

Andrew Barry-Pursell
PP 18 – Greater London Authority
FREEPOST LON15799
City Hall
The Queen's Walk
London SE1 2BR

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Geodiversity@london.gov.uk

Dear Mr Barry-Pursell.

Response of the London Forum of Amenity and Civic Societies to the GLA Consultation on the Special Policy Guidance London's Foundations – Protecting the Geodiversity of the Capital

The London Forum of Amenity and Civic Societies, with a membership of over 100 societies across the whole of London, has played an active role in the discussion of a range of London-wide policies, including the London Plan and the Mayor's Transport Strategy.

OVERVIEW

We welcome the provision of guidance for the implementation of London Plan Policy 7.20 and paragraph 7.63 regarding geodiversity and borough implementation of this policy.

Geodiversity is of particular importance at the London-wide level in relation to both strategic developments and the long-term cumulative effects of smaller projects – the construction of deep basement levels, the paving over of open space, for example.

Knowledge and understanding of the physical constraints imposed, and indeed opportunities offered, by the complex structures and materials underlying the London area is also made an urgent and relevant requirement due to the current increase in demand for aggregate extraction and the necessity of protecting London's water resources, both of which this document recognises (5.2) (5.27)

We therefore **strongly support** the policy that 'the natural topographic geodiversity underlying London should be understood, respected' and altered only 'with full knowledge of its origin and form.' To this we would add: "and knowledge of the likely long-term implications of such alterations."

We do, however, have **strong reservations** as we do not consider that the Guidance as it stands provides information and guidance with sufficient clarity for, or in a form which targets the needs of the 'wide range of planning, management, conservation and interpretation interests' for whom it is intended adequately. We do not believe that in its present form it would significantly improve their ability to implement London Plan policy as set out under Aims at 1.6, to the long-term benefit of London.

For example 8.10 states that ‘New development should assess the potential impacts on geodiversity, take steps to mitigate any damage that cannot be prevented and identify opportunities that might benefit geodiversity.’ Developers and local planning authorities will require clearer guidance than this currently offers to do this. The effective implementation of the London Plan requires an accessible and practical SPG.

RECOMMENDATIONS

We suggest that the following changes should be made:

- **the document should be much shorter;**
- **it could separate discussion of the geomorphology of London and its exploitation**, current and historical, from the documentation of specific sites of regional and local geodiversity importance and their classification which as reference material could be placed in the Appendix;
- **the first section should contain two substantial chapters on, respectively, water resources and mineral resources and their use.** The section on water resources should take into account the London Plan blue ribbon policy and the policy regarding ‘lost’ rivers; and
- **specific guidance to boroughs (section 8) relating to planning and development must appear earlier.**

Section 4 London’s Geological heritage connects a clear explanation of the dynamics of the geological formations that underlie London and give it its topographical character with their implications (4.46, 4.108 4.115 to 4.118) for hydrology, and engineering. The case for the continuing importance of research is also made.

Clarity and accessibility of information is critical given the self-acknowledged pressures placed upon geological resources whether through water or aggregate extraction (5.2). Under-pinning much of the guidance’s analysis is a pertinent awareness of the relationship between the city itself and the construction materials and water resources on which it relies, which we welcome. However, at 5.2 the ‘commitment to a significant level of ongoing aggregates extraction’ is mentioned, but there is no word of the implications of this commitment and the kinds of management it entails. These issues should be flagged up. Too often the consequences of past use of geological resources and the possible or probable consequences of current exploitation of these resources are frequently fudged or go unmentioned.

A welcome exception is for example, the implications of changing water use explained at 5.27. This contains a clear and highly relevant analysis of the implications of a particular set of changes in ground water level.

'Left unchecked, rising groundwater beneath London would have several serious consequences including resaturation and a change in bearing strength of the London Clay and other bedrock formation, flooding of tunnels and basements, and a potential buoyancy effect on sealed structures. In addition, the groundwater rising through the Palaeocene formations can be sufficiently acidic, following oxidation of pyrite in the vadose zone, to cause corrosion of buried infrastructure.'

It is this kind of clear analysis, (the meaning of vadose of course could be given) with cause and effect spelt out, which the guidance as it stands frequently fails draw to the attention of precisely those who arguably need it most.

Likewise, those involved with the maintenance and conservation of historic buildings, scheduled and unscheduled, require far more detailed information about sources of the materials used to construct these buildings in order to conserve and enhance them adequately as required by The London Plan, than is given here.

More information is required, perhaps in tabulated form, and certainly chronologically organised, regarding the sources of building materials used through London's period of major development in the 17th, 18th and 19th centuries. As it stands, Norman churches appear at 5.15 following London's 'stucco period' in 5.6. Given the extent and variety of London's historic buildings, this reference and the reference to Belgravia and Bloomsbury and to Portland stone hardly does justice to the complexity of materials and effects achieved. Bath stone, for example, was frequently imitated. Patrick Baty's seminal article "The Colour of Chelsea", draws closely on contemporary historical sources, and ranges much more widely than the title suggests. Many different kinds of stone were imitated and many different types of render used. He cites the 'rich tints of umber and vitriol' mentioned by Peter Nicholson's 1823 *The Practical Builder*. Knowledge of the geographical location of the sources for the various materials used in renders and of other materials used to imitate particular local and other stones would provide a wider context for these buildings within the geology of the London area. 5.14, again, gives too generalized an impression to be useful.

Paragraph 5.13 could helpfully give specific examples of where the stone substitutes named were used alongside the quarry locations for the particular materials. The fact that a material was 'once' used is too vague to be helpful. It is important that key information is made available through this single document rather than requiring the reader to research further. (The Building London website mentioned as a source for further information seems to be unavailable). Likewise the mention of 20th century cladding techniques could usefully note the break made with traditional building methods. 20th Century cladding frequently favours the decorative appeal, or connotations of the materials mobilized, rather than the physical properties for which they were classically equally valued. Could the economic aspect supporting such changes be mentioned?

Specific information regarding particular sites could, as reference material, be placed in

the Appendix as could the review of geodiversity guidance and assessment criteria for the regionally and locally-important geodiversity sites presented in section 6 Evaluating London's Geodiversity.

We hope that these comments will help in making this a clearer and more accessible document. More detailed, editing comments are attached.

Yours sincerely,

Michael Bach

Chairman: Planning and Transport Committee

London Forum of Amenity and Civic Societies

Cc Planning and Transport Committee

DETAILED COMMENTS RELATING TO THE WHOLE TEXT

These are indicative rather than comprehensive

There are several mentions of superseded legislation and to the 'draft NPPF', for instance at 1.9 and 8.2 which require rewriting.

Literals requiring correction:

Leerning 2.4, Leeds sic 2.14, Leed 3.11 and ee in place of ea passim should be corrected to learning, leads and lead etc...

Technical Terms:

The use of technical terms is necessary and the glossary provided is clear, however, on occasion for ease of access for all interested parties, a brief definition could easily be provided the first time a term is used, for example *terrane*, the fault-bounded body of rock which differs from its context. There are also terms which are likely to be unfamiliar, such as *adit*, the horizontal entrance to a mine, which could be defined or explained. 4.7 (page 24) '*arcuate* structural trends' could simply be referred to as a trend towards arched or bow-like structures. *Inliers*, 4.59 Not much is gained by this usage. "Areas where older rocks through folding or faulting followed by erosion are completely surrounded by younger ones" gives an apt and dynamic impression. *Cryoturbation* could sensibly be replaced by ...disturbance to the soil caused by frost. On occasion the text seems almost wilfully obscure which is surely counterproductive.

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Acronyms: These could be spelt out on first occurrence in each section. (RIGS, LIGS etc)

Jargon is not acceptable – for example "*outwith*" in paragraph 5.6 or "*ruggedized*" in 6.9

Lack of clarity: 4.27 'changes in the earth's *attitude*.'

4.58 "*onlapping*" sequences instead of "overlapping".

4.63 "*duricrust*" can be guessed but is perhaps used in a more specialised sense.

SECTION-BY-SECTION COMMENT

Summary

Delete 'Using the procedure set out in this report'. Alter to read the London Geodiversity Partnership (sp) are continuing a running programme of site audits In the last paragraph

the first sentence suggests that the 'undulating chalk' is in fact a process. Rewrite so that the 'undulating chalk' follows and is understood as, an example of, a landscape and 'shaped by geological processes' appears at the end of the sentence. 'only altered' should read as 'altered only'.

4. London's Geological Heritage

Wider geological importance (page 37). This subheading could suggest a wider importance for the science of geology itself. Here the content of the paragraph suggests the wider importance of the geological record for an understanding of climate change.

4.83 'only known to occur' - replace with known to occur only...

4.177 'literally made of fossils' is made entirely of...meant? The 'fragmented skeletons' are not 'only visible' but visible only...

4.178 ...'a sophisticated way of subdividing up' Delete up. 'Ammonites are the best macrofossils' Replace "best" with "most useful", "most convenient", or "simplest" for precision of meaning. ...'only common in the lower part'. This suggests that they have no other attribute! Replace with common only in the lower...Delete 'up' following subdividing.

5. Geological resources and built heritage

Mineral resources – see Recommendations above.

5.3 The statement 'However, modern levels of extraction are not representative of the scale of extraction which has occurred over the centuries' is unclear.

Chalk and clay for cement

5.6 'the stucco period of English architecture'. This phrase hardly does justice to the complexity. See Recommendations

5.14 See Recommendations above.

5.15 Delete "Victorian" in the first sentence, a time period has already been suggested. 'a wide range of new materials'. This is misleading. The materials are of course very old indeed. Perhaps insert a wider range of materials such as...Advent is surely inappropriate. Development would do add....also widened the range of rock types used. Mention of the materials used for construction of Westminster Abbey's Lady Chapel, which proved an important inspiration for the Palace of Westminster, should be made.

5.21 'at outcrop in the Chiltern Hills' to read "at outcrops in the Chiltern..." or add an article.

5.23. Delete first 'Chalk' and link first and penultimate sentence to read "The majority of the public supply sources from the Chalk aquifer are in the North Downs, where small quantities are also abstracted through wells in the Chalk from sources in the Lower Greensand." There are also public supply sources in the Darent and Lee Valleys."

5.24 Mention of the City of London is ambiguous. Is London as a city meant? Mention of the New River: add .."which flowed." Insert "resources" to follow "groundwater" in the sentence beginning 'In the eighteenth century.' The last sentence to read: "many of the early large diameter wells in the Chalk also had horizontal entrance passages some stretching several hundred metres from the main shaft."

5.25 Explain 'the implications of the use of the confined as opposed to the unconfined aquifer ". Perhaps add a further evaluative comment here signalling the importance of this resource for London.

5.26 Signal implications?

5.27 This paragraph contains crucially important information: see comment above.

5.28 Mention briefly the management processes used.

Former spas

5.29 'produced wells at.' Replace with reached the surface at Replace next sentence with "Other springs, such as those at Hampstead Wells, produced water containing salts of iron, deriving, in that case, from the base of the Bagshot sand. In the Greater London area the springs at Epsom, discovered in 1618 and regularly used in the 17th and 18th centuries for their – Epsom salt - magnesium sulphate – content are well known." Would a list of still extant springs be useful here? Could it include a mention of the desirability or otherwise of continued use of still working springs and their local effects on the groundwater levels?

6 Evaluating London's Geodiversity

6.1 Replace 'goes through' with explains. Delete 'begins by', to read and reviews current systems of...

6.2 ...'the system proposed' suggests it has not been used. Delete proposed. Paraphrase Scott's quoted phrase as:

"Use of locally-based criteria makes the establishment of relative national values difficult."

Paragraphs 6.3, 6.4, 6.5, 6.6 and 6. 7 could usefully be condensed and/or placed in the Appendix

6.8 Replace first sentence with “Here the BGS GeoDiversity database is used.” to make it more compatible with the UKRIGS Site assessment procedures it adapts features from the UKRIGS system. Delete ‘as we consider’ from fourth sentence. Replace to be more with is more. The detailed account of the methodology used could usefully be placed in the Appendix especially as references are already made to appendices 2, 3 and 5.

6.9 Appropriate to place in the Appendix?

6.11: This is very narrative. Perhaps: “The available documentation and datasets which provide information on geodiversity sites in the Greater London Area include...”

6.12 and 6.13: Is this level of detail required in the body of the text?

6.14 The implications of the loss of sites should be mentioned.

6.15 Perhaps: The current sites and the changes audited can be accessed at Greenspace Information for Greater London (www.gigl.org.uk) - the capital’s environmental record centre which collates, manages and makes available data on London’s green spaces and sites of geological importance.

6.16: This could be abbreviated to: “The urban character of Greater London imposes severe constraints on maintaining site quality and most sites are redeveloped when their economic prospects are reviewed or when a particular use (quarries) has ceased. Sites within public open spaces however are generally assured protection and accessibility.” Delete ‘as we consider’ replace to be more with “is more”.

7. Geodiversity audit results and recommendations

This section seems unnecessarily narrative. Perhaps state the methodology briefly and the results clearly?

Criteria for selection of RIGS and LIGS 7.3. Rewrite as Potential LIGS sites have local value that compensates for any broader limitations they may have. They are usually areas that are used daily by the local community and could easily be visited by local school groups. They may well have research potential.

7.4 Research potential is also an important characteristic of both regional and national RIGS sites. Those with good access are ideal for educational use and for tourism, for example in the form of geology trails. LIGS may also be suited to local educational use “given the provision of on-site information through the London Geodiversity Partnership scheme.”

Geodiversity guidance to boroughs

Policy

'Chapter 7 of this report illustrates the relationship between geodiversity designations that are appropriate in London, and lists those areas which require special consideration in planning in London.' This should go at the head of the relevant section, not as written. Should it read Section 8? Delete 'of this report'.

Section 8 addresses directly the requirements of planners and those interested parties likely to have recourse to the Guidance. In doing so it could usefully follow swiftly upon the (also admittedly important) description of London's geological history and its physical implications for the present and future. See Recommendations.

8.7 Perhaps abbreviate as "Natural England's Landscape Character Areas (LCA) for Greater London should be revised to take full account of natural physical landscapes."

8.8 This states the central policy tenet which the Guidance exists to clarify and support. Alter the first sentence to read: "...and altered only in the knowledge of its origin and form and the long term physical implications involved." The given position of 'only' suggests alteration is the sole option.

8.9 First sentence. Replace advice highlights where with guidance indicates when

8.10 Penultimate sentence, delete 'fields as varied as '. Insert "can have a profound and long term effect on..."

Protect, manage and enhance geodiversity

8.13 Delete 'that were not visited during the audit but'.

8.14 Rewrite as: any management works considered for geological sites should take all relevant conservation interests into account

Enhance geodiversity in new developments

8.15 Replace 'good' with effective liaison.

8.16 Perhaps alter to read: ensure proposals for permanent sealing of underground workings include provision for appropriate recording of geological features prior to sealing

Promote public access, study, interpretation and appreciation of geodiversity

8.17can include the promotion of the Geodiversity. Rewrite as "should include wherever possible the promotion of the appreciation and understanding of the resource"

9. Geodiversity action planning

9.2 Why not simply “The London Geodiversity Partnership GAP for London 2009-2013 which.....should be adhered to....” Also, see Recommendations above.