



This document is shared for the purposes of learning legacy. It is a snapshot in time and hence many of the links within the document will become obsolete over time. Some links will refer to a document storage location that isn't accessible. Users should refer to the learning legacy website where these documents may be published separately.

Sustainability and Consents – Environmental Management

Environmental Design Management Procedure

Document Number: CRL1-XRL-N2-GPD-CR001-50001

Current Document History:

Revision:	Effective Date:	Author(s) (‘Owner’ in eB *)	Reviewed by: (‘Checked by’ in eB *)	Approved by:	Reason for Issue:
3.0	04-01-16	██████████	██████████	██████████	This document has been reviewed and is fit for continued use

Previous Document History:

Revision	Prepared Date:	Author:	Reviewed by:	Approved by:	Reason for Issue
1.0	17-11-09	[REDACTED]	[REDACTED]	[REDACTED]	Issued for first usage
2.0	24-10-11	[REDACTED]	[REDACTED]	[REDACTED]	Amended for integration CRL EDM checklist included

Revision Changes:

Revision	Status / Description of Changes
3.0	Updated CMS formatting

Learning Legacy Document

Contents

1	Purpose	4
2	Scope.....	4
3	Definitions	4
4	Responsibilities	4
4.1	Framework Design Consultants.....	4
4.2	Construction Contractors.....	4
4.3	Crossrail Engineering Manager	5
4.4	Crossrail Environmental Advisor.....	5
5	Procedure.....	5
5.1	Environmental Design Management Checklist	5
5.2	Audits.....	5
6	Reference Documents.....	5
7	Environmental Design Compliance Statement Checklist	6

Learning Legacy Document

1 Purpose

The procedure outlines the processes necessary for the Central Section design to achieve compliance with the environmental requirements in the Crossrail Act, the Crossrail Environmental Statement and the Environmental Minimum Requirements, or where the design does not achieve compliance, provides a framework for the identification of a non-compliant design.

2 Scope

This procedure applies to the environmental management of all design work undertaken in the Central Section.

3 Definitions

CRL	Crossrail Ltd
CS	Central Section
EDM	Environmental Design Management
EMR	Environmental Minimum Requirements - The requirements of the memoranda and agreements on planning, heritage and related matters, in the form reasonably required by the Secretary of State, including but not limited to the Planning and Heritage Memorandum, listed building agreements and overarching archaeological written scheme of investigation and all the undertakings and assurances concerning the project specified in the "Crossrail Bill Register of Undertakings, Assurances and Statements of Current Intention"
FDC	Framework Design Consultant
GATE Review	Stage gate review of design that requires (amongst other things) assurance that the design meets EMR, prior to further development of design and construction

4 Responsibilities

4.1 Framework Design Consultants

Responsible for ensuring that the Framework Design Consultant (FDC) design complies with the Environmental Minimum Requirements (EMR).

- Production of environmental materials including the Environmental Design Management (EDM) checklist to provide evidence that the design is compliant with the EMR.

4.2 Construction Contractors

Responsible for ensuring that any design work (temporary or permanent), complies with the EMR.

- Production of EDM checklist to provide evidence that the design is compliant with the EMR, based on requirements set out in relevant sections of the Works Information.

4.3 Crossrail Engineering Manager

The Engineering Manager is responsible for instructing the FDC and/or construction contractors to produce an EDM checklist as appropriate/required for Work Orders.

4.4 Crossrail Environmental Advisor

The Environmental Advisor is responsible for reviewing any EDM checklists produced by the FDC and/or construction contractors and, in conjunction with the Engineering Manager, agreeing the need for production of an EDM checklist for any Work Orders.

5 Procedure

5.1 Environmental Design Management Checklist

The EDM checklist template is the form which is used to record the assessment of the environmental impacts of the design to confirm whether new significant environmental impacts are likely to occur. The checklist is referenced in the following documents to ensure the identification of any new significant impacts (thereby providing assurance of compliance with the EMR):

- Engineering Design Assurance Gates Procedure CRL1-XRL-O7-GPD-CR001-50015
- Contract Administration Manual covering Design Package Orders with Supplemental Agreement
- Works Information (contract requirements for construction contracts)
- Scope Part A (contract requirements for FDCs)

5.2 Audits

Construction contractors and FDCs are audited by Crossrail and the EDM checklist is included as part of those audits as appropriate to the contract.

6 Reference Documents

Ref:	Document Title
1.	The Crossrail Act, 2008
2.	Crossrail Environmental Statement (including Supplementary Environmental Statements and the Amendment of Provisions Environmental Statements)
3.	Environmental Minimum Requirements

7 Environmental Design Compliance Statement Checklist

The Development Team Consultant hereby confirms that this checklist has been completed in accordance with the procedure.

Document No:		Revision:	
Sub-Package:			
Location of Works:			
If change proposed does NOT identify increased or new environmental risk then state rationale here & disregard rest of form			
Completed by:	Date:	Approved by (Project Manager):	Date:

Environmental Criteria:

General – worksites	2
Traffic and Transport – temporary works	2
Traffic and Transport – permanent works	4
Noise and Vibration	4
Air Quality	4
Archaeology	4
Built Heritage, Landscape/Townscape and Visual Amenity	5
Lighting	6
Electromagnetic Interference	6
Ecology	7
Contaminated Land	7
Water Resources	7

Environmental Criteria	Compliant	Non-compliant: justification	References
General - worksites			
No additional areas of land are to be used as worksites (enabling works and main works).			Worksites are defined by the mapping in the ES which show the land areas used for assessment.
Traffic and Transport - temporary works			
Worksites – No increase in scale of activity compared to that set out in the ES. If not compliant:			ES Volumes 8b to 8d. AP ESS & SESs
a) does this trigger requirement for amended or new lorry route (assuming Bill criteria of <24 per day now exceeded)?			Lorry routes as shown in ES volumes 8a to 8d and SESs mapping
b) does this trigger new impacts in accordance with the transport assessment criteria which cannot be mitigated?			ES Volume 8a, Chapter 5. Note in particular para 5.2.
c) does this trigger worsened traffic impacts (e.g. greater number of lorry movements) for which the committed mitigation in the ES is no longer adequate?			ES Volumes 8b to 8d, AP Ess and SESs
d) does this trigger requirement for new temporary access? If so, will impacts arise on public transport, bus stops/stands, taxi ranking, parking, footways/footpaths and crossings?			ES Volumes 8b to 8d, AP Ess and SESs
e) for on-street worksites are there any other impacts on public transport, bus stops/stands, taxi ranking, parking, footways/footpaths and crossings?			
f) does this trigger requirement for new on-street lorry holding areas?			ES Volumes 8b to 8d, AP Ess and SESs
g) does this trigger more intensive use of the existing lorry holding areas that could result in additional impacts on the road network?			ES Volumes 8b to 8d, AP Ess and SESs
h) does this trigger increases in lorry numbers resulting in a new community impacts?			ES Vols 2 and 3 in community section. For criteria refer Table 11.1 in Volume 5 of ES and T&T assessment tables.
If there is a proposed change to worksites as defined above:			

Environmental Criteria	Compliant	Non-compliant: justification	References
a) have the impacts changed?			ES Volumes 8b to 8d (especially tables at the end of each Route Window), AP Ess and SESs
b) are the mitigation measures as set out in the ES still relevant and capable of implementation?			ES Volumes 8b to 8d (especially tables at the end of each Route Window), AP Ess and SESs
c) are there any reasons why the committed mitigation measures cannot be implemented? If yes, what are the reasons why they cannot be implemented, and what other mitigation is proposed?			ES Volumes 8b to 8d (especially tables at the end of each Route Window), AP Ess and SESs
Is there any change to pedestrian diversions ? If so, are there any new impacts ¹ ?			Criteria in ES Volume 8a. For impacts refer ES Volumes 8b to 8d (especially tables at the end of each Route Window), AP Ess and SESs
No change to the traffic management assumptions used for assessment. If non compliant:			
a) are there any new impacts?			ES Volumes 8b to 8d, AP Ess and SESs
b) are the traffic management measures significantly different or is a wider area affected?			ES Volumes 8b to 8d, AP Ess and SESs

Traffic and Transport – permanent works			
No new permanent impacts resulting from a change in design.			Criteria in ES Volume 8a. ES Volumes 8b to 8d, AP Ess and SESs
No new mitigation measures required, particularly outside limits.			ES Volumes 8b to 8d, AP Ess and SESs

¹ For pedestrian diversions an assessment under the community criteria is also required - refer section on community.

No reasons why the permanent mitigation measures (described in the ES) ² cannot be implemented. If non compliant, why and what other mitigation is proposed?			ES Volumes 8b to 8d, AP Ess and SESs
Noise and Vibration			
No significant change to construction methodology and/or programme assumed for the ES (including possessions assumptions).			Assessment of noise and vibration impacts, Volume 1 of 8
No significant change to the position, alignment or type of fixed plant.			
Design of fixed plant compliant with specification			Information Paper D25
Design compliant with specification for airborne noise from operational railway			Information Paper D26
Design compliant with specification for groundborne noise			Information Paper D10
Air Quality			
Mitigation options available are sufficient to manage air pollution and dust at all sites.			
Archaeology			
If there is land disturbance outside worksites identified in the ES, this does not affect any scheduled archaeological monuments or archaeological protection zones.			ES mapping volumes (4a and 4b) Technical report on assessment of archaeology impacts – mapping volume
Site specific mitigation measures for in situ preservation as set out in the ES and mitigation register.			Environmental Statement Mitigation Register
If there is land disturbance outside worksites identified in the ES, no significant residual archaeological impacts will occur.			Methodology for assessing impacts set out in ES Volume 5 and technical report on Assessment of impacts on archaeology.
Built Heritage, Landscape/Townscape and Visual Amenity			

<p>Listed buildings. No demolition or modification to the whole or parts of listed buildings which are not set out in the first table in paragraph 1 of Schedule 8 to the Bill (as amended)</p>			<p>Schedule 8 to the Bill (as amended)</p>
<p>Listed buildings. Demolition or modification to the whole or parts of listed buildings which are tabulated in paragraph 1 of Schedule 8 to the Bill is in compliance with the relevant listed building agreement.</p>			<p>Listed Buildings Agreements</p>
<p>Listed Buildings. No additional significant construction vibration impacts on listed buildings.</p>			<p>Methodology for assessing vibration is set out in Technical Report, Assessment of noise and vibration impacts and in Technical Report, Assessment of impacts on heritage and landscape.</p>
<p>Listed Buildings. No additional listed buildings identified as requiring noise insulation.</p>			<p>Listed buildings assessed as requiring noise insulation are set out in Technical Report, Assessment of impacts on heritage and landscape.</p>
<p>Townscape. No demolitions of buildings which are not set out in the ES. If additional demolitions are proposed, note whether these buildings are located in a conservation area.</p>			<p>The scheme description in each route window of the ES sets out the demolitions which have been assessed for the ES.</p>

<p>Townscape & visual amenity. No additional loss of trees or vegetation above that set out in the ES and technical reports.</p>			<p>The ES provides information on commitments to retain trees and other vegetation. This is summarised in the Mitigation Register. The summary tables (section 5) and assumptions (section 6) in each route window of the Technical Report on Heritage and Landscape also contain relevant information which should be referred to.</p>
<p>Townscape & visual amenity. No change to height or footprint of permanent structures described in the ES.</p>			<p>The ES scheme description in each route window sets out the scheme which has been assessed.</p>
<p>No significant built heritage, landscape/ townscape or visual amenity impacts from the works as designed other than those identified in the ES</p>			<p>Methodology for assessment set out in technical report and Volume 5 of the ES</p>
<p>Lighting</p>			
<p>Lighting design undertaken in accordance with statutory requirements and key guidance publications and meets the criteria set out in the Institute of Lighting Engineers' guidance notes on the reduction of light pollution.</p>			<p>Statutory requirements and key guidance publications set out in Technical report on Assessment of Lighting Impacts.</p>
<p>No significant lighting impacts from the works as designed other than those identified in the ES.</p>			<p>Methodology for assessment set out in technical report and volume 5 of the ES</p>
<p>Electromagnetic Interference</p>			
<p>Design compliant with relevant standards (EN50121 and EN50122)</p>			<p>Guidance provided in ES Vol. 2, section 7.9.</p>

<p>Ecology</p>			
<p>New worksites or work areas within limits, especially in areas of vegetation. [e.g. new worksites requiring extensive clearance of vegetation]</p>			<p>The Ecology Technical Report refers to 'Work Areas' as well as work sites.</p>

No additional areas of dredging or working within watercourses			Limmo Peninsula and Manor Wharf 2005 Intertidal Studies (Jan 2006)
No additional trees to be removed or at risk from the works.			Tree Survey Feb 2005 (scheduled to be updated Autumn 2006)
No changes in programme: timing works outside of optimum seasons for protected species and/or fish			Limmo Peninsula and Manor Wharf 2005 Intertidal Studies (Jan 2006) Appendix B1 of the Environmental Statement
Contaminated Land			
No additional ground-break on potentially contaminated land over and above that described in the ES. If non-compliant:			Land Contamination Generic Activities Report Rev A January 2006
risk assessment carried out, and mitigation including remediation identified.			
Water Resources			
No additional works or change of works directly affecting surface watercourses, within 16m of watercourses (tidal) or 8m (non-tidal), or within floodplains (apart from Thames Tidal floodplain)			Flood Risk Assessments set out in Appendix H of Water Resources Technical Report. Floodplains (Jun 04) version in ES Volume 6b.
No significant changes in dewatering regime assumptions (e.g. deciding to dewater in Thanet Sands, or not dewatering stations in piecemeal (particularly valid Stepney Green to Plumstead)			Analysis of Impacts on Groundwater (and dewatering assumptions) set out in Appendix E of Water Resources Technical Report.

No new direct impact on groundwater abstractions			Groundwater abstractions identified in Appendix C of Water Resources Specialist Technical Report, and on ES Volume 6b.
No significant changes in depth or duration of underground works within Source Protection Zone (SPZ) or Time of Travel Zone (TTZ)			SPZs and TTZs identified in ES Volume 6b.
In particular, no intrusive works 10m below ground in Stratford to Manor Park area			SPZs and TTZs identified in ES Volume 6b.
No significant changes in track drainage			Assumptions contained in section 4.5.2 of Water Resources Technical Report.
No use of groundwater for M&E purposes (e.g. cooling)			Assumed excluded from works
Geological conditions not significantly different from anticipated (with respect to water table)			Geological information available at time of ES set out in Appendix C of Water Resources Technical Report
No significant increase in length of underground structures affecting shallow aquifer			Assumed length of structures set out in Appendix E of Water Resources Technical Report (Table E.17)