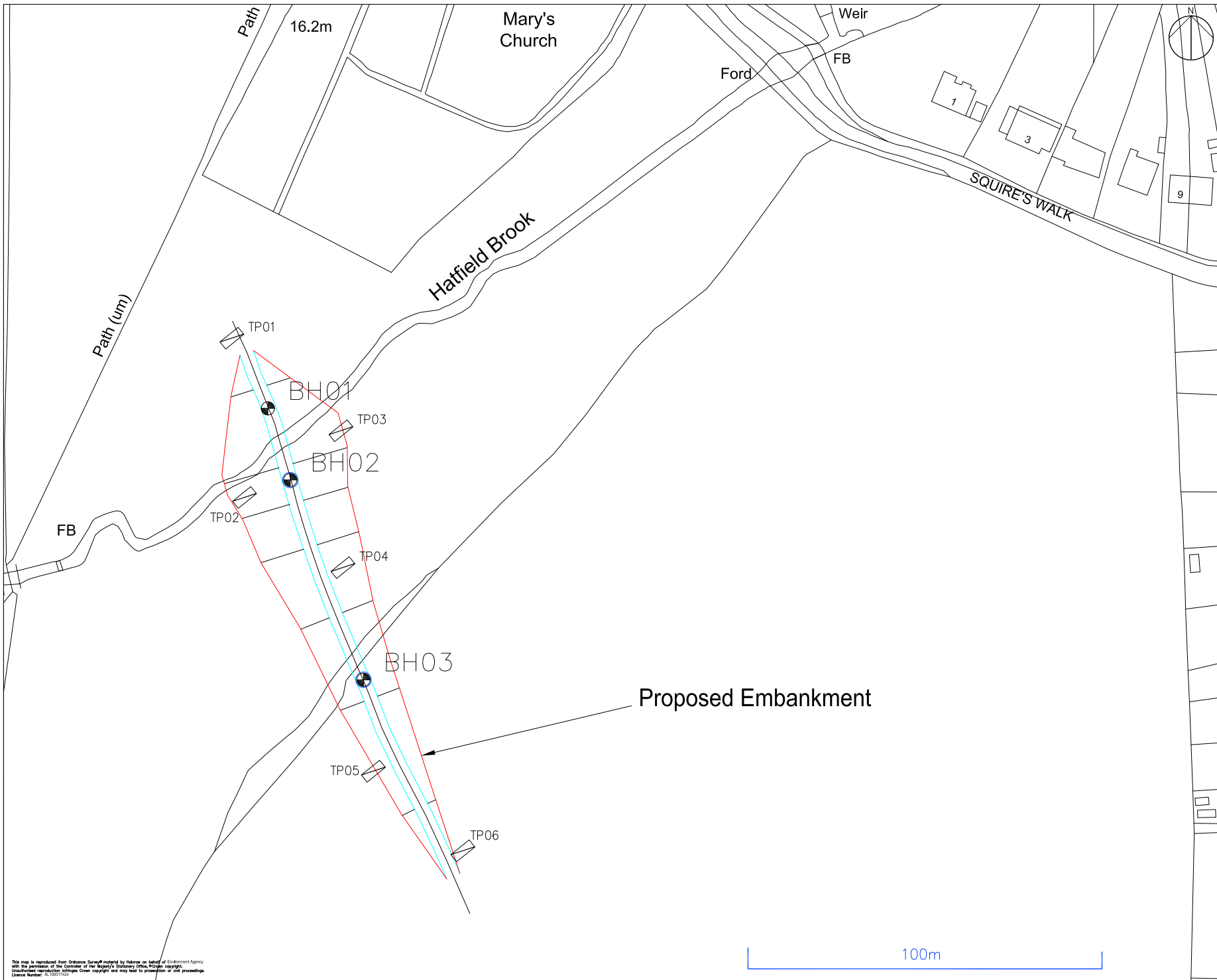
The lower alluvial deposits identified during the intrusive works exhibited properties (i.e. colour, compaction) which would be expected of gleyed soil conditions i.e. were deposited and sealed in a waterlogged, reducing environment, within which organic preservation of environmental remains such as pollen and plant macrofossils can occur. These deposits are frequently targeted during archaeological works due to the potential of such deposits which can assist in the reconstruction of past environments as regards vegetation, climate and fluvial regimes.

It is therefore recommended that the presence of environmental remains should be considered if further works are to be undertaken.



Site Location

Figure 1



Key Plan:

Key:

- BH100 Borehole
- TT01 Trial Trench (provisional)
- Location of proposed Standpipe piezometer

- Notes:**
1. All dimensions are in metres unless noted otherwise.
 2. The proposed embankment is shown for Information only.
 3. Thin walled sampler in very soft/soft soils (Class 1 samples)
 4. Access routes to be agreed.
 5. See also Designers Risk Assessment.
 6. Site boundary is the working area around each exploratory hole location.

Rev	By	Chk	Apprv	Date	Description

DO NOT SCALE. This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialist Manufacturer's drawings and specifications. If in doubt please consult the Engineer.

Drawing Status: **PRELIMINARY**

Client: **ENVIRONMENT AGENCY**

HALCROW GROUP LTD

Project: **KEMPSEY**

Drawing: **EXPLORATORY HOLE LOCATION PLAN**

Drawn by: JPOD Date: 13/10/09
 Checked by: JPOD Date: 13/10/10
 Approved by: N/A Date: N/A

Drawing No. **Figure 1** Revisior: -

Drawing Scale: NTS

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