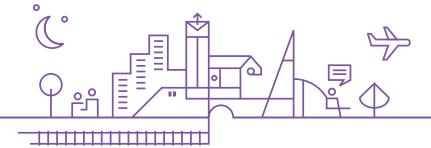


Environmental Impact Assessment Guide to:

Delivering Quality Development



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Note: This guidance is based on the best available information at time of production. As such, it makes the assumption the UK will transpose the 2014 amendments to the EIA Directive, as required by law.

Overview

This Environmental Impact Assessment (EIA) guide sets out key principles and direction to ensure that environmental mitigation identified during the pre-application assessment process (including design and EIA) is delivered once consent has been granted. EIA legislation requires that an Environmental Statement describes the measures proposed to mitigate any 'likely significant effects' of a development. These measures often include design elements of the project and environmental mitigation measures that are fundamental in the decision to give consent. Ensuring that such environmental mitigation is implemented is particularly important for those affected by a development project, the developer's corporate reputation and maintaining trust in the integrity of EIA.

The delivery of mitigation post-consent will be increasingly important as the EIA Directive (2011/92/EU as amended by 14/52/EU) is transposed into UK law in 2017. Amended UK Regulations will increase the importance of this part of the EIA process through the introduction of a requirement for mitigation and monitoring, where likely significant negative effects have been identified (Article 8a). This will, as a minimum, place much greater emphasis on the consenting authorities' to define clear monitoring requirements and environmental conditions as part of the consent.

The aim of this guide is to improve practice so that the efforts at the design and preapplication stage in developing mitigation are carried forward with equal momentum, understanding and management. The guide will improve EIA co-ordinators and practitioners understanding of the purpose and type of mechanisms to secure mitigation and their different roles in the delivery and management of environmental mitigation and effects.

Improving the delivery of mitigation post-consent will:

- Lead to better environmental outcomes and contribute to the delivery of high quality development;
- Demonstrate development conformance with application/consenting documentation and legislative requirements thereby reducing potential liabilities and legal issues;
- Embed environmental risk management and change management into the EIA process to achieve transparency between EIA and contractor environmental professionals;
- Ensure environmental professionals are acting to work more effectively together for the community and the developer;
- Establish viability of mitigation at an early stage and avoid it being eroded through value engineering post consent; and
- Build a continuous link or 'bridge' between the pre-application process and the implementation/operation phases.

In order to improve practice, this guide suggests the use of an Environmental Management Plan (EMP) as the primary mechanism which can sit alongside or within the Environmental Statement to document the conclusions reached and set out the actions needed to manage environmental effects during construction and operation of a development. The benefit of developing an integrated document/section to the Environmental Statement is that it can be updated alongside subsequent development phases to take account of evolving circumstances and additional, new information. It will also establish a suitable mechanism to link to planning conditions/obligations/consent orders.

This guide has been developed for EIA; however, its application can be applied more widely across other planning applications, where EIA is not required.

In the context of this guide:

- Mitigation means primary (inherent design), secondary (foreseeable) and tertiary (inexorable) measures. Further details are provided in Annex A.
- Environmental Statement means the report(s) that documents the EIA process (understood to remain as Environmental Statement following transposition of the new Directive).
- Planning Conditions means a set of further actions/commitments placed on consent to enable development proposals to proceed where it would otherwise have been necessary to refuse planning permission.
- Development Consent Order (DCO) means a process of obtaining consent for Nationally Significant Infrastructure Projects (NSIPs).
- Section 106 (S106) Agreement means a contractual agreement between a developer and consenting authority which make a development proposal acceptable in planning terms.
- Community Infrastructure Levy a levy by which infrastructure projects (including open space, education and highways improvements) can be delivered (only applies in England).
- Environmental Management Plan (EMP) means a document (or set of documents) that sets out the mitigation needed to manage environmental effects associated with a development during the construction and operational phases. By no means should this be a final document that would limit the implementation or evolution of the EMP.

- Environmental Management Systems
 (EMS) means a management system
 developed by an organisation to manage
 the environmental effects arising from or
 having an impact on their activities.
- EIA Coordinator individual (or team) leading and managing the EIA process and responsible for the overall delivery of the Environmental Statement as a single and effective decision making tool.
- EIA Practitioner individuals (or team) who are adequately qualified and experienced in the preparation of an EIA, or its component parts, and are considered competent environmental experts.

This Guide should be read in conjunction with the IEMA 'EIA Guide to Shaping Quality Development', November 2015 to understand the role of EIA in managing environmental risks from project inception to delivery on-site. Further details and advice on the development of EMPs can be found in Practitioner volume 11 EMP (IEMA, 2008) which acts as a valuable foundation and reference for both this and the above referenced Guide.

Principles

Underpinning the approach set out within this guide are three principles which provide an effective overarching framework to delivering quality development:

- Pro-actively collaborate with stakeholders, both internally within the project team (developer / designer / contractor / construction delivery teams) and externally (consenting authority and key stakeholders);
- 2. Present mitigation in a manner that generates buy-in and helps ensures transfer to mechanisms for delivery; and
- 3. Establish an effective change management process to ensure that mitigation set out in the initial consenting documentation is kept relevant to changes/additional information once the project moves into subsequent phases.

Pro-active collaboration with stakeholders

Consideration of mitigation should be undertaken from the earliest possible design stage following the completion of baseline data collection and appraisal. Any mitigation likely to be required can start to be identified and developed by competent environmental experts through interaction with the project team, consenting authority and key stakeholders. This will ideally include engaging the construction teams/contractors responsible for the delivery of the project or a suitable proxy earlier in the process. This approach maximises the likelihood of success and cost effectiveness of mitigation and ensures the technical and financial viability of mitigation can be rigorously evaluated.

This interaction should continue beyond the pre-application process, through the consenting process and into the implementation phases to ensure that mitigation is re-appraised as new information becomes available. Any modifications made to the mitigation, based on such information, should maintain or enhance the environmental outcomes originally identified through the EIA process. Continued consultation between internal and external stakeholders provides a feedback loop to monitor that mitigation identified in the EIA is being implemented, its intended purpose is met and any modifications are made to improve effectiveness.

Presentation

The development of mitigation through the pre-application assessment process should be documented in the Environmental Statement to meet the requirements of EIA legislation, and provide a clear picture of the way that mitigation has been developed to address potential effects identified.

EMPs should be used to document the conclusions reached in terms of mitigation actions/commitments to be taken forward. As such, an EMP acts as a 'bridge' between pre and post-consent process and is a key tool in risk and change management for the project. It is also a useful summary for stakeholders to digest easily and has the ability to be easily updated at subsequent development phases.

Effective change management process

There can be a considerable length of time between the undertaking of an EIA and the implementation of a development, with the timeframe for delivery of some mitigation even longer (i.e. landscaping planting and operational phase mitigation). Given the timescales involved, the mitigation set out in the initial consenting documentation may need to be modified. Therefore, mitigation principles developed during the pre-application process and the environmental effects they aim to reduce can be used to establish a framework sufficiently flexible to respond to development and amendment post-consent.

Depending on the nature of the planning application, the principles of mitigation may be defined but the detail not known.

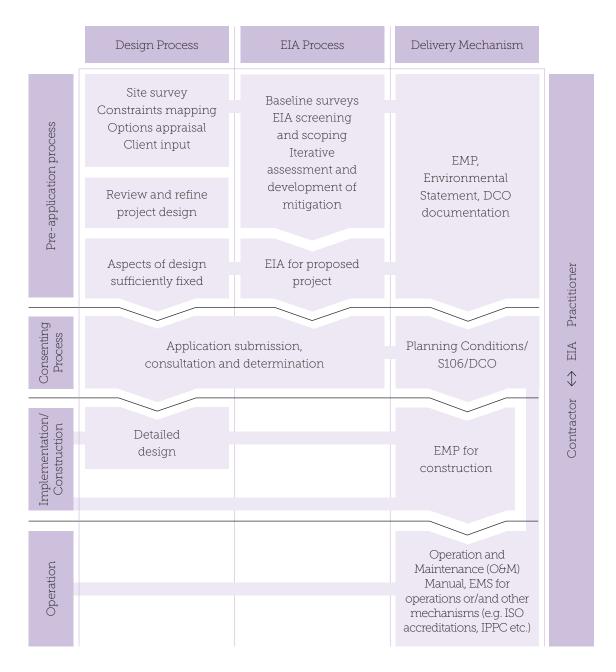
As further detailed design information becomes available, amendments and greater detail will be required by competent environmental experts to ensure the actions/commitments identified remain relevant as the project moves to implementation/ construction and operation.

To ensure the delivery of mitigation whilst allowing it to develop, there should be a defined change management process through the lifecycle of the project. The responsibility will rest with the competent environmental experts who should ideally be retained throughout the project. Where this is not possible, a handover and briefing between teams is essential. EMP's can be modified at each stage but a clear audit trail must be provided. Each modification should be explained and recorded. A documented and transparent process facilitates the continuous evaluation of mitigation in terms of detail and deliverability.

Interaction of Design, EIA and Mitigation Delivery Mechanisms

Figure 1 sets out the interactions between the EIA and design process and the different mechanisms available at each stage of the project lifecycle that can be used to capture and deliver mitigation. Further text on each stage is provided below.

Figure 1: The link between Design and EIA processes and Mechanisms to Deliver Mitigation (Adapted from Lochner 2005)



Pre-Application Process

Whilst the mitigation developed through the pre-application process will be documented within the Environmental Statement (and other application material, including Design and Access Statement etc.), an EMP can capture mitigation in a single location (see Box 1).

An EMP can be used to both improve proportionality of EIA practice and secure environmental mitigation early on in the process, even at the Screening and Scoping stages. This has the benefit of identifying environmental topics and effects for which, with the implementation of mitigation, there may be no 'likely significant effects'. The consenting authority and stakeholders should be part of this process. This can help to ensure that only significant topics/effects that would remain following the adoption of the EMP are taken forward into assessment. During the EIA, an EMP can be developed further refining and adding mitigation measures alongside the iterative scoping process, e.g. following the completion of baseline surveys or modelling/assessment.

Contractors should be involved in the development of mitigation as part of the design team. If contractors are not appointed, professional contractor advice should be sought. IEMA Research (2008 and 2011) has identified that consultation with the contractor is amongst the most crucial actions that need to be undertaken if mitigation is to be successfully implemented alongside developer and key stakeholder buy-in.

At submission, the primary mitigation (see Annex A) will be clearly controlled through the implementation of the development in accordance with consented plans unless the EIA Co-ordinator considers that their implementation may benefit from a summary section within the EMP. The EMP

prepared as part of a planning application will simply focus on the secondary and tertiary mitigation (see Annex A) to the consenting authority and stakeholders in accordance with earlier discussions.

Consenting Process

Once the application has been submitted, the consenting authority and their stakeholders will review and evaluate the Environmental Statement, including the mitigation proposed within it or as part of an EMP. This should be used to form the basis of planning conditions or obligations (under a S106 Agreement) or contribution to the Community Infrastructure Levy to ensure their delivery following consent. On-going interaction between the EIA team and these stakeholders through this process is key to ensure that mitigation identified will be delivered postconsent. The EIA co-ordinator should maintain a record of these discussions (potentially through updating the EMP). It is also important to ensure that consideration is given to other existing consent regimes (e.g. Environmental Permitting) that may require/obligate particular environmental mitigation/standards to be achieved and duplication is avoided.

Implementation/Construction

Following consent, a Construction EMP (CEMP) outlines the relevant mitigation identified at the pre-application and consenting stage. As additional design or construction information becomes available, the CEMP should amend and further develop relevant content from any previous EMP and evolve this through consultation and direct input from the project team (and ideally the EIA co-ordinator and practitioners). This will ensure the mitigation measures outlined within an Environmental Statement and supporting EMP continues to be achievable, viable and deliverable by a contractor.

Operation

Once operational, an O&M Manual addressing the environmental effects arising from the operational activities of the development can be created based on the EMP developed at the pre-application and consenting stage or the CEMP prepared prior to construction. This document should set out the long term management of a site over the lifespan of the project to ensure that environmental objectives are achieved and the management

regimes are compatible with any existing EMS or other environmental consenting regime (e.g. permitting). The use of an O&M Manual also provides the opportunity to feedback the success or failure of mitigation. The establishment of such a longer-term feedback mechanism could assist in the development of more environmentally and cost effective EIA and improve the quality of mitigation for future projects.

Box 1 - Overview of EMPs and Operational and Maintenance (O&M) Manuals

EMP - A site-specific plan developed to ensure that all necessary measures are identified and implemented in order to mitigate environmental effects and comply with legislation. It should act as a 'live' document allowing it to be updated as new information/details of how mitigation will be achieved.

The EMP should:

- Identify roles and responsibilities;
- Set specific, measurable targets and standards that must be adhered to;
- Identify risks and establish mitigation measures; and
- Establish procedures for communication, monitoring and reporting.

An EMP during the construction stage is often known as a Construction EMP or CEMP. Consenting authorities often require a CEMP to ensure that the developer is committed to the implementation of mitigation measures identified as part of the EIA at the construction stage.

O&M Manual - An O&M Manual is a 'live' document that identifies the environmental risks and legal obligations associated with the operations of the development once it's construction has been completed. It specifies the management measures the operator will implement in order to prevent or minimise the environmental effects associated with the project. The Manual should be compatible within the operation of the development and should link / sit within any existing EMS, Permitting Regime etc.

The O&M Manual should:

- Set out roles and responsibilities;
- Outline general management requirements, including training, records, monitoring and reporting;
- Identification of environmental effects and risks;
- Identification of mitigation measures; and
- Identification of delivery outcomes and assurance that mitigation and enhancement needs of EIA have been completed.

Framework for Delivering Post-Consent

Figure 2 sets out the framework of action areas for the delivery of the principles to ensure that environmental mitigation identified in EIA is successfully implemented post-consent.

Figure 2: Framework of Action Areas to Deliver Post-Consent Principles

Principles		Framework of Action Areas		
1) Pro-active Collaboration with stakeholders	А	Internal communication	External engagement	Documentation
2) Presentation	В	Specific	Visik	pility and Mobility
3) Effective change management process	С	On-going involvement	Effective handover	Alterations and Version Control

A.1 Internal Communication

There should be interaction between the EIA co-ordinator and all members of the project team (e.g. developer, project manager, architects, engineering and environmental specialists etc.) during the design and specification of mitigation to ensure that the requirements are clear and tested. This will reduce risk and improve the likelihood of successful delivery.

There should be early on-going interaction with the construction teams and contractors or their representatives during the formulation of mitigation to ensure that measures are viable and are factored into construction costs. If this is not feasible (e.g. at the outline stage), then professional contractor advice could be sought.

The EIA co-ordinator and practitioners should engage with internal stakeholders early in the pre-application process as all team members have a role in identifying opportunities to avoid adverse effects or maximise benefits. They offer different perspectives on the form of mitigation (primary, secondary and tertiary – see Annex A) that would be the most suitable to deliver the environmental outcome required/proposed. This has the benefit of developing and refining mitigation through an iterative process rather than 'bolting on' such measures on at the end. This allows mitigation to be embedded into the design, where possible, and allows sufficient time for measures to be tested for financial and technical viability/feasibility before being included in the application/consenting documentation. Such discussions can also ensure that there is buy-in and commitment from the applicant and internal stakeholders.

A.2 External Engagement

External engagement should be informed by sufficient project detail and baseline information. Proactive engagement with the consenting authority and external stakeholders regarding mitigation, demonstrates to these parties that measures are being considered to address potential negative environmental effects. This engagement can help build confidence that their concerns will be addressed and mitigation will be delivered. The mitigation submitted as part of a planning application can also set out a vision for the long term environmental objectives of a proposal such as including ecological enhancements, creation of public rights of way and increasing access to open space. The presentation of such mitigation in an Environmental Statement or an EMP at this stage facilitates proactive engagement with stakeholders to define long term environmental objectives in line with the objectives of the International Association of Public Participation.

Importantly the mitigation needs to be agreed and understood by the consenting authority and key stakeholders and time should be allocated for this. This may mean that the EIA co-ordinator arranges meetings that present the mitigation proposals to the consenting authority and other external stakeholders. However, such engagement should be clear about the opportunity to influence the development and the forms of mitigation available (primary, secondary and tertiary) in order to avoid consultees feeling that their input has been ignored. It is also important that the format and timing of such engagement takes into consideration wider design matters as well as the planning and EIA process.

External engagement of this nature helps to speed up the consenting process through: early resolution of concerns; understanding and agreement to mitigation/conditions in advance of planning submission; and engendering a sense of external party ownership of the project.

A.3 Documentation

All key decisions regarding mitigation from the earliest stage should be documented, detailing what was decided and the rationale behind the choices made. The recording process should be managed by the EIA co-ordinator and should be undertaken on an ongoing basis to ensure the most up to date information is captured. Until planning submission, this information can be recorded as part of the EIA and summarised within the Environmental Statement. Following submission, an EMP provides an effective tool to track the list of mitigation to ensure their transposition into conditions, management plans or detailed design.

As the project progresses, it is key to review earlier decisions to ensure that a new decision does not reverse something important that was decided previously, particularly as the team members involved are likely to change as the project advances. Record keeping is also valuable in dealing with post-consent modifications, as it clearly flags up those aspects of mitigation that have been relied on in reaching judgements and which may require re-assessment if amended. An EMP, alongside other tools such as Building Information Modelling (BIM), can play a pivotal role in documenting these items, acting as a key method of communication between consenting authorities, partnering developers, stakeholders and contractors.

B.1 Specific

During the pre-application process, the development of mitigation should focus on the likely significant effects to ensure that mitigation is proportionate.

To be effective, mitigation must be understandable, practical, justified and specific. It should contain locations and timescales for implementation, indicators/measurements of success and responsibilities. The level of detail provided on mitigation will be commensurate with the stage of the development. As such, at planning application stage the Environmental Statement/EMP is likely to have less detailed information with further detail and updates being added during subsequent stages. As such, the inclusion of wording that does not have to be 'changed' or 'deleted', but that can be added to, may help to ensure this flexibility, for example 'the contractor will provide a traffic management plan prior to the commencement of development, rather than setting rigid environmental thresholds that the final development should achieve. If the mitigation is not yet able to be identified at a stage, a clear timetable and process for further consultation in subsequent phases should be set out. This allows the development of a mitigation framework for ensuring and demonstrating compliance with legislative requirements and outlines a commitment to a certain level of environmental performance.

IEMA Research has shown the difficulties in linking EIA derived environmental mitigation to planning conditions and obligations as during the implementation phases, conditions and associated documentation tend to supersede the Environmental Statement. Therefore unless carefully transposed, many measures can be lost. In one study, approximately half the environmental mitigation measures proposed in Environmental Statements were not required through planning conditions or obligations, casting doubt as to

whether they would be implemented. To ensure environmental mitigation measures proposed can be translated into planning conditions or obligations that are enforceable and precise, greater attention is needed by EIA co-ordinators to frame mitigation appropriately.

Within planning law, planning conditions imposed on planning permission can be used where such conditions pass four tests as follows:

- 1. Necessary;
- 2. Relevant to planning and to the development to be permitted;
- 3. Enforceable; and
- 4. Precise and reasonable in all other respects.

From May 2017, the UK's amended EIA Regulations will include a requirement for mandatory implementation of mitigation identified to alleviate or minimise significant environmental effects, to conform with Article 8a of the amended EIA Directive.

When developing mitigation, EIA co-ordinators and project team members (e.g. planners, lawyers) can review and advise whether the measures proposed and the way in which they are presented meet these tests to facilitate their transposition during the consenting process. This should also reduce the instances of the use of standard conditions by consenting authorities and stakeholders which may not be proportionate to the project and the likely significant effects identified.

B.2 Visibility and Mobility

The mitigation identified through the pre-application assessment process need to be clearly identifiable within the application material to enable an understanding by all parties involved, including the applicant (in terms of what they are signing up to), consenting authority (to understand what mitigation needs to be implemented post-consent) and external stakeholders (to enable an understanding of what will be implemented).

Issues are increasingly designed out of EIA through good practice iterative and interactive design. To guarantee the transfer of primary mitigation, this should be clearly included in the project description and illustrated on associated plans. Secondary and tertiary mitigation should be outlined separately and clearly. As Environmental Statements can be complex, long documents, EIA co-ordinators need to ensure that mitigation measures are easy to locate, both within each topic chapters and preferably in an overall single summary. An EMP can act as such a summary highlighting the secondary and tertiary mitigation (although primary mitigation can also be included if the EIA co-ordinator thinks this is appropriate – for further information on mitigation typologies see Annex A).

C.1 On-going Involvement

Following planning submission, the EIA co-ordinators should have an on-going involvement during the consenting process to ensure that the mitigation measures identified through the EIA are properly transferred into consent documentation and associated conditions/ obligations. Furthermore, during discussions and negotiations with consenting authorities and stakeholders, alterations to mitigation measures originally proposed may be made. The EIA co-ordinator should track such alterations and feedback whether these will change the outcome reported in the Environmental Statement and other application material. If changes are identified, further iterative assessment may be required and submitted as supplementary information. The overall outcomes of the consenting process should be documented in the EMP to maintain an accurate record of what has been agreed.

Where possible, following consent, the EIA co-ordinator should maintain an on-going involvement into the implementation phases to assist with the delivery of mitigation.



C.2 Effective Handover

Where on-going involvement of the EIA co-ordinator is not possible, there is a clear need to hand over environmental knowledge and responsibilities from those that led the EIA to the contractor or environmental clerk of works. At this juncture it is important that the teams implementing the consent understand the purpose and rationale behind the mitigation.

EMPs are effective tools at presenting such information by acting as a 'bridging' document between the pre-application/consenting processes and implementation phases.

This handover could also be supplemented through the delivery of training or meetings.

C.3 Alteration and Version Control

During the implementation/construction and operational phases, there will be a need to manage any necessary alterations to the proposed mitigation as new, additional information comes to light. Such information will come from a variety of sources including consultants/contractors/construction teams; consenting authorities and key stakeholders. It will require careful version control to avoid duplication and conflicts. By maintaining the EMP as a 'live' document throughout these phases, it can act as a reference point for all parties so that any required alterations are well informed and communicated and the original intension of the mitigation is not compromised.

Annex A: Classifying the three types of Environmental Impact Assessment mitigation

Mitigation Description	
Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not regard additional action to be taken. Key principles: Action at the top of mitigation hierarchy, with greater ability to avoid important the design progresses and stabilises. Primary Become a fundamental part of the design seeking consent. Described in detail within the ES project description. Examples include: Reducing the height of a development to reduce visual impact. Identifying a key habitat or archaeological feature that should remain unaffected by the development's layout and operation: e.g. retaining an unimproved grassland area in situ as part of an open space strategy. Developing a transport strategy that reduces trips, avoiding the need for junction improvements.	uire pacts.

Mitigation	Description
Secondary (foreseeable)	Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the ES. Key principles: A flexible form of mitigation that can be proposed at any point within the EIA process, including during the decision-making process. Tend to operate in the middle of the mitigation hierarchy, focusing on reducing the significance or likelihood of adverse effects. While they would be integrated into the application for consent, this form of mitigation requires additional action post-consent, beyond the core function of the development, to be implemented. Carry a greater risk of non-implementation or ineffective application post-consent than primary or tertiary mitigation. Best managed through an environmental management plan. Examples include: Describing certain lighting limits, which will be subject to the submission of a detailed lighting layout as a condition of approval. Providing a transport or movement framework, underpinning a Section 106 (Town and Country Planning Act 1990 (as amended)) commitment to provide public transport or limit car movements through operational planning.

Mitigation	Description
Tertiary (inexorable)	Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects. Key principles: Can be identified at any point during the design and EIA process. The least flexible form of mitigation – either they exist, or they do not. The EIA Co-ordinator must be confident that any tertiary mitigation identified is very likely (>90%) to occur without further specific activity being undertaken within the EIA process. It is helpful, but not strictly necessary, to include tertiary mitigation related to construction activities, within a draft Construction Environmental Management Plan (CEMP) (or similar) included in the ES, to ensure that these actions are highlighted to the principal contractor. Examples include: Applying emission controls to an industrial stack to meet the requirements of the Industrial Emissions Directive (Directive 2010/75/EU). Considerate contractors' practices that manage activities which have potential nuisance effects.

Annex B: References and Further information on Delivering Post-consent

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Notes:

