

### 2.1 Geology

The key geological influence in North Hertfordshire and Stevenage is the lower cretaceous Chalk, an extensive strata which continues under the southeast of England. The northern edge of the Chalk is represented by the chalk scarp which extends from Barton-le-Clay to the west to Steeple Morden to the northeast (both of which lie outside the District). Running parallel and mainly to the north of the District is an exposed band of Gault clay which lies under the Chalk. The Chalk extends southwards, beyond the District boundary to a line running between Welwyn Garden City and Bishops Stortford, where the Chalk disappears below the London clay.

There are three types of quaternary deposit within North Hertfordshire and Stevenage. These include:

- Sand and gravels laid down by glacial meltwaters
- Clay with flints resulting from natural weathering process and containing a high proportion of flints and gravels
- Boulder clay and glacial drift deposits laid down by glaciers during the last Ice Age

These deposits come together at the Stevenage Gap. The Langley Valley which lies to the west of Stevenage is a large channel carved out by glacial meltwaters where the sand and gravel deposits laid down by the retreating ice remain. To the east of the valley lie the Boulder clay deposits. This represents the southern extent of the glacial cover from the last Ice Age. West of the Stevenage Gap is the area that lay outside of the zone of glacial cover and there the light chalky soils incorporate weathered flints and gravels.

### 2.2 Soils

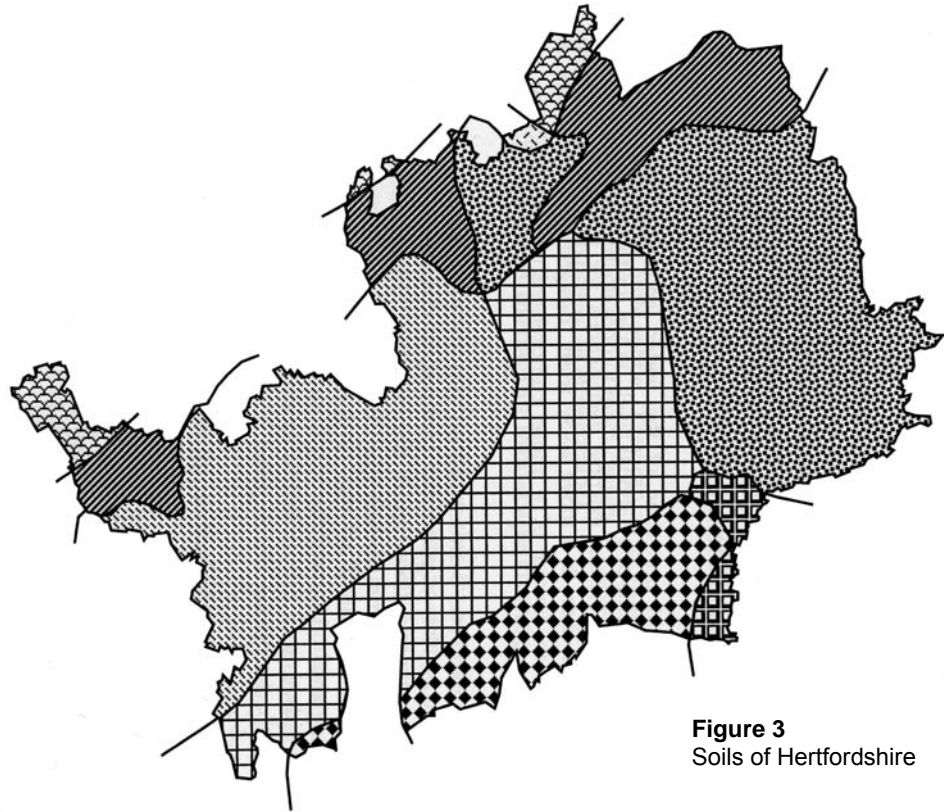
Figure 3 illustrates the soils found within Hertfordshire. The northern edge of the District includes a complex arrangement of varying soil types associated with the lowland landscapes extending north of the District, these include:

- Stagnogley soils - clayey soils and non-calcareous loams. These are located in the north of the District covering a larger area around Hinxworth and two smaller fragments north of Hexton and north west of Pirton
- Brown Earths - well drained loamy soils usually over gravel. A single area of brown earths occur north of Letchworth
- Rendzinas - well drained shallow chalky soils. These lie in three locations, covering a broad band extending across the whole northern part of the District.

In the south of the District and around Stevenage there are three main soil types.

- Paleo Argillic Brown Earths - deep well drained loamy soils over clay with associated pockets of chalk soils over gravel sometimes with impeded drainage. Stevenage lies mainly within this area.
- Calcareous Pelosols - permeable chalky clay soils, often stony. Extending in a broad band over the plateau landscape stretching from Stevenage to the southeast corner of the District.
- Paleo Argillic Brown Earths – Loamy or silty soils over clay, associated with calcareous soils. These soils occupy the southwest corner of the District.

## 2.0 Physical Features of the Landscape



**Figure 3**  
Soils of Hertfordshire



**Rendzinas:** Associated – Brown Calcareous earths and argillic or paleo-argillic earths. Parent material: chalk and associated drift. Character: well drained, shallow chalky soils, with deeper loamy or clayey/flinty soils.



**Paleo Argillic Brown Earths:** Associated – Brown calcareous earths and argillic brown earths. Parent material Pleateau (clay with flints) and associated drift over chalk. Character: Deep well drained to moderately well drained loamy (usually silty) over clayey or occasionally clayey soils with associated less clayey or calcareous soils.



**Stagnogley Soils:** Associated – Calcareous pelosols and brown earth. Parent material: Jurassic or cretaceous clay and associated drift. Character clayey soils and non-calcareous loamy or loamy over clayey soils.



**Calcareous Pelosols:** Associated – Stagnogley soils and argillic brown earths. Parent material: chalky glacial drift. Character: Slowly permeable, well structured, calcareous clayey soils, associated with non calcareous clayey soils with impeded drainage or less clayey better drained soils, often stony.



**Brown Earths:** Associated – Argillic brown earths and alluvial gley soils. Parent material: River-terrace drift and associated alluvium. Character: Deep or moderately deep, well-drained loam soils, locally shallow over gravel associated with clayey or loamy soils with high ground water.



**Paleo Argillic Brown Earths:** Associated – Argillic brown earths and stagnogley soils. Parent material: Glacial, glaciofluvial or river-terrace drift and associated brick earth. Character: Deep well-drained to moderately well-drained loamy (often silty) or loamy over clayey soils, usually stony and locally shallow over gravel; Associated with loamy over clayey soils with impeded drainage.



**Stagnogley soils:** Associated – Argillic brown earths or brown earths. Parent material: Cretaceous or Tertiary clay and associated drift. Character: Clayey or loamy over clayey soils with impeded drainage, associated locally with better-drained mainly loamy soils.



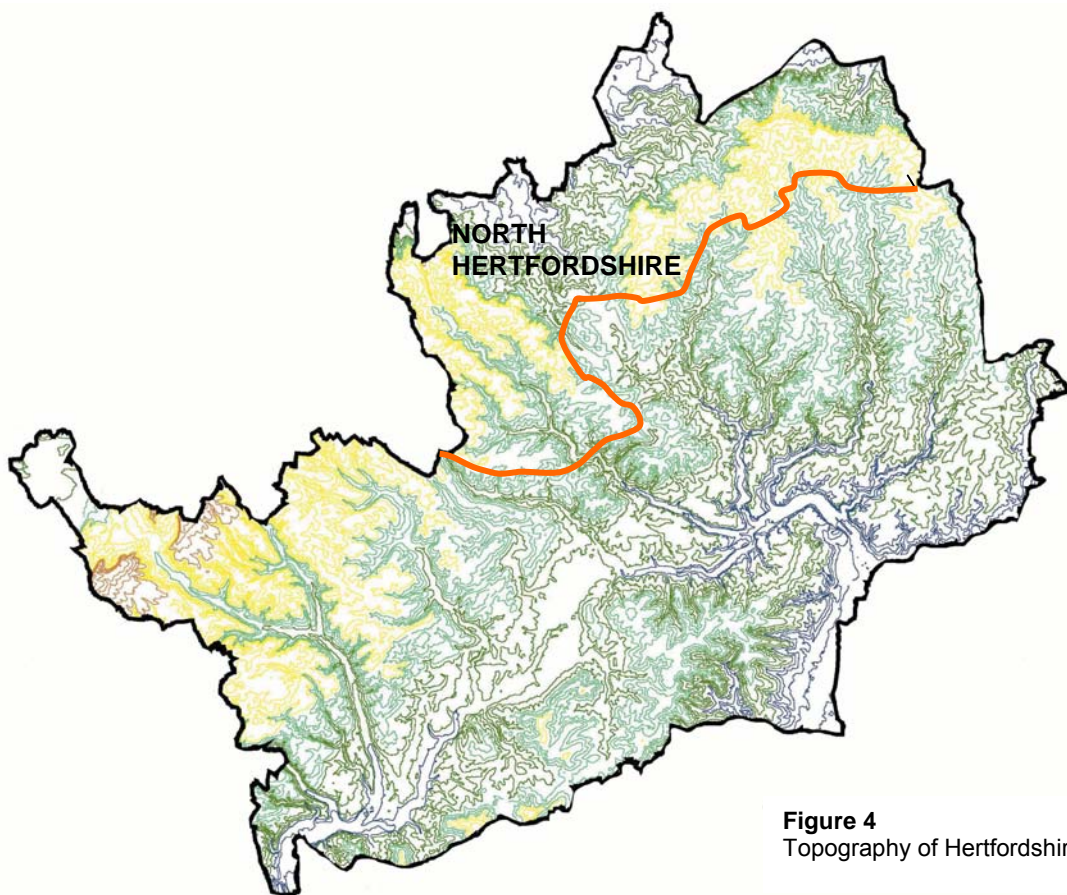
**Argillic Brown Earths:** Associated: Paleo argillic brown earths and alluvial gley soils. Parent material: River-terrace drift, brick earth and associated alluvium. Character: Deep well-drained loamy (often silty) soils, locally stony or shallow over gravel, associated with poorly-drained and clayey soils with high ground water.

### 2.3 Topography

North Hertfordshire and Stevenage occupy the upland area of the Chilterns scarp and chalk plateau. The scarp extends from the western boundary of the District, north of Luton running east to Royston and continuing eastwards beyond the District boundary. The Icknield Way path which traditionally followed the scarp edge is much in evidence, following various routes such as the Upper Icknield Way and the Lower Icknield Way. The Stevenage Gap is a broad valley that cuts through the scarp, having been eroded by post glacial melt waters. Telegraph Hill and Deacon Hill, south of Hexton are the highest points on the scarp. In the east of the district the scarp becomes shallower and less distinct.

North of the scarp lies the Midlands lowland. South of the scarp lies the chalk plateau which dips gently to the southeast and the Thames Valley. Numerous valleys drain off the chalk plateau contributing to the Thames catchment and feeding into the Thames via the Mimram, the Beane and the Rib valleys. These three tributaries flow into the Lee valley at Hertford, which subsequently feeds the Thames on the east side of London.

A particular characteristic of the chalk landscape is the number of dry valley, some of which have been deeply incised and resulting in a locally undulating landform.



**Figure 4**  
Topography of Hertfordshire

### 3.1 History

Early activity was focused to the south of the county in the lower Lea and Colne river corridors. As sea and river levels began to rise, the more densely wooded upland areas of the Chilterns to the west and northwest began to be colonised. This trend continued into the Neolithic period characterised by the appearance of ritual monuments in the landscape such as long barrows, of which a good example is located at Therfield Heath, Royston. Large areas of woodland underwent clearance during the Bronze Age and round barrow cemeteries were constructed in prominent positions in the landscape. By the later Bronze Age the concern with marking out territories took the form of linear banks and hill-forts such as Wilbury Hill and Arbury Banks. The Late Bronze Age growth in population continued in the Iron Age and concerns with ownership of land are visible in the large scale hill-fort of Ravensburgh Castle, Hexton.

With the Roman invasion a series of new structures was imposed on the landscape of Hertfordshire. A network of roads linked the developing urban and commercial centres such as Verulamium, Welwyn, Braughing, Ware and Baldock. Running through the north of the county were Ermine Street and Stane Street along which smaller settlements developed. Roman style towns such as Baldock developed on the sites of existing native settlements. Developments in the countryside focused on the villas which provided produce for these towns. Known villa sites are located on south facing slopes of the Chilterns and examples can be found in the vicinity of Letchworth and Hitchin.

During the 9<sup>th</sup> century the River Lea represented the boundary between Danelaw and the Anglo-Saxon kingdom of Wessex. This resulted in differing settlement patterns and associated land management expressed by place names and the existence of villages and greens to the east and large areas of common land to the west of the county. During the late Anglo-Saxon period there were many very large estates in the county composed of a central manor with subordinate or dependent parts. The manor of Hitchin held 12 dependencies including Hexton which was forcibly attached by King Harold.

During the Norman period motte and bailey castles were constructed and good examples can be found at Hertford and Berkhamsted Castles and in North Hertfordshire at Pirton and Great Wymondley Castle where they dominated existing settlements. The 12<sup>th</sup> century also witnessed a boom in church building and re-building and many churches in the district retain fabric from this time. Another feature of the medieval period demonstrating the wealth of the county are the many moated sites associated with wealthy farms and manors. Hunting parks for the procurement of food also became major features of the medieval landscape and traces of these can still be found in the modern landscape. At a lower social level, the distribution of deserted medieval villages demonstrates a higher frequency in the north of the county where the farming land was poorer.

In the post-medieval period Hertfordshire began to be favoured as a location for country retreats by the aristocracy and landed gentry who otherwise lived in London. A great many monastic houses were converted such as Hitchin Priory and Wymondley. By the mid-16<sup>th</sup> century new country houses such as Cassiobury, Gorbambury, Knebworth and Theobalds were being constructed reflecting the shift in ownership of the land from the church. The associated parks were increasingly ornamental and Theobalds created under James I became very influential.

During the post-medieval period the major industries of the county were predominantly brewing, malting and papermaking. These manufacturers supplied the ever growing London markets and influenced the network of transportation that emerged during the 18<sup>th</sup> and 19<sup>th</sup> centuries. The land was enclosed creating a patchwork pattern of fields that have gradually been superseded by larger prairie fields visible in the landscape today.

### 3.2 Buildings and Settlement

The county does not possess good building stone and many historic buildings are constructed from brick, timber or flint with stone dressings. Pirton demonstrates many fine traditional buildings dating to the 16<sup>th</sup> and 17<sup>th</sup> centuries, which employ a range of styles and materials including clunch. Many churches of the county utilise flint and freestone and have slender spires known as the 'Hertfordshire spire'. Traditionally, settlement in the north of the county has been dispersed punctuated by nucleated settlements and country estates.

However, with the development of modern Portland cement and the railways, new settlements and industries were created. The development of towns in the north of the county has been concentrated along the A1(M) and Great Northern Railway corridors. Of particular note are the early 20<sup>th</sup> century pioneering garden cities of Letchworth and Welwyn which explored new ideas in housing and urban design. By contrast the northeast of the county has seen very little modern development.

### 3.3 Transport

#### Roads

The prehistoric Icknield Way crosses the northern part of the county following the chalk spine on an east-west orientation. The Romans constructed a network of roads connecting urban and commercial centres. Ermine Street crosses the eastern part of the county and was the main strategic road connecting London with the north. Several roads linked Baldock with Ermine Street to the east and to Stane Street to the south providing communication with St Albans (Verulamium).

The Great North Road ran through Baldock and provided the first main halting stage between the capital and the north. It is thought that the increasing demands of the malting and brewing industry had an impact on the road systems. From the early 18<sup>th</sup> century the Great North Road and the turnpike system was created. Indeed, McAdam was employed as surveyor to several of these turnpike trusts.

The development of towns and the rise in car ownership in the county during the late 19<sup>th</sup> and 20<sup>th</sup> centuries had further impacts on the road system. The first roundabout was constructed in Letchworth in 1910 and the Welwyn Bypass, opened in 1928, was one of the first to be built in the county. The St Albans Bypass which became part of the M1 was the first motorway to be built in the south of England in 1958-9. The M1, M25 and M10 have all been constructed in the south and east of the county while the A1(M), the former Great North Road, runs through the north of the county.

#### Rivers

The rivers provided communication routes as well as power for mills. The types of industries that focused on these rivers were flour milling and wool fulling during the medieval and post-medieval period and paper milling from the 15<sup>th</sup> to 19<sup>th</sup> century and malting from the 17<sup>th</sup> to 19<sup>th</sup> centuries. As London grew the industries of Hertfordshire expanded demanding better transport networks to carry agricultural produce, malt, building materials and other goods. The major rivers to the south of the county such as the Lea were improved through canalisation.

#### Railways

The railways developed in a radial pattern from London. The Great Northern Railway was constructed in the mid-19<sup>th</sup> century running through Hitchin and connecting London with York.

#### Luton Airport

The footprint of Luton Airport lies outside of the District boundary, however the flight path crosses that part of the District that lies immediately to the east of the Airport. The Airport infrastructure extends into the countryside to the east. Plans for the expansion of the Airport are currently being prepared.