

**THE LONDON GATEWAY LOGISTICS AND COMMERCIAL CENTRE  
OUTLINE PLANNING APPLICATION**

**OPA INQUIRY**

**THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY**

**and**

**THURROCK COUNCIL**

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**STATEMENT OF COMMON GROUND  
ON THE TOPIC OF CULTURAL HERITAGE for the OPA  
Prepared in accordance with Annex 3(ii) of DETR Circular 5/2000**

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**Draft and Confidential**

Macfarlanes/Faber Maunsell

01/04/03

Draft Number 3

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1 **INTRODUCTION**

1.1.1 This Statement of Common Ground on the topic of Cultural Heritage has been prepared for The London Gateway Commercial And Logistics Centre Inquiry following a number of meetings and discussions between P&O and Thurrock Council (TC), as represented and advised by Essex County Council (hereafter reference is made only to TC).

1.1.2 The Statement sets out the facts as accepted between the above parties. The document has been prepared in response to two applications, comprising the London Gateway Commercial and Logistics Centre Outline Planning Application (OPA) with Rail, and the Commercial and Logistics Centre OPA without Rail. Also considered is the application of both OPA with Rail and of OPA without Rail, in combination with the London Gateway (Port) Harbour Empowerment Order (2002).

1.1.3 The Statement considers items of data relevant to the topic of Cultural Heritage and the methodologies set out in *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices), published in January 2002, and in further reports entitled *Archaeological Surveys and Update of Effects: Cultural Heritage* (2 Vols.), published in April 2002, *Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*, published in December 2002, and *Cultural Heritage Assessment Refinement* (3 Vols.: Technical Report and Technical Report Appendices), published in March 2003.

1.1.4 Documents relevant to the in-combination application comprise: The *(London Gateway Port) Harbour Empowerment Order (HEO) 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices), published in July 2002, and in further reports entitled *Archaeological Surveys and Update of Effects: Cultural Heritage* (2 Vols.), published in April 2002, *Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*, published in December 2002, and *Cultural Heritage Assessment Refinement* (3 Vols.: Technical Report and Technical Report Appendices), published in March 2003. The Statement sets out the facts as accepted between the above parties.

1.1.5 Where items in the Environmental Statements and or Technical Reports are agreed this is stated, with the relevant document reference. Where the item of data is new or there is now an agreed variation to that presented in the Technical Reports, then this is provided as an appendix to this Statement.

2 **ACCEPTED DATA**

2.1 **OPA with Rail**

2.1.1 The parties have agreed that the data presented in the EIA and supporting documents is satisfactory and appropriate (Minutes of the Working Group Meeting (WGM) dated 24/10/02, Sections 3.2 and 4.5). This includes the baseline study, the assessment of archaeological impacts and the significance of effects, along with the general conclusions reached.

2.2           **OPA without Rail**

2.2.1         As 2.1 above.

2.3           **Accepted In-Combination Data**

2.3.1         As 2.1 above.

3             **ACCEPTED ASSUMPTIONS AND METHODOLOGIES**

3.1           **OPA with Rail**

3.1.1         The parties have agreed the approach and methodologies adopted by the Environmental Impact Assessment (EIA) for Cultural Heritage. This agreement encompasses the sources consulted in the study, the methodologies used (including the method used to assess receptor importance, magnitude of change and significance of environmental effect), along with the methodologies of more intensive survey work, comprising the subsurface deposit model, and the fieldwalking and geophysical surveys of parts of the gravel terrace and undeveloped floodplain (Fieldwalking specification approved by Richard Havis, ECC e-mail dated 21/09/01). The parties have agreed that the production of a subsurface deposit model is the appropriate approach to understanding the archaeology and development of the floodplain (WGM 24/10/02 Section 4.5 and WGM 06/11/02 Section 10.3).

3.1.2         In relation to the baseline study, TC raised several issues where they believe there was scope for improvement of the desk-based research in the baseline. These issues were discussed briefly in subsequent WGMs and set out more specifically in two letters (Nigel Brown of ECC, ref. A/HAMP/603/37 dated 07/11/02 and A/HAMP/NB dated 09/12/02). These issues have been addressed in the Archaeological Mitigation Framework (reproduced in full in Appendix 2 of this SoCG and discussed below), which sets out a detailed research agenda (WGM 05/12/02 Section 7.5).

3.1.3         Additionally P&O recognised that the desk-based research for the off-site infrastructure was a rapid survey only and has since addressed this to the satisfaction of TC through the production of an enhanced survey (*Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements, December 2002*) (add TGM 05/02/03, Item 3.3).

3.1.4         Concerns had been expressed by TC over the lack of information on the current state of knowledge on the archaeological potential of the proposed New Access Road and the proposed Commercial and Logistics Centre Rail Corridor. In order to address this, an agreed programme of non-intrusive fieldwalking and geophysical surveys (WGM 06/11/02 Sections 4.2 and SoCG draft 2 Section 5), was undertaken in February and March 2003 and the results published as part of a broader Cultural Heritage refinement in March 2003 (*Cultural Heritage Assessment Refinement March 2003*).

3.1.5         The parties agreed the approach of refining the subsurface deposit model through pollen analysis, geophysical (sub-bottom profiling) survey, C14 determinations of existing palaeoenvironmental samples and through clarification of past impacts. This work has been undertaken and the results form a part of the agreed Cultural Heritage

refinement, published in March 2003 (*Cultural Heritage Assessment Refinement March 2003*).

- 3.1.6 The parties also agreed the approach of assessing the past impact of refinery structures in more detail through examination of engineering drawings (WGM 06/11/02 Section 10.3). This work has been undertaken and the results form a part of the agreed Cultural Heritage refinement, published in March 2003 (*Cultural Heritage Assessment Refinement March 2003*).
- 3.1.7 The parties have agreed that the proposed A1014 (Manor Way) Road Improvements will not require extensive mitigation evaluation as the proposals will entail fairly minor improvements and it is believed (and demonstrated by subsequent Off-site Infrastructure refinement work) that much of the areas affected has already seen ground disturbance in the past (WGM 06/11/02 Section 7.1).
- 3.1.8 Both parties have agreed that the Archaeological Mitigation Framework (AMF) represents the best way forward in developing an appropriate mitigation strategy (WGM 05/12/02 Sections 7.7 and 7.8). The AMF was published in March 2003 as Appendix T in the agreed refinement work (*Cultural Heritage Assessment Refinement March 2003*). The first draft of an expanded version is attached to the present document (Appendix 2). All parties have agreed that the AMF will establish objectives and methods for archaeological work, over course of the construction project. It will be flexible enough to enable an appropriate response while providing a clear suite of methods. The AMF will therefore form the basis for an archaeological planning condition (WGM 05/12/02 Sections 7.10 and 7.12 and WGM 06/11/02, Section 12.11). Each area for archaeological investigation during the construction period will require a site-specific project design which addresses the particular objectives of each individual piece of work within the terms of reference established by the AMF.
- 3.1.9 TC produced some initial comments (Nigel Brown letter dated 30/01/03 ref. A/HAMP/603/37) on a draft version of the AMF (draft 2: attached to SoCG draft 2). The nature of these comments was subsequently clarified by telephone and e-mail, and changes to the AMF were made.

## 3.2 OPA without Rail

- 3.2.1 As Section 3.1.above.

## 3.3 Accepted In-Combination Assumptions and Methodologies

- 3.3.1 All parties to this statement have agreed the approach and methodologies adopted by the EIA. This agreement encompasses sources consulted in the study, the methodologies used (including the method used to assess receptor importance, magnitude of change and significance of environmental effect), and the methodologies for more intensive survey work, comprising the foreshore walkover survey and palaeogeographic mapping.
- 3.3.2 All parties agreed the use of marine geophysics to produce an integrated subsurface model, which would extend the model across the channel and include the north Kent Coast (WGM 06/11/02 Section 11.3 and WGM 22/11/02, Section 2). This work has now been undertaken and the results published in March 2003 as part of a broader Cultural Heritage refinement agreed by all parties (*Cultural Heritage Assessment Refinement March 2003*).

3.3.3 All parties agreed that side scan survey and magnetometer techniques would be employed to provide refined information on the nature of the archaeological resource within the channel dredge (WGM 06/11/02 Section 11.4 and WGM 22/11/02, Section 2). This work has now been undertaken and the results published as part of Cultural Heritage refinement agreed by all parties (*Cultural Heritage Assessment Refinement March 2003*).

3.3.4 All parties to this statement have accepted that field evaluation (both non-intrusive and intrusive) of the proposed A13 Road Improvement will not be viable prior to public inquiry as most widening and associated permanent works would take place within the existing Highways Agency boundary, which, for reasons of health and safety, it would not be practical to evaluate (WGM 06/11/02 Section 6.1). All parties to this statement have accepted that archaeological mitigation of temporary works outside the existing highway boundary (including topsoil stripping) would not be possible until either access was permitted by third party landowners (this has been denied to date), or the confirmation and operation of the compulsory purchase powers in the HEO (WGM 06/11/02 Section 6.1).

### 3.4 **Other Items not Contained in Technical Statements**

3.4.1 TC initially raised the issue that the EIA did not discuss possible indirect impacts upon the East Tilbury and West Tilbury Conservation Areas, but later accepted that as both Conservation Areas lie at distance beyond the 1 km Study Area, they will not be affected by the development proposals (WGM 18/12/02, Item 3).

3.4.2 TC required further understanding of the methodology employed in the assessment of indirect impacts upon Listed Buildings. A document is attached in Appendix 3 which clarifies the methodologies used in the assessment of impact on Listed Buildings. Annette Reeves of TC confirmed by fax on 13<sup>th</sup> February that TC were satisfied with the approach taken to Listed Buildings in the Cultural Heritage Assessment as set out in Appendix 3.

3.4.3 TC also required further understanding of the effect of indirect impacts upon the setting of Listed Buildings. Further work on the setting of Listed Buildings has therefore been carried out and published in March 2003 (*The London Gateway Logistics and Commercial Centre, Outline Planning Application 2002/Transport and Works Act Order 2002, Listed Buildings and Conservation Areas Report*). It has been agreed that by all parties that any outstanding issues regarding indirect impact upon Listed Buildings would be better dealt with through future specialist Technical Group Meetings.

## 4 **UNRESOLVED IMPACTS**

### 4.1 **OPA with Rail**

4.1.1 The refinement work, agreed by all parties as necessary to resolve outstanding issues, has been undertaken and was published in March 2003. This work consisted of a Technical Report and Technical Report Appendices, the latter comprising: Appendix N - Revised Assessment of Construction Period Impacts upon Known Archaeology; Appendix O - Preliminary Geoarchaeological and Palaeoenvironmental Investigation; Appendix P - Assessment of Past Impacts Within the Former Shell Haven Refinery; Appendix Q - (not used); Appendix R - Geophysical Survey; Appendix S - Field Artefact Collection Survey, and Appendix T - Archaeological Mitigation Framework.

4.2 **OPA without Rail**

4.2.1 As Section 4.1above.

4.3 **Unresolved In-Combination Impacts**

4.3.1 As Section 4.1.above.

5 **SOLUTIONS**

5.1 **OPA with Rail**

5.1.1 As a result of undertaking the agreed refinement surveys it has been possible to present updated proposals for mitigation. These proposals are set out in the Archaeological Mitigation Framework (March 2003 Technical Report Appendix T and Appendix 2 of this SoCG) and will be promoted as a pre-condition in accordance with DOE Circ 11/95 to Thurrock Council as Local Planning Authority and The Secretary of State.

5.2 **OPA without Rail**

5.2.1 As Section 5.1 above. In addition, due to limited land take along the proposed A13 Road Improvements, the parties to this statement have agreed that the most practical option for mitigation of the impacts would probably be archaeological recording following topsoil stripping, prior to construction (WGM 06/11/02, Section 6.1).

5.3 **In-Combination Solutions**

5.3.1 As Section 5.1 above.

6 **CONCLUSIONS**

6.1.1 As a result of undertaking the agreed refinement surveys and analysis it has been possible to present updated proposals for mitigation. These proposals are set out in the Archaeological Mitigation Framework and will be promoted as an agreed pre-condition in accordance with DOE Circ 11/95 to Thurrock Council as Local Planning Authority and The Secretary of State. The methodology outlined in the Archaeological Mitigation Framework is similar to that used successfully in the Heathrow T5 situation, and planning permission was granted in that context.

Execution by parties

Signed on behalf of applicants  
Signed on behalf of LPA  
Position: Archaeological Consultant  
Position:

**APPENDIX 1  
DOCUMENT REFERENCES**

OA (Oct 2001) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices). Oxford Archaeological Unit

OA (Apr 2001) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Archaeological Surveys and Update of Effects: Cultural Heritage in Respect of the Proposed London Gateway Development* (2 Vols.). Oxford Archaeological Unit

OA (Dec 2002) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*. Oxford Archaeology.

OA (March 2003) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Cultural Heritage Assessment Refinement in Respect of the Proposed London Gateway Development* (3 Vols. Technical Reports and Technical Report Appendices). Oxford Archaeology.

Minutes of the Working Group Meeting (24/10/02)

Minutes of the Working Group Meeting (06/11/02)

Minutes of the Working Group Meeting (22/11/02)

Minutes of the Working Group Meeting (05/12/02)

Minutes of the Working Group Meeting (18/12/02)

Minutes of the Technical Group Meeting (05/02/03)

**Documentation relevant to the In-Combination Application**

OA (Oct 2001) *The (London Gateway Port) Harbour Empowerment Order 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices). Oxford Archaeological Unit

OA (Apr 2001) *The (London Gateway Port) Harbour Empowerment Order 2002: Archaeological Surveys and Update of Effects: Cultural Heritage in Respect of the Proposed London Gateway Development* (2 Vols.). Oxford Archaeological Unit

OA (Sept 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Site X Amelioration Area: Cultural Heritage (Archaeology) Desk-based Assessment*. Oxford Archaeology

OA (Sept 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Site A Amelioration Area: Cultural Heritage (Archaeology) Desk-based Assessment*. Oxford Archaeology

OA (Sept 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Northern Triangle Amelioration Area: Cultural Heritage (Archaeology) Desk-based Assessment*. Oxford Archaeology

OA (Dec 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*. Oxford Archaeology.

OA (March 2003) *The (London Gateway Port) Harbour Empowerment Order 2002. Cultural Heritage Assessment Refinement in Respect of the Proposed London Gateway Development* (3 Vols. Technical Reports and Technical Report Appendices). Oxford Archaeology.

**APPENDIX 2**  
**ARCHAEOLOGICAL MITIGATION FRAMEWORK**

**APPENDIX 3**

**RESPONSES TO THURROCK COUNCIL: BUILT HERITAGE (30-01-03)**



**THE (LONDON GATEWAY PORT) HARBOUR EMPOWERMENT ORDER 2002  
HEO INQUIRY**

**THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY**

**and**

**ENGLISH HERITAGE**

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**MEMORANDUM OF UNDERSTANDING  
ON THE TOPIC OF CULTURAL HERITAGE for the HEO**

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**Draft and Confidential**

Macfarlanes/Faber Maunsell  
21/03/03  
Draft Number 1

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6 CONCLUSIONS ..... 0

1 INTRODUCTION

- 1.1.1 This Memorandum of Understanding on the topic of Cultural Heritage has been prepared for The London Gateway Port Harbour Empowerment Order (HEO) 2002 Inquiry following a number of meetings and discussions between P&O and English Heritage
- 1.1.2 The Memorandum sets out the facts as accepted between the above parties. Also considered is the in-combination application of the HEO with the London Gateway Commercial And Logistics Centre Outline Planning Application (OPA) with Rail, and the Commercial And Logistics Centre OPA without Rail.
- 1.1.3 The Memorandum considers items of data relevant to the topic of Cultural Heritage and the methodologies set out in *The (London Gateway Port) Harbour Empowerment Order (HEO) 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices), published in July 2002, and in further reports entitled *Archaeological Surveys and Update of Effects: Cultural Heritage* (2 Vols.), published in April 2002, *Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*, published in December 2002, and *Cultural Heritage Assessment Refinement Technical Report: Volume 1 with its Appendices M, N, O, P, R and S* (March 2003). Q
- 1.1.4 Documents relevant to the in-combination application comprise *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices), published in January 2002, and in further reports entitled *Archaeological Surveys and Update of Effects: Cultural Heritage* (2 Vols.), published in April 2002, and *Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*, published in December 2002 and *Cultural Heritage Assessment Refinement Technical Report: Volume 1 with its Appendices M, N, O, P, R and S* (March 2003). Q
- 1.1.5 Where items in the Environmental Statements and or Technical Reports are agreed this is stated, with the relevant document reference. Where the item of data is new or there is now an agreed variation to that presented in the Technical Reports, then this is provided as an appendix to this Memorandum.

2 ACCEPTED DATA

2.1 HEO

- 2.1.1 The parties have agreed that the data presented in the EIA and supporting documents is satisfactory and appropriate (Minutes of the Working Group Meeting (WGM) dated 24/10/02, Sections 3.2 and 4.5; Technical Group Meeting (TGM) dated 05.02.03, Section 3.3). This includes the baseline study, the assessment of archaeological impacts and the significance of effects, along with the general conclusions reached.

2.2 Accepted In-Combination Data: OPA with Rail

- 2.2.1 As 2.1 above.

2.3 **Accepted In-Combination Data: OPA without Rail**

2.3.1 As 2.1 above.

3 **ACCEPTED ASSUMPTIONS AND METHODOLOGIES**

3.1 **HEO**

3.1.1 All parties to this Memorandum have agreed the approach and methodologies adopted by the EIA. This agreement encompasses sources consulted in the study, the methodologies used (including the method used to assess receptor importance, magnitude of change and significance of environmental effect), and the methodologies for more intensive survey work, comprising the subsurface deposit model, the foreshore walkover survey and palaeogeographic mapping.

3.1.2 P&O recognised that the desk-based research for the off-site infrastructure was a rapid survey only and has since addressed this to the satisfaction of EH through the production of an enhanced survey (*Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements, December 2002*)

3.1.3 P&O has undertaken refinement work. This refinement work comprises: updating the subsurface deposit model; a more detailed assessment of past impacts within the area of the former Shell Haven refinery, a revised assessment of construction period effects on archaeology, additional geophysical survey and additional fieldwalking. The results are reported in *Cultural Heritage Assessment Refinement Technical Report (volume 1, Appendices M, N, O, P, R and S (March 2003))*.

3.1.4 The parties have agreed the approach of refining the subsurface deposit model through pollen analysis, geophysical (sub-bottom profiling) survey C14 determinations of existing palaeoenvironmental samples and through clarification of past impacts. The parties have also agreed the approach of assessing the past impact of refinery structures in more detail through examination of engineering drawings (WGM 06/11/02 Section 10.3). All parties have agreed the use of marine geophysics to produce an integrated subsurface model (WGM 06/11/02 Section 11.3 and WGM 22/11/02, Section 2). This work will extend the subsurface model across channel and will include the north Kent coast.

3.1.5 All parties have agreed that side scan and magnetometer survey techniques will be used to provide refined information on the nature of the archaeological resource within the channel dredge (WGM 06/11/02 Section 11.4 and WGM 22/11/02, Section 2).

3.1.6 The parties have agreed that the proposed A1014 (Manor Way) Road Improvements will not require extensive mitigation as the proposals will entail fairly minor improvements and it is believed (and demonstrated by subsequent Off-site Infrastructure refinement work) that much of the areas affected has already seen ground disturbance in the past (WGM 06/11/02 Section 7.1).

3.1.7 Both parties have agreed that the Archaeological Mitigation Framework (AMF) represents the best way forward in developing an appropriate mitigation strategy (WGM 05/12/02 Sections 7.7 and 7.8). The current draft AMF is reproduced in full in Appendix 2. It has been agreed by all parties that the AMF will establish objectives and methods for archaeological work, over the course of the construction



project. It will be flexible enough to enable an appropriate response while providing a clear suite of methods. The AMF will therefore form the basis for an archaeological planning condition (WGM 05/12/02 Sections 7.10 and 7.12 and WGM 06/11/02, Section 12.11). Each area proposed for archaeological investigation during the construction period will require a site specific project design which addresses the particular objectives of each individual piece of work within the terms of reference established by the AMF.

- 3.1.8 In relation to the Archaeological Mitigation Strategy, EH have raised several issues where they believe there is scope for improvement. These have been discussed briefly in subsequent WGMs and set out more specifically in three documents (Deborah Priddy, letter dated 30.01.03; Peter Murphy, comments dated 20.01.03; and Annabel Lawrence email dated 21.03.03). The concerns will be addressed in the forthcoming Archaeological Mitigation Framework (discussed below), which will set out a detailed research agenda (WGM 05/12/02 Section 7.5).

### 3.2 Accepted In-Combination Assumptions and Methodologies: OPA with Rail

- 3.2.1 The parties have agreed the approach and methodologies adopted by the EIA. This agreement encompasses the sources consulted in the study, the methodologies used (including the method used to assess receptor importance, magnitude of change and significance of environmental effect), along with the methodologies of more intensive survey work, including the subsurface deposit model, and the fieldwalking and geophysical surveys of parts of the gravel terrace and undeveloped floodplain. The parties have agreed that the production of a subsurface deposit model is the appropriate approach to understanding the archaeology and development of the floodplain (WGM 24/10/02 Section 4.5).

- 3.2.2 Concerns have been expressed over the lack of information on the current state of knowledge on the archaeological potential of the proposed New Access Road and the proposed Commercial and Logistics Centre Rail Corridor. It has been agreed that in order to help address these concerns a programme of non-intrusive fieldwalking and geophysical surveys will be undertaken (WGM 06/11/02 Sections 4.2: see Section 5 of the present document).

- 3.2.3 All parties to this Memorandum have accepted that field evaluation (both non-intrusive and intrusive) of the proposed A13 Road Improvement will not be viable prior to public inquiry as most widening and associated permanent works would take place within the existing Highways Agency boundary, which, for reasons of health and safety, it would not be practical to evaluate (WGM 06/11/02 Section 6.1). All parties to this Memorandum have accepted that archaeological mitigation of temporary works outside the existing highway boundary (including topsoil stripping) would not be possible until either access was permitted by third party landowners (this has been denied to date), or the confirmation and operation of the compulsory purchase powers in the HEO (WGM 06/11/02 Section 6.1).

### 3.3 Accepted In-Combination Assumptions and Methodologies: OPA without Rail

- 3.3.1 As 3.2.2 above, except that evaluation of the rail corridor is not relevant.

4 **UNRESOLVED IMPACTS**

4.1 **HEO**

4.1.1 The Project Team are awaiting comments from EH on the recently published refinement work (Dec 2002 and March 2003) on the impacts of the proposed off-site infrastructure improvements, the updated deposit model, assessment of past impacts, additional geophysical survey and fieldwalking. The side scan survey has been undertaken but is not yet published.

4.2 **Unresolved In-Combination Impacts: OPA with Rail**

4.2.1 As Section 4.1.

4.3 **Unresolved In-Combination Impacts: OPA without Rail**

4.3.1 As Section 4.2 but as no Rail development is proposed, evaluation of the Rail Corridor is not relevant.

5 **SOLUTIONS**

5.1 **HEO**

5.1.1 The results of the agreed refinement work will inform the mitigation as set out in the AMF.

5.2 **In-Combination Solutions: OPA with Rail**

5.2.1 Non-Intrusive evaluation of the off-site infrastructure improvements has been undertaken in order to provide further information on the archaeological potential of the New Access Road and Rail Corridors. Comments are awaited from EH.

5.2.2 Due to limited land take along the proposed A13 Road Improvements, the parties to this Memorandum have agreed that the most practical option for mitigation of the impacts would be archaeological recording following topsoil stripping, prior to construction (WGM 06/11/02, Section 6.1).

5.3 **In-Combination Solutions: OPA without Rail**

5.3.1 As 5.2 above, but no as no Rail development is proposed, evaluation of the Rail Corridor is not relevant.

6 **CONCLUSIONS**

6.1.1 All parties to this Memorandum agree that, subject to the results of the refinement work outlined above being satisfactory, sufficient investigations will have been undertaken with regard to the Planning Policy Guidance on Archaeology (PPG16)

**Draft and Without Prejudice**

and the Historic Environment (PPG15), to establish an appropriate mitigation strategy as set out in the agreed Archaeological Mitigation Framework (Appendix 2). Subject to this proviso, there will be sufficient information to allow determination of application.

Execution by parties

Signed on behalf of applicants  
Signed on behalf of LPA  
Position: Archaeological Consultant  
Position:

APPENDIX ONE  
EIA DOCUMENT REFERENCES

OAU (Oct 2001) *The (London Gateway Port) Harbour Empowerment Order 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices). Oxford Archaeological Unit

OAU (Apr 2001) *The (London Gateway Port) Harbour Empowerment Order 2002: Archaeological Surveys and Update of Effects: Cultural Heritage in Respect of the Proposed London Gateway Development* (2 Vols.). Oxford Archaeological Unit

OA (Sept 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Site X Amelioration Area: Cultural Heritage (Archaeology) Desk-based Assessment*. Oxford Archaeology

OA (Sept 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Site A Amelioration Area: Cultural Heritage (Archaeology) Desk-based Assessment*. Oxford Archaeology

OA (Sept 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Northern Triangle Amelioration Area: Cultural Heritage (Archaeology) Desk-based Assessment*. Oxford Archaeology

OA (Dec 2002) *The (London Gateway Port) Harbour Empowerment Order 2002. Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*. Oxford Archaeology.

OA (March 2003) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Cultural Heritage Assessment Refinement Technical Report Volume 1 with Appendices M, N, O, P, R, S* Oxford Archaeology.

Minutes of the Working Group Meeting (24/10/02)

Minutes of the Working Group Meeting (06/11/02)

Minutes of the Working Group Meeting (22/11/02)

Minutes of the Working Group Meeting (05/12/02)

Minutes of the Working Group Meeting (18/12/02)

**Documentation relevant to the In-Combination Application**

OAU (Oct 2001) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Assessment of Effects Cultural Heritage* (Vol. 1 Main Report and Vol. 2 Appendices). Oxford Archaeological Unit

OAU (Apr 2001) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Archaeological Surveys and Update of Effects: Cultural Heritage in Respect of the Proposed London Gateway Development* (2 Vols.). Oxford Archaeological Unit



OA (Dec 2002) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Cultural Heritage Assessment Refinement of Proposed Off-Site Infrastructure Improvements*. Oxford Archaeology.

OA (March 2003) *The (London Gateway Commercial And Logistics Centre) Outline Planning Application 2002: Cultural Heritage Assessment Refinement Technical Report Volume 1 with Appendices M, N, O, P, R, S* Oxford Archaeology.

**APPENDIX TWO  
ARCHAEOLOGICAL MITIGATION FRAMEWORK**

**APPENDIX THREE**

**NEW ACCESS ROAD AND RAIL CORRIDOR:  
WRITTEN SCHEME OF INVESTIGATION**

Currently in preparation

## London Gateway Port Channel Clearance: Progress Report

### 1.0 Introduction

A series of archaeological investigations is underway into the wreck sites and obstructions that are likely to be affected by the London Gateway Port project. Investigations to date have included sidescan and multibeam survey, archaeological diving and desk-based research resulting in the preparation of a Clearance Mitigation Statement (CMS) for each site. The CMS sets out the known history of the site, its likely archaeological importance and details of any necessary mitigation measures. By Autumn 2007, CMS were complete for many of the sites but archaeological diving investigations had been identified as necessary for 14 sites comprising both known and unknown wreck sites and obstructions.

### 2.0 Outcome of Phase I Diving Operations

A Phase I diving programme comprising 14 days of diving commenced in November 2007. Due to adverse weather and difficulties with the mooring system of the vessel the diving was extended over a period of 27 days but, due to ongoing forecasts of adverse weather, the vessel was finally demobilised in December 2007 before all the sites could be visited. Table 1 summarises the progress at each of the sites.

Table 1 Summary of Dive Programme Results

Site ID	Site Name	Dive Status	Outcome	EH Agreement Y/N
5056	East Oaze Light Vessel	Not Dived	-	-
5100	Dynamo	Not Dived	-	-
5960	Storm	Not dived	-	-
5961	Erna Boldt	Not Dived	-	-
5012	Dovenby North	Dive Complete	No further work	Y
5046	Wreck NW SR1	One dive	Further dive required	Y
5050	Mound	Dive Complete	No further work	Y
5051	Old Timbers	Two Dives	Further dive required	Y
5124	Unknown Wreck	Not dived	Diving required	Y
5185	Ancient Wreck	Dive Complete	No further work	Y
5230	Brick Barge	Dive Complete	Watching brief during PLA salvage	Y
7345	Carvel Planking	Dive Complete	Watching brief during PLA salvage	Y
7404	60m Feature	Dive Complete	No further work	Y
7563	Anomaly	Dive Complete	No further work	Y

The outcome of the diving can be divided into three categories:

1. Sites for which no further pre-salvage archaeological investigation is required (shaded grey);

2. Sites for which additional diving investigation is required (shaded orange); and
3. Sites that were not dived (shaded yellow).

The proposed approach for each category is set out in Sections 2.1-2.2 of this note.

## **2.1 Named Wreck Sites**

Due to the adverse weather conditions only one of the named wreck sites was dived during the Phase I programme. The objective for the diving was to confirm the identity of the vessel. In practice the dive provided little or no useful information and it has become apparent that given the limitation of diving in the Thames Estuary (limited to no visibility and dive time restricted to slack water) such an objective is not achievable. To successfully confirm the identify of a vessel an extended period of diving would be required and the cost of such diving is considered to be disproportionate to value of the knowledge gained. It is, therefore, proposed that the future mitigation for the four known wreck sites is revised to a watching brief during salvage or resettling operations.

## **2.2 Unknown Wreck Sites**

The diving has proved a useful exercise for the various unknown wreck sites and, on most occasions, two dives were sufficient to allow the character of a site to be assessed. The majority of the unknown sites have been confirmed as natural features or anthropogenic features of limited or no archaeological interest. For two sites the diving has provided sufficient information to allow a salvage operation to be designed with archaeological recording to an appropriate level. This approach has previously been agreed with English Heritage (EH) for the Pottery Wreck. An outline of the proposed salvage methodologies is set out below and detailed briefs will be prepared in due course.

- 5204 Pottery Wreck: wreck pieces will be recovered into a barge with archaeological recording onshore. Should the size of the wreck prevent this approach then archaeologists would be permitted to undertake some airlifting of the site prior to clearance using mechanical means. Depending on the nature of the wreck fragments or finds onshore recording is anticipated.
- 5230 Brick Barge: the wreck will be removed using mechanical means with, where practical, archaeological recovery and recording of any finds of interest.
- 7345 Carvel Planking: the wreck will be removed using mechanical means with archaeological recovery and recording of any finds of interest.

A further programme of diving is required to finalise the character of the three sites shaded orange in Table 1. For two of the sites it was not possible to undertake two dives due to adverse weather conditions while diving at the third site (5051) suggests a wooden wreck of potential interest and the objective of the further diving is to resolve its likely age. Should the site prove to be of interest then some airlifting and intrusive investigation may be carried out to inform the assessment of mitigation requirements.

### **3.0 Uncertain Archaeological Sites**

Following the initial archaeological review of the sidescan and multibeam anomalies in 2005, 113 sites were identified as being of uncertain archaeological interest. It was agreed that a sample of these sites should be subject to further survey and the results used to characterise the remaining sites by comparison with the sites studied. As the initial data was of poor quality PLA undertook a further sidescan survey of the Yantlet Channel. The analysis of this survey data has confirmed that while a number of the anomalies are considered to be 'real' anomalies, a large majority either did not exist or could be attributed to other features such as natural bedforms, mooring buoys or reflections from vessels. The total of 113 sites has now been reduced to 55 sites that may have some archaeological interest. These sites are generally small in footprint and it is not considered that targeted surveying will allow any further resolution of their nature. Similarly as the sites do not generally comprise any significant features protruding from the seabed diving is not considered to be viable. Given that the total number of sites has been reduced significantly and also taking into account that the results of the diving found that most sites that were not recorded as actual wreck sites were actually bed features or debris fields there does not seem to be justification for further investigation during this stage of the works. It is proposed that the sites are brought to the attention of the Dredging Contactor by inclusion within the Dredging Reporting Protocol.

### **4.0 Dredging Reporting Protocol**

It is intended that known wrecks and obstructions will be cleared prior to dredging commencing, however, there are three categories of site for which a Dredging Reporting Protocol will be required. These categories are as follows:

1. Uncertain archaeological sites (as described above) – the Contractor will be provided with maps of areas of archaeological potential, advised to monitor the dredger for indications of anthropogenic material and be required to comply with an agreed procedure for investigation and recording should any items be discovered.
2. Important archaeological sites – the navigation channel has been moved to avoid three important wreck sites and an exclusion zone will be placed around these sites during the dredging operations. Further, there will be a requirement for monitoring of the sites using appropriate survey techniques to confirm that dredging operations are not indirectly impacting the sites.
3. As yet unknown sites – should a wreck be discovered during dredging then the Contractor will be required to cease dredging in the area while archaeological investigation is undertaken. An exclusion zone will be placed around a site during this process.

The Dredging Reporting Protocol is in preparation as part of the wider LGP Archaeological Methods & procedures Framework and will be provided to EH for agreement.

### **5.0 Programme**

The diving and PLA salvage operations are likely to be carried out from February 2008 onwards depending on the availability of vessels and likely periods of good weather. Salvage of the large wreck sites and resettling of the

Dynamo and East Oaze Light Vessel will be undertaken by contractors and the timescale is not yet known. It is understood from DP World that dredging is likely to commence in the late Summer/Autumn of 2008. Further information will be provided to EH as it becomes available.

Nicola Clay  
River Regime & Environment Manager  
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