

Interim Advice Note 84/10 Part 1

VOLUME 10	ENVIRONMENTAL DESIGN AND MANAGEMENT
SECTION 0	HIGHWAYS AGENCY ENVIRONMENTAL INFORMATION SYSTEM –EnvIS

PART 1

INTRODUCTION

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1 INTRODUCTION

1.1 DMRB ENVIRONMENTAL STANDARD

This Interim Advice Note (IAN) introduces the amendments to the current Volume 10 Section 0 of the Design Manual for Roads and Bridges (DMRB), intended for use by the Highways Agency (HA) and Service Providers. Whilst this document is presented as an IAN, its use should be regarded as a Standard and therefore all mandatory requirements will apply.

1.1.1 Mandatory Sections

Sections of this document containing requirements are identified by being contained in boxes. These requirements must be complied with or a prior agreement to a Departure from Standard must be obtained from the Overseeing Organisation. The text outside boxes contains advice and explanation.

While this Standard provides guidance on the recording and submitting of environmental data, it is possible that there will be unique situations where a requirement of the Standard is inappropriate or that an aspect is not covered by the Standard. GD 01 (Introduction to the Design Manual for Roads and Bridges) provides further details on the process of applying for a Departure from Standard.

1.1.2 Departure from Standards

Unless a departure has been agreed, the implementation of the processes described in this Standard must be applied to all Network Areas and projects for which the HA is the highway authority. If it is not considered necessary for this Standard to be applied, approval for Departure from Standards must be obtained from the HA with the departure application clearly stating why this Standard should not be applied.

1.1.3 Equality Impact Assessment

This IAN promotes consistency of recording of environmental data relating to the maintenance and operation of the environmental estate. Any adverse or beneficial impacts that result from the introduction and adoption of this guidance are not expected to discriminate against any defined group in society. No equality impact assessment has been carried out in the development of this Standard as it is not considered relevant.

1.1.4 Risk Assessment

This IAN promotes consistency of recording of environmental data relating to the maintenance and operation of the environmental estate. Any adverse or beneficial impacts that result from the introduction and adoption of this guidance are not expected to result in implications for health and safety. No risk assessment has been carried out in the development of this Standard as it is not considered relevant.

1.1.5 Implementation

This IAN must be used forthwith by those engaged in the assessment, design, construction, operation and maintenance of the existing and proposed strategic road network. roads except where the procurement of works has reached a stage at which, in the opinion of the Highways Agency, its use would result in significant additional expense or delay progress (in which case the decision must be recorded). This document replaces IAN 84/07.

1.1.6 Feedback

Attention is drawn to the requirements of DMRB Standard GD 03/08 to generate feedback reports to help improve the performance of standards.

1.2 SCOPE

This Standard applies to England only as it has been developed specifically to cater for the HA's requirements. However, relevant Overseeing Organisations in Scotland, Wales and Northern Ireland may voluntarily choose to utilise the system described, either as a whole or in part.

1.3 HISTORY AND BACKGROUND

One of the HA's prime objectives, as indicated in corporate documents such as the Business Plan, Sustainable Development Action Plan, and Environment Strategy, is 'Respecting the Environment'. In all activities the HA seeks to *'protect the environment by minimising the impact of the strategic road network on both the natural and built environment and deliver opportunities for enhancement'*.

In order to meet this and related environmental aims, objectives and targets, the HA has developed various systems and processes, which specify the environmental management requirements of both the HA and Service Providers. This includes the Environmental Information System (EnvIS), described in this Standard.

1.3.1 EnvIS and the Environmental Database (EDB)

EnvIS replaces the Environmental Database (EDB) previously described in DMRB Volume 10 Section 0. The basic principles of the EDB and EnvIS are the same, in that they both provide a consistent system for defining and categorising the man-made or natural Elements that comprise the environment within and surrounding the strategic road network. In recognition that the needs of the HA have evolved over time, EnvIS has sought to build on the approach defined in the EDB, to further develop a system that will assist the HA in meeting its current and future business objectives.

There are four key differences between the EDB and EnvIS:

- all Service Providers are required to comply with EnvIS, whereas the EDB was primarily limited to Network Management Agents;
- the EDB principally focussed on Elements associated with the Landscape topic, whereas EnvIS requires data to be recorded and retrieved relating to a number of environmental topics;
- EnvIS goes beyond the basic principles of defining and categorising Elements by including information on their management during the design, construction, maintenance and operation of the strategic road network; and
- the provision of data to the HA as part of EnvIS occurs on a more frequent basis than that required by the EDB, and consequently provides a more realistic picture of the condition of the environment at any given time.

EnvIS provides a robust mechanism for the HA to record specific and more comprehensive data on identified Elements. This in turn will assist the HA in the review and reporting of environmental performance in both the improvement and management of the strategic road network.

1.4 DEFINITION

EnvIS consists of specific environmental data supplied by Service Providers, the HA and other bodies which is collated and displayed in the Highways Agency Geographical Information System (HAGIS). This data is used to assist in managing the environment, within and surrounding the strategic road network, and in the review and reporting of the environmental performance of both Service Providers and the HA.

1.5 AIMS AND OBJECTIVES

EnvIS is intended to assist the HA and Service Providers, in designing and managing the strategic road network in an accurate, consistent and environmentally sound manner. Specifically, it aims to achieve the following key strategic and operational objectives:

- enable consistent and accurate recording and retrieving of specific environmental data about the strategic road network;
- assist in the review and reporting of environmental performance of both the HA and Service Providers;
- improve understanding of the environmental issues and opportunities that must be considered at different stages of trunk road and motorway management;
- in line with ensuring a value for money approach, assist in the prioritisation of environmental management actions based on an understanding of the condition of the Element and environmental objectives;
- assist in the handover of environmental data from Designers to Network Management Agents (and vice versa) and the transfer of environmental data from an outgoing Network Management Agent to its successor;
- assist Designers and Network Management Agents in the collection of environmental data, and use this information to develop specific environmental management programmes and strategies, including Environmental Management Plans (EMPs).

1.6 ENVIS AND SUSTAINABLE DEVELOPMENT

Sustainability is founded on bringing full and lasting economic, social and environmental benefits. The UK Government Sustainable Development Strategy 'Securing the Future' highlights four priorities for action across the UK:

- sustainable consumption and production;
- climate change and energy;
- natural resource protection and environmental enhancement; and
- sustainable communities.

EnvIS supports the HA in its progress towards these four priorities in a number of ways. Understanding what Environmental Elements are located within and surrounding the network ensures that in its widest sense in all construction and maintenance activities the environment is protected and opportunities for enhancements are delivered, today and for future generations. Construction and maintenance activities use resources, aggregates, energy and water. Such activities may result in emissions to air, discharge to water and the production of waste which requires disposal. Recording and analysis of environmental data assists the HA in continual improvement and understanding its progress towards sustainability.

1.7 WHO DOES EnvIS APPLY TO?

This Standard is intended for use by those engaged in the assessment, design, construction, operation and maintenance of the existing and proposed strategic road network.

An overview of roles and responsibilities with regards to EnvIS are described in Chapter 4 of this Part. The requirements of these with regards to the implementation of EnvIS (e.g. data collection and submission) are provided in subsequent Parts.

1.8 STRUCTURE OF DOCUMENT

1.8.1 Part 1

Part 1 provides an introduction to EnvIS, including what EnvIS is, why it has been developed, and key roles, responsibilities and resource requirements. A glossary of terms and abbreviations is also provided. Specific details on the implementation of EnvIS are provided in subsequent Parts.

Part 1 should be read by the HA and Service Providers involved in environmental management of the strategic road network.

1.8.2 Part 2

Part 2 contains specific details on the environmental inventory. It includes details of what the environmental inventory consists of and the general process for collection and submission of related data.

Within the HA, Part 2 should be read by Project Managers, Network/Area/Route Performance Managers, Regional Environmental Advisors, Environmental Focal Points and Policy Advisors. It also provides an overview of scope for GIS Specialists, Systems Analysts/Designers and Database Administrators.

For Service Providers, it should be read by Environmental Project Managers, Area Environmental Managers and Environmental Specialists. It also provides an overview of scope for GIS Specialists, Systems Analysts/Designers and Database Administrators.

1.8.3 Part 3

Part 3 contains specific details on environmental management information. It includes details of what environmental management information consists of and the general process for collection and submission of related data.

Within the HA, Part 3 should be read by Project Managers, Network/Area/Route Performance Managers, Regional Environmental Advisors, Environmental Focal Points and Policy Advisors. It also provides an overview of scope for GIS Specialists, Systems Analysts/Designers and Database Administrators.

For Service Providers, it should be read by Environmental Project Managers, Area Environmental Managers and Environmental Specialists. It also provides an overview of scope for GIS Specialists, Systems Analysts/Designers and Database Administrators.

1.8.4 Part 4

Part 4 contains detailed specifications of the standards required for submitting interface files of environmental inventory and environmental management information data to the HA. It also provides a series of examples as to the type and sequence of EnvIS data to be submitted.

Part 4 should be read by HA and Service Provider GIS Specialists, Systems Analysts/Designers and Database Administrators. It also provides a description of the detailed requirements for environmental personnel targeted in Parts 2 and 3.

1.8.5 Parts susceptible to change

Annexes to Parts 2 and 3 plus all of Part 4 and associated look up tables are susceptible to change during the life of the IAN and also when the IAN converts to DMRB. This is because we have to reflect external influences on how we work. Latest versions of these will be published on the www.standardsforhighways.gov.uk web site.

2 WHAT IS EnvIS?

2.1 COMPONENTS OF EnvIS

The main components of EnvIS are illustrated in Figure 1.1:

EnvIS data (environmental inventory and environmental management information) is collected by both the HA and Service Providers, and is transferred between each party, in a standard format. The HA will manage a master version of EnvIS, while Service Providers will record and maintain a local implementation of EnvIS data. The Service Provider will have the most up to date version of EnvIS data, which is transferred to the master EnvIS database, on quarter/annual (for Network Management Agents) or milestone (for Designers) basis. This data is displayed by the HA in visible layers in HAGIS. Service Providers with extranet access will be able to view this data in an EnvIS view of HAGIS. Similarly, reports, generated from EnvIS data, will be available through HAGIS or by using standard reporting tools in the HA Management Information System (HAMIS).

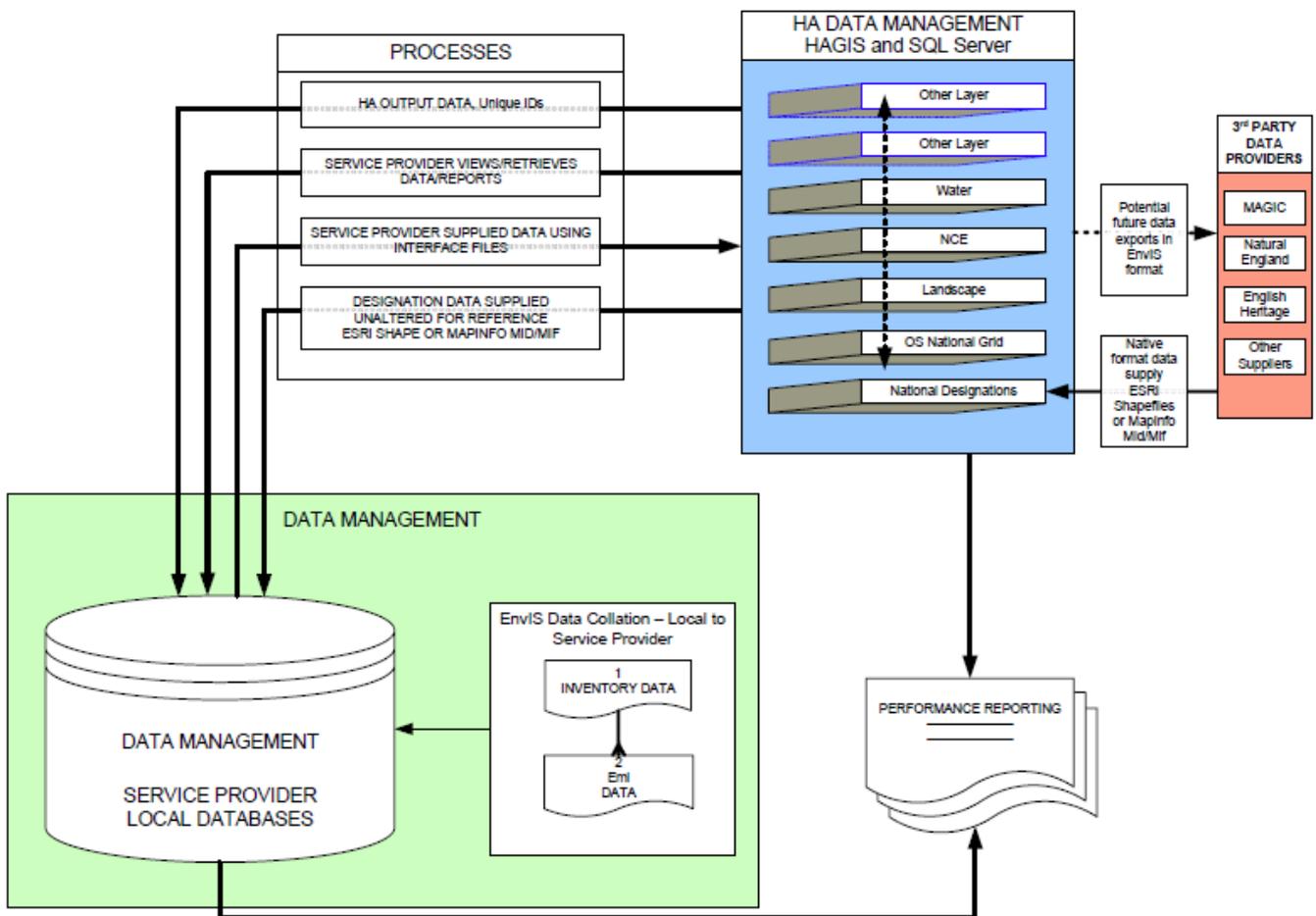


Figure 1.1: Components of EnvIS

2.1.1 Types of EnvIS Data

EnvIS data is categorised as either environmental inventory or environmental management information, which together, provide important details on the characteristics and management of Environmental Elements located within and surrounding the strategic road network.

An Environmental Element (hereafter referred to as Element) is defined as a man-made or natural Element, comprising the environment within and surrounding the strategic road network, for example, a listed building, noise barrier or hedgerow. An overview of environmental inventory and environmental management information is provided below. Detailed information is provided in Parts 2 and 3 respectively.

1) **Environmental Inventory** – contains data, provided by the HA (e.g. national designations), Service Providers and other bodies relating to the characteristics of specific Elements, within the environmental topics of:

- landscape;
- nature conservation and ecology;
- water;
- cultural heritage;
- air quality;
- noise; and
- waste and material resources.

Environmental inventory specifically records the following information (where appropriate), and is summarised in Figure 1.2:

- an Element's classification and the status of that Element (what it is);
- an Element's specific location (where it is located); and
- an Element's intended HA objective(s) and environmental objective(s) (why it is there).

A detailed discussion on environmental inventory is provided in Part 2.

2) **Environmental management information** – is data attached to individual Elements and assists in informing both the HA and Service Providers of the broad environmental management requirements of the strategic road network, and corresponding environmental performance.

For each Element environmental management information specifically records the following information (where appropriate) and is summarised in Figure 1.2:

- details of any environmental commitments entered into;
- type of management actions undertaken for each Element in line with its HA and environmental objective(s);
- status of each management action;
- planned/actual date for completion of each management action; and
- condition and/or performance rating of each Element.

A detailed discussion on environmental management information is provided in Part 3.

Note: The environmental inventory establishes the baseline upon which environmental management information can be attached. Therefore environmental management

information cannot be submitted by the Service Provider to the HA, until the corresponding Element has been recorded via submission of relevant environmental inventory data. This is discussed further in subsequent Parts.

It is important to note that not all Elements will require environmental commitments or environmental management actions to be recorded and submitted. Some Elements (e.g. Phase 1 habitat) are recorded for information only and will have no commitments and require no management intervention. Equally some Elements will only require environmental commitments or environmental management actions to be recorded and submitted by the Service Provider. This is discussed further in Part 3.

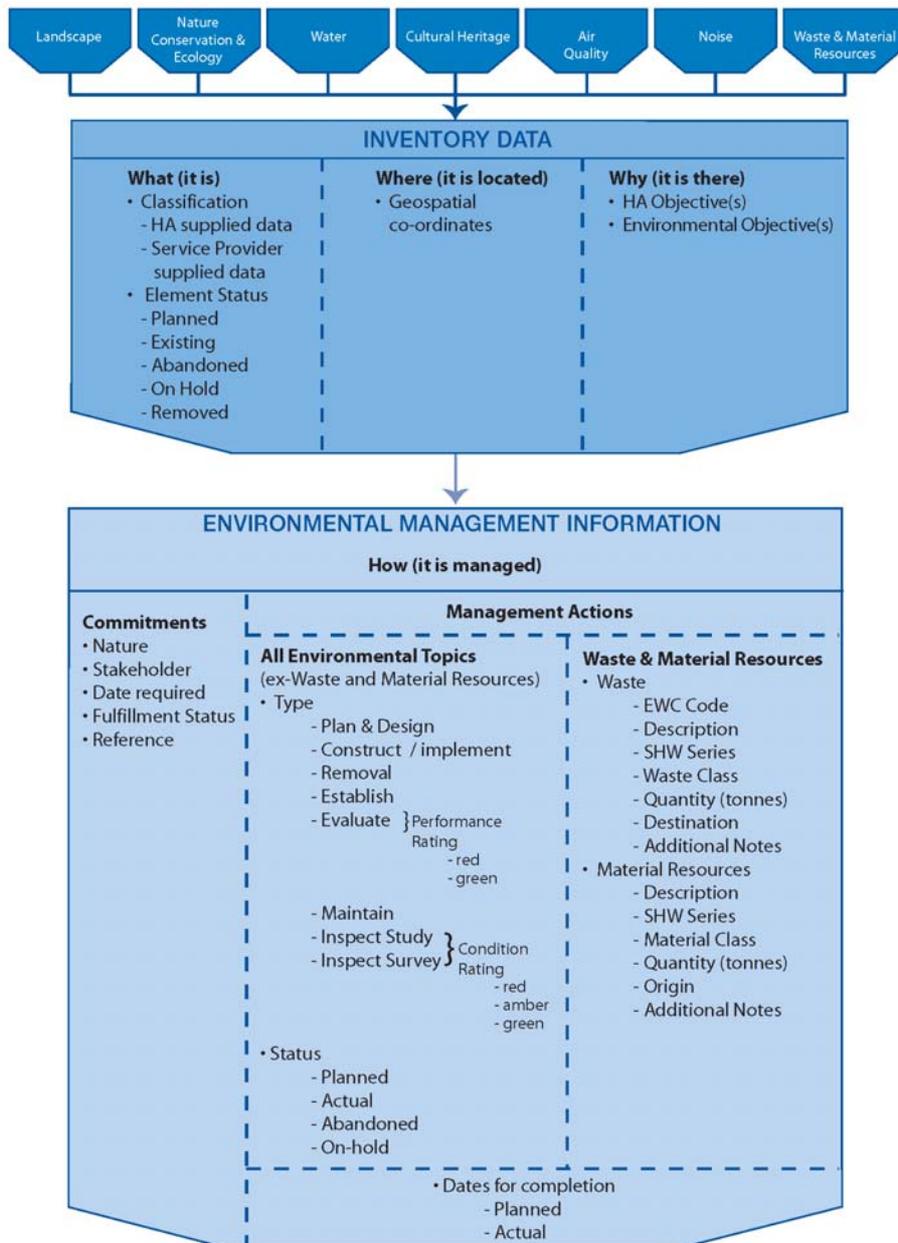


Figure 1.2: Types of EnvIS Data

2.1.2 Data Management

Overview

EnvIS data management refers to the management of master EnvIS data by the HA and local EnvIS data by Service Providers. An overview of EnvIS data management requirements is provided below. Detailed information is provided in Part 4.

Submission of data to the HA of environmental inventory and environmental management information records, is undertaken in accordance with the file specifications prescribed in Part 4. In addition, the HA will provide look up tables for standard values that are expected to be returned to the HA in individual records. This ensures the accuracy of definitions and aids reporting. Centrally provided inventory data, including some National Designation data, will also be available from the HA.

Data processing within the HA is governed by the specifications laid down in Part 4. These same specifications apply to Service Providers rules for data capture. All processed data will be available for viewing and interrogation in HAGIS and reports will be available from HAGIS or by using standard reporting tools in HAMIS.

In order to maintain consistency and uniqueness of data associated with each Element, the HA will allocate a Unique ID (HAID) to each valid environmental inventory record that is satisfactorily processed. This HAID will identify an Element and its associated records for reporting purposes. The HAID will be notified to Service Providers who will be expected to utilise it in managing their data.

HA Data Management

HAGIS provides a graphical way of viewing data held in the HA Data Warehouse. The HA Data Warehouse consists of data from many sources and systems such as Ordnance Survey National Grid, Element management systems such as HA Pavement Management System (HAPMS) and Structures Management Information System (SMIS), accident data, and Part 1 Claims.

Service Providers Data Management

Local Databases

Service Providers maintain local information databases capable of providing and supplying data in the manner, and frequency required by the HA. The basis for designing and maintaining these local databases is written in Part 4 Annex A. The HA does not prescribe the use of any proprietary database management system. It does, however, expect that the transfer of data will follow the standards defined in Part 4.

Assigning Attributes to Elements

The need to assign attributes to Elements is explicitly stated in each interface file specification.

Drawing Conversion

Historically, most design drawings were created and remained as CAD drawings with georeferencing to the Ordnance Survey National Grid. These drawings served a purpose as a two dimensional representation of objects of interest on the ground. They did not, on the whole, satisfy the strict requirements of GIS standards. Service Providers should address the conversion process required for existing working documents and the process for going forward including GIS standards as a design constraint in the first instance.

Look Up Table Management

The HA will supply look up tables to aid data submission. These may change from time to time. There will be a local requirement to maintain tables specific to each Service Provider which contains details of their projects and any notified changes issued by the HA.

Review and Validation of Data

The HA will manage the processing of data submitted by Service Providers in terms of the upload and retrieval of data into and out of EnvIS. This will include validation of Service Providers data received, prior to upload to EnvIS, and identification of any errors and omissions.

2.1.3 Data Processes

There are a number of processes for both the import and export of data between the HA and Service Providers. No application is provided by the HA to Service Providers. Service Providers are expected to use relevant software to comply with and manage the submission and receipt of EnvIS data as described in detail in Part 4.

2.2 EnvIS AND THE HA ENVIRONMENTAL MANAGEMENT FRAMEWORK

The interaction of EnvIS with the HA's overall business and environmental management processes provides an integrated environmental management framework for the management of environmental impacts, compliance with environmental legislation and continual improvement of the HA's environmental performance. EnvIS is an integral part of this framework and provides the structure for implementing HA environmental objectives into decision making processes and enables the recording of key data about the HA network which can be used to monitor and report/review environmental performance and policy.

2.3 EnvIS ENVIRONMENTAL MANAGEMENT PROCESS

The EnvIS environmental management process provides the framework around which data is recorded to and retrieved from EnvIS. It is aligned to the existing HA development process for Network Areas and projects, and specifically the following key stages:

- Planning and Design: covering activities related to:
 - feasibility;
 - outline design; and
 - detailed design.
- Construction: covering activities:
 - prior to construction (e.g. site preparation);
 - during construction (e.g. works); and
 - during establishment (e.g. defects and liability period).
- Handover: covering:
 - the transfer of specific environmental information from Designers to Network Management Agents which is used to inform the maintenance and operation requirements for the project site.
- Maintenance and Operation: covering:
 - environmental management in the course of maintaining and operating the strategic road network.

An outline of the relationship between the HA development process and the EnvIS environmental management process is provided in Figure 1.3. The specific requirements for the recording and retrieval of environmental inventory and environmental management information data as part of this process are provided in Parts 2 and 3 respectively.

Aligning EnvIS with the HA development process, helps provide consistency in the identification, recording and submission of EnvIS data, throughout all stages of network management from project design and construction through to Network Area maintenance and operation. This in turn, helps support the environmental information requirements and management needs of the HA and Service Providers during each of these key stages.

The EnvIS environmental management process is not always linear, and need not begin at planning and design, as it may appear in Figure 1.3. The recording and retrieval of data can commence at either planning and design, construction or maintenance and operation depending on the Service Provider involved and the particular stage of the project or Network Area in question.

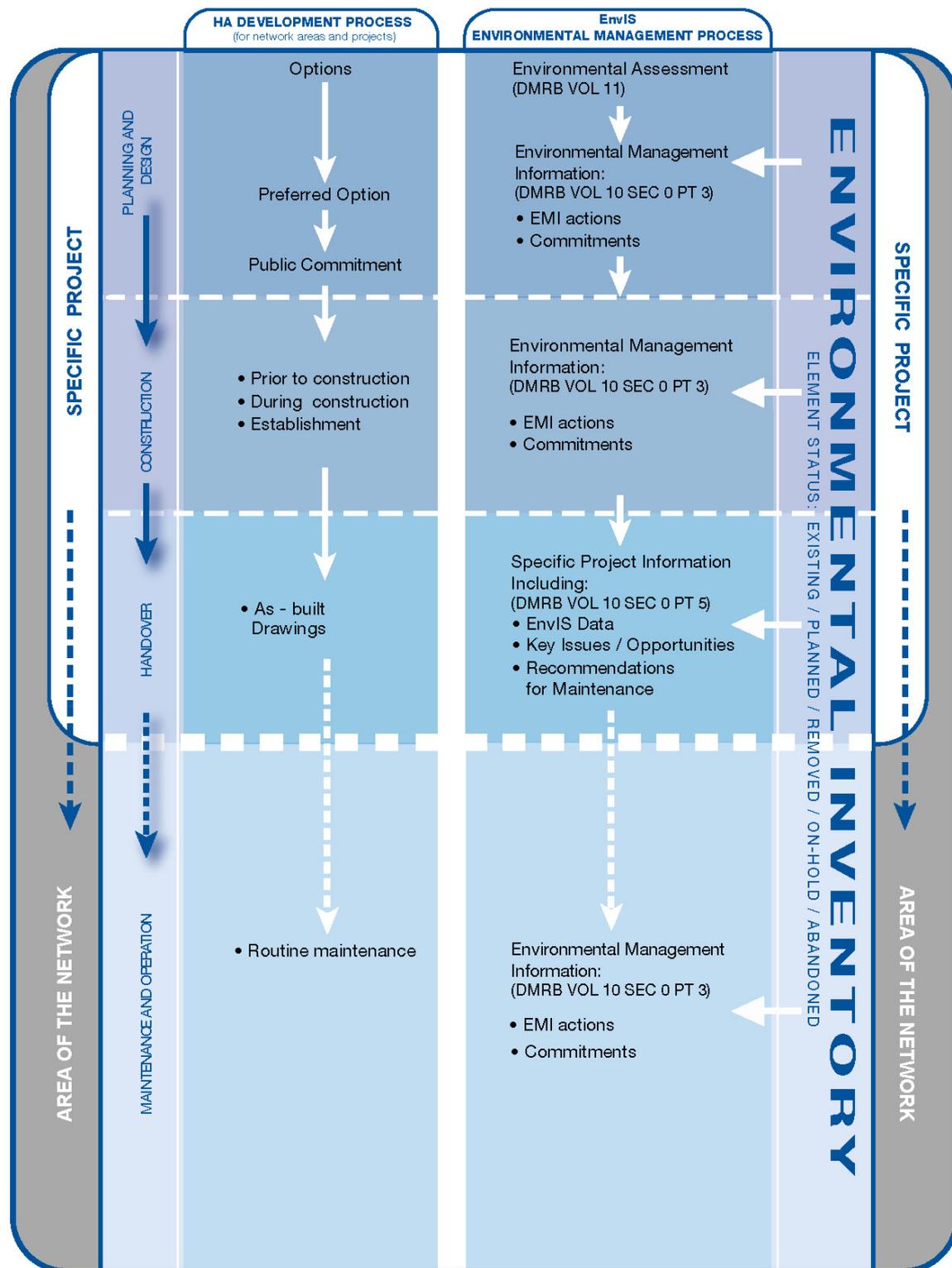


Figure 1.3: Relationship between the HA Development Process and EnvIS Environmental Management Process

3 COLLECTION AND SUBMISSION OF EnvIS DATA

3.1 COLLECTION OF EnvIS DATA

Identifying and recording EnvIS data is an ongoing process. Service Providers record environmental inventory and environmental management information data, in their own systems, *as-and-when* Elements are identified, removed, or implemented as part of improvements or there is a status change to the Element. It is not the intention of the HA for Service Providers to undertake a re-survey of the strategic road network. Rather, EnvIS data will be collected over a period of time as an integral part of Service Providers duties through a combination of surveys and studies relating to new Elements identified, or changes to the strategic road network.

3.2 SUBMISSION OF EnvIS DATA

Service Providers submit EnvIS data, stored in their own system, in the form of environmental inventory and environmental management information records. The frequency of EnvIS data submission, to the HA, is to be in line with the end point of the milestones indicated below. EnvIS data is submitted in accordance with the interface file specifications set out in Part 4.

EnvIS data must be only submitted in line with identified milestones. All EnvIS data collected between milestones must be recorded in the Service Providers local implementation of EnvIS.

Network Management Agents submit *changed* EnvIS data on a quarterly basis for all environmental topics with the exception of Waste and Material Resources. Waste and Material Resources data is submitted annually at the beginning of the financial year (April) and will include planned data for the forthcoming financial year and actual data from the previous financial year.

Designers submit EnvIS data in relation to the following three Project Control Framework (PCF) milestones:

- **Development Phase (Preliminary Design) - Environmental Assessment/Statement Publication** – environmental data resulting from the statutory or non-statutory assessment of the environmental implications of a proposed project. Designers collect and submit EnvIS data for *all* Elements that have influenced or are influenced by the Preferred Route.
- **Development Phase (Construction Preparation) - Detailed Design Drawings** – environmental data detailing the final specification of the project. Designers collect and submit EnvIS data detailing *all* Elements associated with the planning and design of the project and planned environmental management actions that will be undertaken during the construction period and of the existing Elements likely to be affected.
- **Construction Phase (Construction) - As Built Drawings** - environmental data detailing the completion of the project prior to handover. Designers collect and submit EnvIS data detailing *all* Elements associated with the construction of the project and planned environmental management actions that are required to be undertaken by the Network Management Agent as part of operating and maintaining the Network Area.

4 EnvIS ROLES AND RESPONSIBILITIES

4.1 GENERAL

Overall responsibility for ensuring compliance with EnvIS lies with:

- the HA Project Manager and Environment Coordinator (in the course of the Environmental Assessment and Environmental Planning and Design);
- the Environmental Manager (in the course of Construction); and
- HA Area Teams and the Area Environmental Manager (in the course of Maintenance and Operation).

4.2 HA

Contribution to and management of EnvIS within the HA is split across three functions of the Agency, involving HA Policy, HA EnvIS Management Team, and HA data processing.

4.2.1 HA Policy

HA Policy set guidance and standards for Service Providers to comply with requirements. They also engage with senior members of the HA Board to agree on HA environment policies, standards and outcomes including Key Performance Measures. HA Policy will use EnvIS to actively monitor Element performance, Service Provider performance and HA compliance with stated targets and objectives. They will also make changes to reflect administration and Central Government environmental policy variations from time to time.

4.2.2 HA EnvIS Management Team

The HA EnvIS Management Team is responsible for being the focal point of contact by all Service Providers maintaining and supplying environmental data to EnvIS standards. This team will monitor submission of data, assess the quality of data, and offer guidance on data quality and quantity issues plus guidance on interpretation of EnvIS standards. All contact and requests for data will be managed by this team.

4.2.3 HA Data Processing

The HA Data Processing team manages the processing of data submitted by Service Providers. They validate data on upload to the EnvIS databases and identify errors and omissions. HA Data Processing will generate error reports for distribution to suppliers of data and they will also generate and issue HA Unique IDs for all satisfactorily loaded environmental inventory data. The HA data processing team is also responsible for managing some centrally provided data in the EnvIS database.

4.3 SERVICE PROVIDER

The term Service Provider, is used to collectively describe both the Network Management Agent and Designer. Service Providers are required to collect, record, submit and utilise available EnvIS data in the course of network management.

4.3.1 Network Management Agent

The term Network Management Agent, refers to the contracting agent responsible for managing and maintaining the existing strategic road network. Network Management Agents includes Managing Agent Contractors (MACs), Concessions and Design Build Finance and Operate (DBFO) Contractors, and relates to the following types of activities:

- Management and maintenance of the existing environmental estate in line with contractual requirements; and
- Undertaking renewals or improvement works, such as Local Network Management Schemes (LNMS), on the existing strategic road network.

Network Management Agents are required to collect, record, submit and utilise available EnvIS data in the course of Network Area maintenance and operation.

Environmental inventory and emi data must be submitted by Network Management Agents, in accordance with the interface file specifications set out in Part 4. Network Management Agents must submit environmental inventory and emi data in accordance with the following frequencies:

- Quarterly submission (with the exception of waste and material resources) of changed data; and
- Annual submission, at the beginning of the financial year (April), of waste and material resources environmental inventory and emi data.

There will be circumstances where a Service Provider is performing both a Design and Network Management role in parallel i.e. a Designer is maintaining the existing environmental estate at the same time as design and construction activities or Network Management Agent is undertaking renewals or improvement works as well as maintaining the Network Area. In these instances, data should only be submitted to the HA quarterly in the case of Network Management Agents or in line with the 3 PCF milestones in the case of Designers.

Other HA contractors such as Technical Managing Agent Contractors (TechMAC) and National Roads Telecommunications Services (NRTS) may, as part of maintaining or improving the existing network technology and communication assets, use EnvIS to understand the environmental context in which maintenance or new works are to take place. In the event that Environmental Elements are amended, removed or identified as part of maintenance or new works the information should be provided, in an agreed format, to the MAC which manages the Network Area for populating on to EnvIS.

4.3.2 Designer

The term Designer refers to the contracting agent carrying out design and construction activities for or on behalf of the HA. These activities can either relate to major improvements (e.g. bypass, road widening, active traffic management processes) or improvements to the existing strategic road network (e.g. junction improvements). Designers include contractors procured outside of the MACs, undertaking improvements on the existing strategic road network; Concessions, DBFO Contractors; and Contractors undertaking major improvements.

Designers are required to collect, record, submit and utilise available EnvIS data in the course of project planning, design and construction.

Environmental inventory and emi data must be submitted by Network Management Agents, in accordance with the interface file specifications set out in Part 4. Designers must submit environmental inventory and emi data at the following three PCF milestones:

- Development Phase (Preliminary Design) - Environmental assessment/statement publication;
- Development Phase (Construction Preparation) - Detailed Design drawings; and
- Construction Phase (Construction) - As Built drawings.

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5 EnvIS RESOURCE REQUIREMENTS

Service Providers maintain individual systems that can record Elements as defined in Part 2 Annex A. Service Provider's systems must be capable of exporting EnvIS data to the standards set out in each interface file specification. Service Providers maintain currency of data reflecting the details of Elements within the prescribed data submission periods. Activity and lack of activity in submitting data will be monitored to ensure compliance.

The resources listed below are considered to be a basic requirement in order to comply with EnvIS data management. This list is not exhaustive, nor is it prescriptive.

5.1 GEOGRAPHICAL INFORMATION SYSTEM SOFTWARE AND PERSONNEL

Service Providers must have access to a GIS and specialist GIS trained personnel in order to record and assign correct geospatial attributes to Elements.

5.2 DATABASE ADMINISTRATORS

Service Providers may need access to Database Administration personnel in order to manage the standard set of look up tables and the necessary import and export routines for data transfer between the HA and Service Provider.

5.3 ANALYST/PROGRAMMERS

Service Providers may require analyst and programmer resources to develop local applications for assigning attribute data to Elements.

5.4 ENVIRONMENTAL SPECIALISTS

Relevant environmental specialists, with the appropriate level of expertise, should be utilised in the application of the different environmental topics addressed by EnvIS. All environmental specialists must have relevant highway experience relating to detailed design, construction and maintenance. DMRB Vol 0 Section 2 Part 1 GD 02/08 gives indicative levels of experience, professional status and competency that the HA considers necessary in fulfilling this role.

6 GLOSSARY OF TERMS

Term	Definition
Agent Unique Identifier	Part of EnvIS data management. A four digit numeric number allocated by HA to identify each Service Provider. Maintained by HA in a look up table with an active indicator and start/end dates.
As Built Condition	Environmental data detailing the completion of the project prior to handover. Part of EnvIS environmental management information. Relates to the physical properties of an Environmental Element and whether this is impacting upon its ability to function properly and therefore achieve its intended environmental objective. Assessed as part of inspection (whether via survey or study) and recorded as red, amber or green.
Construction Stage	Addresses construction undertaken by Designers as part of a specific project. Includes activities undertaken prior to construction, during construction and as part of establishment.
Concessions Commitment	Consortia responsible for the management of toll roads. Part of EnvIS environmental management information. Assurance provided to a particular stakeholder (e.g. statutory authority, member(s) of the public, community organisation, etc.) to undertake specific action(s), as a means of managing and mitigating against environmental impacts of the strategic road network. Commitments are documented in the project Environmental Statement, Public Inquiries Inspector's Report and Environmental Management Plan.
Database Administrator	A specialist resource that maintains the integrity of a database system.
Design Build Finance Operate (DBFO)	A contract with a Service Provider where the service includes assuming responsibility for the operation and maintenance of a length of existing road (where relevant) and ensuring that specified construction scheme(s) along the length of road are constructed and made available for road users. The Service Provider is subsequently responsible for the operation and maintenance of the new sections of road.
Design Manual for Roads and Bridges (DMRB)	A set of documents that provide a comprehensive manual system which accommodates, within a set of loose-leaf volumes, all current standards, advice notes and other published documents relating to the design, assessment and operation of trunk roads (including motorways).
Designer	Contracting agent responsible for carrying out design and construction activities for or on behalf of the HA. Includes Early Contractor Involvement (ECI) Agents or Design, Build, Finance, Operate (DBFO) Agents.
Detailed Design	Environmental data detailing the final specification of the project.
Environmental Assessment	A non-statutory assessment of the environmental implications of a proposed project.
Environmental Element	Part of EnvIS environmental inventory. Man-made or natural Elements comprising the environment within and surrounding the strategic road network.
Environmental Element Status	Part of EnvIS environmental inventory. Status is attached to each Environmental Element to identify both the physical nature of the Element and the point that it has reached in its lifecycle. Environmental Element status is recorded as planned, existing, removed, on hold or abandoned.
Environmental Impact Assessment (EIA)	A statutory process by which certain planned projects must be assessed before a decision to proceed can be made. Involves the collection and consideration of environmental information, which fulfils the assessment requirements of Directive 85/337/EEC, including the publication of an Environmental Statement.
Environmental Information System (EnvIS)	Consists of specific environmental data supplied by Service Providers, the HA and other bodies which is collated and displayed in the Highways Agency Geographical Information System (HAGIS). This data is used to assist managing the environment and in the review and reporting of the environmental performance of both Service Providers and the HA.
EnvIS Environmental Management Process	Provides the framework around which data is required to be recorded and retrieved from EnvIS. It is aligned to the existing HA development process for Network Areas and projects, and specifically the following key stages: planning and design; construction; handover; and maintenance and operation.
Environmental Inventory	Part of EnvIS. Contains data, relating to the physical characteristics of the Environmental Elements comprising the environment within and surrounding the strategic road network.
Environmental Objective	Part of EnvIS environmental inventory. Assigned to individual Environmental Elements and defines its overall purpose (what it is intended to achieve in environmental terms).
Environmental management information (emi)	Part of EnvIS. Specific data, to be recorded in and extracted from EnvIS, to assist in the identification, planning, implementation, monitoring and reporting of the environmental management of the strategic road network. Data includes that relating to commitment(s) and management actions associated with an Environmental Element.

Term	Definition
Environmental Management Plan (EMP)	A document (and corresponding supporting information) which sets out agreed procedures and standards for the implementation of identified management measures developed to address the adverse and beneficial environmental impacts arising from network management.
Environmental Statement (ES)	A document produced in accordance with EC Directive 85/337/EEC as applied by Section 105A of the Highways Act 1980.
Environmental Topic	Specific topic areas relating to: - landscape; nature conservation and ecology; water; cultural heritage; air quality; noise; and waste and material resources .
Geographical Information System (GIS)	System used to input, store, retrieve, manipulate, analyse and output geographically referenced data. Key components of GIS are: - Computer system: consists of hardware, software and procedures designed to support data capture, processing, analysis, modelling and display. - Geospatial data: can be represented spatially as points, lines or polygons which represent the geometry of topology, size, shape, position and orientation. Sources of geospatial data include digitized maps, aerial photographs, satellite images and statistical tables. - Users: the roles of the user is to select pertinent information, to set necessary standards, to design cost-efficient updating schemes, to analyse GIS outputs for a relevant purpose and plan the implementation.
GIS Developer Handover	A specialist resource that can develop and maintain GIS systems. The process through which environmental information relating to a specific project is transferred from Designer to Network Management Agent, via issue of a maintenance certificate.
HA Data Warehouse	A data warehouse is a database geared towards the business intelligence requirements of an organisation. The data warehouse integrates data from the various operational systems and is typically loaded from these systems at regular intervals. Data warehouses contain historical information that enables analysis of business performance over time. The HA operates such a warehouse.
HA Development Process	Collectively describes the stages involved in network management from planning, designing and constructing a new or improved strategic road network, to maintaining and operating an existing strategic road network.
HA Geographical Information System (HAGIS)	Graphical Information System (GIS) specifically developed and maintained by the HA.
HA Management Information System (HAMIS)	A single platform for information for all Directories, from simple code look up utilities to more sophisticated forecasting and reporting tools.
HA Standard	Highways Agency document, detailing specific requirements that must be followed by all Service Providers.
HA Objective	Part of EnvIS environmental inventory. Set by the HA for particular environmental topics (e.g. air quality, nature conservation and ecology, etc) stating the HA's overall aims for the avoidance, minimisation or control of environmental impacts and enhancement of environmental conditions.
HA Pavement Management System (HAPMS)	HAPMS consists of a set of computer applications that will improve carriageway pavement management by providing the following set of business capabilities
Key Performance Measures (KPM)	Performance measures agreed with Ministers each year and our performance on these is reported to Parliament in our Annual Report. Key Performance Measures have appropriate indicators and targets set by Ministers.
Look Up Table	A list of acceptable values that a user might select from when using an information system rather than allowing a user to type in free formatted text.
Maintenance and Operation Stage	Involves maintenance and operation activities (e.g. routine maintenance, surveys/studies and works) undertaken by a Network Management Agent as part of a Network Area or project.
Maintenance Certificate	Issued at Handover, from Designers to Network Management Agents.
Management Actions	Part of EnvIS environmental management information. Specific data, forming part of the EnvIS environmental management information requirements. Used to identify broad type of management being undertaken, for a particular Environmental Element at any given time. Seven management actions are currently defined. These are: Plan & Design; Construct/Implement; Establish; Maintain; Evaluate; Inspect (Survey); and Inspect (Study).
Network Area	Defined area of the strategic road network being managed by Network Management Agent.

Term	Definition
Network Management Agent	Contracting agent responsible for managing and maintaining the strategic road network. Typically includes Managing Agent Contractors (MACs) or Design, Build, Finance, Operate (DBFO) Agents.
Ordnance Survey National Grid	The base mapping grid to which all HAGIS records are referenced to.
Overseeing Organisation	The governmental or other body with statutory responsibility for the highway.
Planning & Design Stage	Involves planning & design undertaken by Designers as part of a specific project.
Preferred Route	The route announced by the Secretary of State as the preferred alignment that would be subject to further design and assessment.
Service Provider	A collective term used to describe both Designers and Network Management Agents. A third party contracted by the HA to undertake works as part of the implementation/management of the strategic road network.
Strategic road network	Incorporates all soft and hard features (man-made or natural) for which the HA is the highway authority.
Structure Management Information System (SMIS)	Inventory database, managed by the HA, recording structures of over 2 metres in diameter on the strategic road network.
SQL	Popular computer language used to create, modify, retrieve and manipulate data from relational database management systems. SQL is an ANSI/ISO standard.
SQL Server Database	A proprietary RDBMS (Relational Database Management System) provided by Microsoft for a licence fee.
Unique Identifier (HAID)	Unique key assigned by the HA to every successful loaded environmental inventory Element supplied by Service Providers.

7 ABBREVIATIONS

Abbreviations	Description
CAD	Computer Aided Design
CPO	Compulsory Purchase Order
DAS	Departures Approval System
DBA	Database Administrators
DBFO	Design, Build, Finance, Operate
DBMS	Database Management System
DEFRA	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
EDB	Environmental Database
EnvIS	Environmental Information System
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
emi	environmental management information
EMT	EnvIS Management Team
ES	Environmental Statement
EWG	European Waste Classification
GIS	Geographical Information System
GQA	General Quality Assessment
HA	Highways Agency
HA BAP	Highways Agency Biodiversity Action Plan
HAGIS	Highways Agency Geographical Information System
HAMIS	Highways Agency Management Information System
HAPMS	Highways Agency Pavement Management System
HA SDAP	Highways Agency Sustainable Development Action Plan
HER	Historic Environment Record
ISDN	Integrated Services Digital Network
ISO	International Standards Organisation
JNCC	Joint Nature Conservation Committee
KPM	Key Performance Measure
LNMS	Local Network Management Schemes
MAC	Managing Agent Contractors
MCD	Model Contract Documents
MCHW	Manual of Contract Documents for Highway Works
MP	Major Projects
NCE	Nature Conservation and Ecology
NDD	Network Delivery and Development (Directorate)
NMM	Network Management Manual
NRTS	National Roads Telecommunications Services
OCEMP	Outline Construction Environmental Management Plan
PAR	Project Appraisal Report
PCF	Project Control Framework
POPE-E	Post Opening Project Evaluation - Environment
RDBMS	Relational Database Management System
REA	Regional Environmental Advisor
RWSC	Routine and Winter Service Code
RQO	River Quality Objective
SHW	Specification for Highway Works
SMIS	Structure Management Information System
SQL	Structured Query Language
TechMAC	Technical Managing Agent Contractor
WebTAG	Transport Analysis Guidance
WFD	Water Framework Directive

ANNEX A: IAN 84/10 PART 1 HIGHWAYS AGENCY ENVIRONMENTAL INFORMATION SYSTEM –ENVIS IN ENGLISH DBFO SCHEMES

When used on the M25 DBFO Scheme, this IAN 84/10 Part 1 is to be amended as follows:

Para No.	Description
All occurrences	All references to 'Highway's Agency' or 'HA' are references to the 'Department' unless otherwise stated
1.1	Delete "Highways Agency (HA) and Service Providers" and insert "Department and Service Providers"
1.1.1	Delete " a prior agreement to a Departure from Standard must be obtained from the Overseeing Organisation" and insert "an Alternative Proposal submitted under the Review Procedure and there being no objection to such Alternative Proposal under the Review Procedure " Delete last sentence and insert "Then an Alternative Proposal must be submitted under the Review Procedure and there must be no objection to such Alternative Proposal under the Review Procedure "
1.1.2	Delete "for which the HA is the highway authority" Delete the last sentence and insert "If the DBFO Co does not consider that this Standard should be applied, it shall submit an Alternative Proposal accordingly to the Department's Nominee for review under the Review Procedure "
1.2	The reference to Overseeing Organisations shall not be changed to Department.
1.3.1	Delete "Service Providers" and insert "service providers"
1.4	Delete "Service Providers" and insert "service providers" at both occurrences
1.5	Delete "Service Providers" and insert "service providers" Delete "from Designers toto its successor" Delete "Designers and Network Management Agents" and insert "service providers"
1.8.1	Delete "Service Providers" and insert "service providers"
1.8.2	Delete "Service Providers" and insert "service providers" Delete "Environmental Project Managers, Area Environmental Managers and Environmental Specialists" and insert "all appropriate staff, in particular environment specialists"
1.8.3	Delete "Service Providers" and insert "service providers" Delete "Environmental Project Managers, Area Environmental Managers and Environmental Specialists" and insert "all appropriate staff, in particular environment specialists"
1.8.4	Delete "Service Provider" and insert "service provider"
2.1	Delete "Service Providers" and insert "service providers" at the first two occurrences Do not amend "HA Management Information System"
2.1.1	Delete "Service Providers" and insert "service providers" Delete "with its HA and environmental objective(s)" and insert "with the Department's objective(s) and environmental objective(s)"
2.1.1 Note.	Delete "Service Provider" and insert "service provider" at both occurrences
2.1.2 Overview	Delete "Service Providers" and insert "service providers" at all occurrences
2.1.2 HA Data Management	Do not amend "HA Data Warehouse" or "HA Pavement Management System"

Para No.	Description
2.1.2 Service Provider Data Management	Delete "Service Providers" and insert "Service providers" at the first two occurrences. Delete "issued by the HA" and insert " issued by the Department's Nominee" Delete "The HA will manage" and insert "The Department's Nominee will manage"
2.1.3	Delete "HA" and insert "Department's Nominee"
2.2	Delete "HA" and insert "Highways Agency" at all occurrences
2.3	Delete "from Designers to Network Management Agents"
3.2 first paragraph	Delete "HA" and insert "Department's Nominee"
3.2 third paragraph	Delete "Network Management Agents" and insert "The DBFO Co shall" Delete "is" and insert "shall be"
3.2 fourth paragraph third bullet point	Delete "Network Management Agent" and insert "service provider"
4.1	Delete all bullet points and insert "the Department's Nominee and DBFO Co"
4.2	Delete and insert "Not used"
4.3	Delete the first sentence. Delete "Service Providers are" and insert "The DBFO Co is"
4.3.1 and 4.3.2	Delete
5	Delete "Service Providers maintain" and insert "The DBFO Co must maintain" at both occurrences
5.1	Delete "Service Providers" and insert "The DBFO Co"
6 Term column	Do not amend "HA"
6 As Built	Delete term and definition
6 Construction Stage	Delete "Designers" and insert "the DBFO Co"
6 Design Build Finance Operate (DBFO)	Delete term and definition
6 Design Manual for Roads and Bridges (DMRB)	Delete term and definition
6 Designer	Delete term and definition
6 Handover	Delete "from Designer a maintenance certificate" and insert "on completion of the relevant works"
6 HA Standard	Delete term and definition
6 Maintenance Certificate	Delete term and definition
6 Service Provider	Delete term and definition
6 Strategic road network	Delete "HA" and insert "Highway's Agency"

When used on all other English DBFO Schemes, this IAN 84/10 Part 1 is to be amended as follows:

Para No.	Description
All occurrences	All references to 'Highway's Agency' or 'HA' are references to the 'Department' unless otherwise stated
All occurrences	All references to "Service Provider" or "Service Providers" or "SP" or "Highways Agency Service Providers" are references to the "DBFO Co" unless otherwise stated.
1.1	Delete "Highways Agency (HA) and Service Providers" and insert "Department and Service Providers"
1.1.1	Delete " a prior agreement to a Departure from Standard must be obtained from the Overseeing Organisation)" and insert "an Alternative Proposal submitted under the Review Procedure and there being no objection to such Alternative Proposal under the Review Procedure " Delete last sentence and insert "Then an Alternative Proposal must be submitted under the Review Procedure and there must be no objection to such Alternative Proposal under the Review Procedure "
1.1.2	Delete "for which the HA is the highway authority" Delete the last sentence and insert "If the DBFO Co does not consider that this Standard should be applied, it shall submit an Alternative Proposal accordingly to the Department's Nominee for review under the Review Procedure "
1.1.5	Delete the heading and paragraph and insert "Not used"
1.2	The reference to Overseeing Organisations shall not be changed to Department.
1.3.1	Delete "Service Providers" and insert "service providers"
1.4	Delete "Service Providers" and insert "service providers" at both occurrences
1.5	Delete "Service Providers" and insert "service providers" Delete "from Designers toto its successor" Delete "Designers and Network Management Agents" and insert "service providers"
1.8.1	Delete "Service Providers" and insert "service providers"
1.8.2	Delete "Service Providers" and insert "service providers" Delete "Environmental Project Managers, Area Environmental Managers and Environmental Specialists" and insert "all appropriate staff, in particular environment specialists"
1.8.3	Delete "Service Providers" and insert "service providers" Delete "Environmental Project Managers, Area Environmental Managers and Environmental Specialists" and insert "all appropriate staff, in particular environment specialists"
1.8.4	Delete "Service Provider" and insert "service provider"
2.1	Delete "Service Providers" and insert "service providers" at the first two occurrences Do not amend "HA Management Information System"
2.1.1	Delete "Service Providers" and insert "service providers" Delete "with its HA and environmental objective(s)" and insert "with the Department's objective(s) and environmental objective(s)"
2.1.1 Note.	Delete "Service Provider" and insert "service provider" at both occurrences
2.1.2 Overview	Delete "Service Providers" and insert "service providers" at all occurrences

2.1.2 HA Department Data Management	Do not amend "HA Data Warehouse" or "HA Pavement Management System"
2.1.2 Service Provider Data Management	Delete "Service Providers" and insert "Service providers" at the first two occurrences. Delete "issued by the HA" and insert " issued by the Department's Nominee" Delete "The HA will manage" and insert "The Department's Nominee will manage"
2.1.3	Delete "HA" and insert "Department's Nominee"
2.2	Delete "HA" and insert "Highways Agency" at all occurrences
2.3	Delete "from Designers to Network Management Agents"
3.2 first paragraph	Delete "HA" and insert "Department's Nominee"
3.2 third paragraph	Delete "Network Management Agents" and insert "The DBFO Co shall" Delete "is" and insert "shall be"
3.2 fourth paragraph third bullet point	Delete "Network Management Agent" and insert "service provider"
4.1	Delete all bullet points and insert "the Department's Nominee and DBFO Co"
4.2	Delete and insert "Not used"
4.3	Delete the first sentence. Delete "Service Providers are" and insert "The DBFO Co is"
4.3.1 and 4.3.2	Delete
5	Delete "Service Providers maintain" and insert "The DBFO Co must maintain" at both occurrences
5.1	Delete "Service Providers" and insert "The DBFO Co"
6 Term column	Do not amend "HA"
6 As Built	Delete term and definition
6 Construction Stage	Delete "Designers" and insert "the DBFO Co"
6 Design Build Finance Operate (DBFO)	Delete term and definition
6 Design Manual for Roads and Bridges (DMRB)	Delete term and definition
6 Designer	Delete term and definition
6 Handover	Delete "from Designer a maintenance certificate" and insert "on completion of the relevant works"
6 HA Standard	Delete term and definition
6 Maintenance Certificate	Delete term and definition
6 Service Provider	Delete term and definition
6 Strategic road network	Delete "HA" and insert "Highway's Agency"