

Town Centre

BUILDING STONES

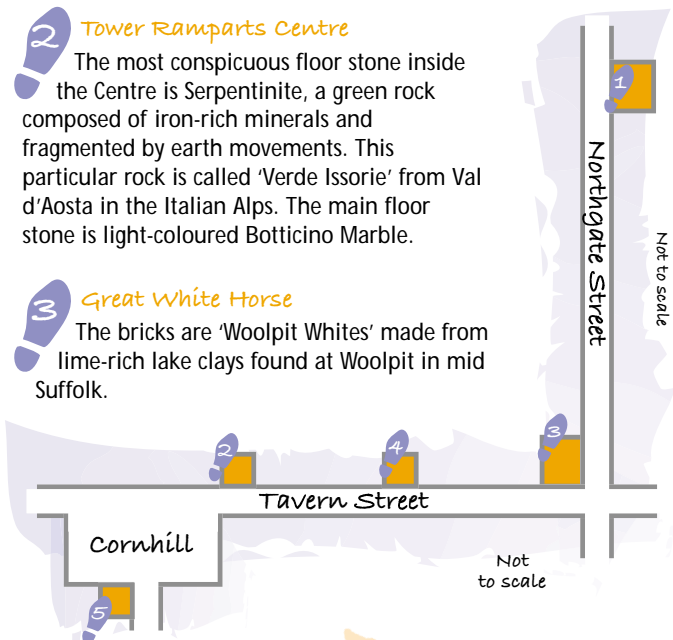
1 Northgate Street Library
The red bricks were made from London Clay at Dales Road brickworks, Ipswich.

2 Tower Ramparts Centre
The most conspicuous floor stone inside the Centre is Serpentinite, a green rock composed of iron-rich minerals and fragmented by earth movements. This particular rock is called 'Verde Issorie' from Val d'Aosta in the Italian Alps. The main floor stone is light-coloured Botticino Marble.

3 Great White Horse
The bricks are 'Woolpit Whites' made from lime-rich lake clays found at Woolpit in mid Suffolk.

4 McDonalds
The white limestone pillars are of 'St John's Travertine', a hard calcareous spring deposit from Italy. At the base of the building is Rustenberg Black Accord Gabbro, a once molten igneous rock from near Johannesburg, South Africa. It contains grey feldspar and dark iron-rich minerals.

5 Town Hall
Most of the front is Bath Stone, an orange-brown Jurassic limestone much used in Bath and other Cotswold towns. The pillars are Mansfield Stone, a red sandstone from the Sherwood Forest area. There is also some Portland Stone, a whitish, shelly Jurassic limestone found in Dorset.



Further Information

Find out more about the landscape and geology of Suffolk, and geo-sites to visit in and around Ipswich.

Ipswich Borough Council Museum in High Street has a wonderful collection of fossils, many of national importance. The mammoth teeth found at Stoke (Ipswich) in 1845-6 when the railway was built are of particular interest. See terracotta sculptures of fossil shells on the upper part of the building's facade (but take care when crossing the road!). Tel: 01473-433 550. See <http://www.ipswich.gov.uk>

Suffolk Geological Group is part of the Suffolk Naturalists' Society and holds regular field meetings in the summer. Contact c/o Ipswich Museum in High Street.

Orwell Country Park and Christchurch Park mentioned in this leaflet are managed by Ipswich Borough Council Ranger Service for the benefit of wildlife and human visitors. Tel: 01473-433 993.

The British Geological Survey publishes a 1:50,000 geological map of Ipswich (no. 207). Contact the BGS at Keyworth, Nottingham NG12 5GG. Tel: 0115-936 3100. See www.bgs.ac.uk

Did you know...?

The *Ipswichian Interglacial* is the name given to a temperate phase in the Ice Age, dated about 125,000 years ago. At this time elephant, lion and hippopotamus roamed the countryside. The type site (now hidden below ground level) is at Chantry Sewage Works, Bobbitshole (Ipswich).

RIGS (Suffolk)

This leaflet is published by the Suffolk RIGS Group (GeoSuffolk), 2004, who wish to acknowledge the financial support of English Nature. RIGS are Regionally Important Geological and Geomorphological Sites. We aim to promote understanding and appreciation of the geo-resources of Suffolk. (RM)



To find out more, contact Ipswich Museum 01473-433 550, or English Nature Suffolk Team on 01284-762 218.

GEO Ipswich

Discover the Geological Heritage of Ipswich



Chalvey Boulder Clay (Glacial Till)

Kesgrave sand & Gravel

Red Crag Sand

London Clay

Sands & Clay

Chalk

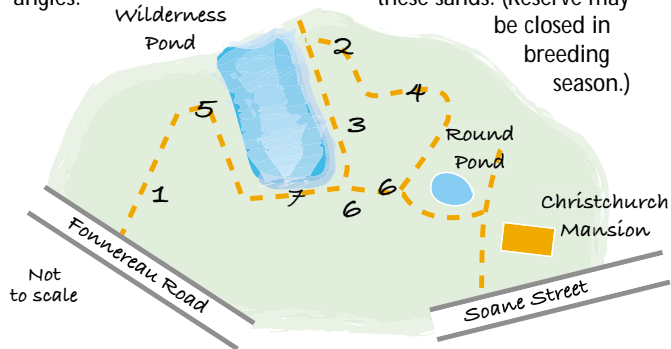
Orwell valley clays and Gravels

Christchurch Park

A TOWN CENTRE PARK

- 1 Plaque 'Sir Edward Packard 1886-7' by tree planted by him in the Mayors' Walk. Packard was a leading manufacturer of artificial fertiliser made from phosphate rock.
- 2 Footpath built at angle across old landslide where sands and gravels slipped over the London Clay, lubricated by springs.

- 3 Trees caught in old landslips are leaning at various angles.
- 4 Exposure of sand and gravel in cutting at top of hill in bird reserve. Rainwater sinks into these sands. (Reserve may be closed in breeding season.)



- 5 Sarsen stones in rockery in Lower Arboretum; stated to be from Ipswich Dock excavations in the 1840's.
- 6 Seepages and springs from groundwater where permeable sand overlies the impermeable London Clay.
- 7 Dam across valley to contain water from springs to form the Wilderness Pond.

COPROLITE STREET

Coprolite Street, at the north-east corner of Ipswich

Dock, is named after the so-called 'coprolite' (fossil animal droppings) stones dug from the Red Crag sand in the Waldringfield - Foxhall area in the 1860's. They were brought to Ipswich for making artificial fertiliser. The phosphate-rich nodules were dissolved in sulphuric acid to make superphosphate, the origin of Packard and Fison's fertiliser industry. The factory has long gone, but this unique road name survives.

Orwell Country Park

SOUTH - EAST IPSWICH

- 1 Heathland is growing here on Kesgrave Sand & Gravel deposits, laid down in the bed of the early Thames about 1 million years ago, pre-dating the present river valleys. Flint and quartz are characteristic stones found in this area.

- 2 The lower parts of Pipers Vale have been subject to rotational landslips in the past, where Red Crag sand rests on London Clay. The back of this slide has a marked drop, and there is a marshy area at the rear of the slipped mass below. Do not venture onto this.

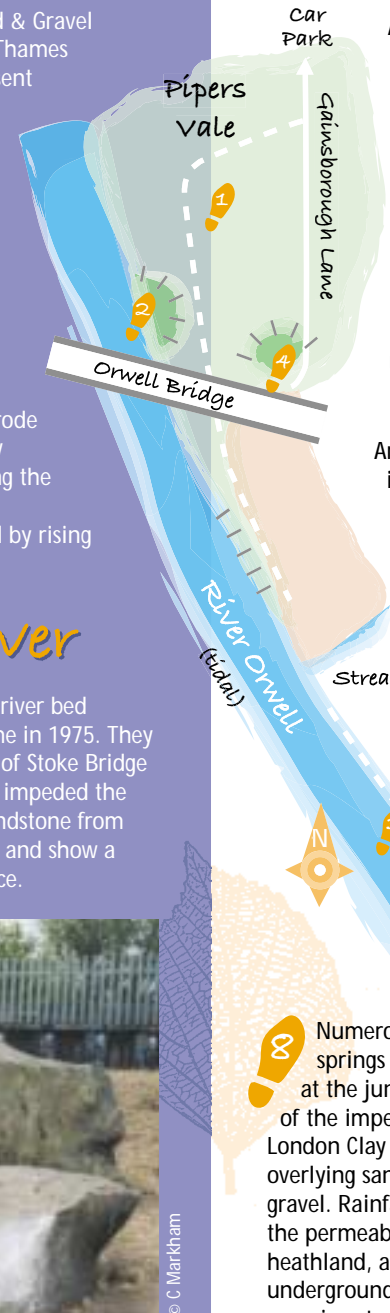
- 3 Check tides if walking between Pipers Vale and Bridge Wood, as high tides reach and erode the cliff foot. The Orwell valley was formed by glacial meltwater about 440,000 years ago during the Ice Age; the glacial clay ('till') deposited by the ice underlies north Ipswich. The estuary was drowned by rising sea levels after the Ice Age, some 8,000 years ago.

Sarsens by the river

Many sarsen stone boulders were taken out of the river bed during work on the Ipswich flood protection scheme in 1975. They were then arranged by the riverside just upstream of Stoke Bridge by the Dock, in Pocket Park. They are so hard they impeded the driving of steel piling. They are silica-cemented sandstone from the sands between the London Clay and the Chalk, and show a well-developed mammilated (curved bumps) surface.



Sarsens showing work of local artist!



An old crag pit. Scrapes show the Red Crag, a former sea bed about 2 1/2 million years old, containing fossil sea shells (mostly broken). 'Coprolite' (phosphate) stones came from the Red Crag of this area, and this and other pits provided 'chicken grit' for local residents.

The London Clay forms most of the river cliff. It was deposited in a muddy sea about 52 million years ago. A band of mudstone nodules (cementstone septaria) traverses the cliffs.

Area of large landslips with rear slopes inclined at about 30 degrees. There is a good footpath through the area. Back-tilted oak trees probably started life at the top of the cliff before the slide, probably 150-200 years ago. Small straight sycamores started life after the landslip. Back-tilted mudstone bands on the foreshore show that these masses rotated while slipping.

'Modern' deposits include beach sand and gravel, salt-marsh clays and the 'black ooze' river mud.

Numerous springs issue at the junction of the impermeable London Clay and overlying sand and gravel. Rainfall sinks into the permeable sands under heathland, and is stored underground with overflow as escaping streamlets.

Not to scale