

## GLA 69 Wanstead Flats

Grid Reference: TQ 405 865

Site Type: Former gravel quarries

Site Area (hectares): 167.09

Current use: recreational ponds within public open space

Site ownership: Corporation of London

Borough: London Borough of Redbridge

Field surveyor: Diana Clements/Peter Collins

Date: April 2015

Current geological designations:

Other scientific: part of Epping Forest

### Site Map OS Topography © Crown Copyright



### Stratigraphy and Rock Types

Time Unit: Pleistocene	Rock unit: Hackney Gravel Member, Maidenhead Formation
Rock Type: Sand and gravel	Details: Sand and gravel, locally with lenses of silt, clay or peat.
Time Unit: Pleistocene	Rock Unit: Lynch Hill Gravel Member, Maidenhead Formation
Rock Type: Sand and gravel	Details: Sand and gravel, locally with lenses of silt, clay or peat.
Time Unit: Eocene	Rock Unit: London Clay Formation, Thames Group
Rock Type: Clay, silt, sand	Details: Fine, clayey silt, clay.

### Site Description

The open flat ground of Wanstead Flats is formed by the terrace of the Hackney Gravel which overlies the London Clay. There are exposures all around the edges of Alexandra Lake but they are mostly ex-situ. The pond was created as an ornamental pond between 1882 and 1911 from an existing small quarry 'brick pit'. The gravel was piled up around the perimeters and to create 2 islands. The exposure near the car park at TQ 414 864 may be in situ. The Hackney Gravel is predominantly flint gravel within topographical range base 6-15m, top 16-18m above floodplain of River Lea.

At the northwest tip of Wanstead Flats, in the area around Bush Wood the older Lynch Hill Gravel replaces the Hackney Gravel and beyond that, the London Clay lies at the surface. As the name implies, the whole area is extremely flat and although there is a gentle increase in height OD from < 15 m round Alexandra Lake to 20 m at the southern extremity of Bush Wood and 25 m in the middle of the wood, it is very difficult to find any clues as to where these junctions lie. The Thames Terraces in this area do not display the obvious steps in the topography noted elsewhere. This is possibly because the ground was artificially leveled to create sports facilities. Springs were only detected in the adjacent road names such as Leybourne and Leyspring Roads which align with the junction of the Lynch Hill Gravel and the London Clay as shown on the BGS map. This is possibly because the ground was artificially leveled to create sports facilities.

<b>Assessment of Site Value</b>		
<b>Geodiversity topic:</b> Lithostratigraphy; sedimentology.		
<b>Access and Safety</b>		
<b>Aspect</b>	<b>Description</b>	
Safety of access	Good access, public space, free parking, buses & tube nearby. Manor Park railway station approximately 5 mins walk to Alexandra Lake. Car Park for pond TQ 414 864. Slippery when wet, mostly unmade paths, flat area.	
Safety of exposure	Exposures at Alexandra Park are kept exposed by park users	
Permission to visit	Open Access	
Current condition	Well maintained by Corporation of London	
Current conflicting activities	none	
Restricting conditions	Permission required to excavate	
Nature of exposure	Ex-Quarry for Hackney Gravel, extended and filled by natural springs. Piles of excavated gravel around perimeter	
<b>Culture, Heritage &amp; Economic</b>		
<b>Aspect</b>	<b>Description</b>	<b>Rating</b>
Historic, archaeological & literary associations	Historically important in the story of preserving Epping Forest as open space	3
Aesthetic landscape	Not very attractive as so flat and open but provides playing fields and space for fairs and circuses so is well-frequented. Area around Alexandra Lake more interesting.	5
History of Earth Sciences	In relation to Thames Terrace	4
Economic geology	Possible former Gravel extraction	3
<b>GeoScientific Merit</b>		
Geomorphology	Thames Terrace (Hackney Gravel) related to OIS 9-8 c. 250,000 years old at < 15 m OD. Older Lynch Hill Gravel at c. 20 m OD (OIS 9). London Clay at c. 25 m	4
Sedimentology	Hackney Gravel predominantly flint, including Tertiary flint (Bridgland, 1995). Almost entire ex situ	2
Palaeontology	None known	0
Igneous/mineral/ Metamorphic Geology	None	0
Structural Geology		0
Lithostratigraphy	Hackney Gravel exposed (unlike Springfield Park GLA 43 where it is inferred by the spring line). Lynch Hill Gravel and London Clay also represented but no exposures seen.	4
Potential use	Research; (off-site education on Thames Terraces)	
Fragility	Overgrown by moss or vegetation	
<b>Current Site Value</b>		
Community	Potential geotrail on Epping Forest Centenary Walk up the staircase of Thames Gravels starting here at Wanstead Flats to High Beech. Alexandra Lake could become Stop 1 (slight diversion) with Stops 2 and 3 within Bush Wood, particularly if any temporary exposures could reveal the presence of Lynch Hill Gravel and London Clay.	7
Education	Possible activities in Visitor Centre in Queen Elizabeth Hunting Lodge	5
<b>Geodiversity value</b>		
Potential LIGS: This warrants a LIGS rating for the exposure of Hackney Gravel (there is no exposure at GLA 25, Springfield Park). Lynch Hill Gravel and London Clay are also represented although no exposures were seen.		4

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Photos: Diana Clements, April 2015

