TECHNICAL DIRECTORATE

ASSET INFORMATION PROVISION PROCEDURE

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Learning Legacy Document

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Revision	Status / Description of Changes
8.0	Flowcharts updated to optimise flow and efficiency of procedural steps

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Contents

1 Purpose **4**
2 Scope **4**
2.1 Out of Scope **5**
3 Structure **6**
4 Definitions **6**
4.1 Key concepts **6**
4.2 Abbreviations and Acronyms **6**
5 Responsibilities **7**
5.1 Head of Technical Information **7**
5.2 Asset Information and Configuration Manager (AICM) **7**
5.3 Asset Information Provisioning Manager (AIPM) **7**
5.4 Asset Information Technician (AIT) **7**
5.5 Asset Information Systems Manager (AISM) **7**
5.6 Project Manager (PM) **7**
5.7 Project Engineer **8**
5.8 Designer **8**
5.9 Contractor **8**
5.10 Contractor's Data Owner **8**
5.11 Project Information Manager (PIM) **8**
5.12 Asset Information Governance Group (AIGG) **8**
6 Procedure **9**
6.1 Overview **9**
6.2 Stage A – Awareness and Mobilisation **11**
6.3 Stage B – Design Information **13**
6.4 Stage C – Construction Information **15**
6.5 Stage D – Review and Data Administration **17**
6.6 Stage E - Approvals **19**
7 Key contacts **20**
8 Reference Documents **21**
8.1 Asset Identification Standard **21**
8.2 Contractor Information Pack **21**
8.3 Contract Clauses **22**
9 Standard Forms / Templates **25**
9.1 Stakeholder form **25**

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1 Purpose

The provision of good quality, complete and timely asset information is an essential deliverable of any railway project to enable effective long term management of the assets provided.

The purpose of this document is to define and clarify the process adopted by Crossrail for the provision of asset information in order to aid compliance with the relevant contractual clauses for asset information (see Section 8.3).

The overall approach being adopted is based on good practice approaches to the acquisition of asset information. This approach will help ensure that data is provided in a timely, efficient and effective manner, to meet required quality requirements and with suitable monitoring of the overall process.

2 Scope

The Crossrail Programme includes all the works and activities necessary for Crossrail Limited (CRL) to construct and commission a new railway from Reading and London Heathrow in the west to Shenfield and Abbey Wood in the east.

This procedure covers the provision of asset information from the Central Section Works (CSW) of the Crossrail Programme which includes the tunnelled section in central London, the new station construction, the section of surface route running from Plumstead Portal to and including Abbey Wood Station, the provision of signalling equipment which resides on rolling stock and train maintenance depots. Asset information arising from work undertaken by London Underground on behalf of Crossrail is also in scope.

The term asset information is used as a generic term for:

- Asset inventory;
- Classification of assets;
- Attributes of these assets;
- Location and spatial information of assets;
- Relationships between assets;
- Design models (including 2D, 3D and 4D CAD models and related data);
- Documents, drawings and records of assets and systems including test certificates; and
- Photographs.

The principal Industry Partners are:

- Rail for London (RfL)
- Network Rail (NR);
- London Underground Limited (LUL);
- Canary Wharf Group (CWG);
- Berkeley Homes (BH); and
- Contractors/Consultants – this includes Framework Design Consultants (FDC), Design and Build Contractors and Construction Contractors.

This procedure is applicable to all the above parties when engaged in CSW delivery activities.

The provision of asset related documents, drawings, designs, certificates etc. is defined in other documents and procedures which should be complied with, as relevant.

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2.1 Out of Scope

The following information types are Out of Scope of this Procedure:

- Asset information arising from enabling or interface works that will be handed over directly to other parties;
- Management and utilisation of asset information once transferred to the Infrastructure Managers and the processes and software to achieve this;
- Work undertaken by Network Rail and handed over directly to RfL; and
- Information relating to Over Site Developments (OSD)

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3 Structure

The procedure comprises:

- Purpose
- Scope
- Definitions
- Responsibilities
- The five stage core process
- Key contacts
- Reference documents
- Standard forms/templates

This procedure will be reviewed and refined as the support systems are implemented and tested.

This procedure has been defined to comply with the CRL Management System.

4 Definitions

4.1 Key concepts

In order to effectively understand this procedure, it is important to understand a number of the key concepts relating to the configuration of AIMS, Crossrail's Asset Information Management System. For more information, please see the Asset Information Fundamentals document (CRL1-XRL-Z3-GPD-CR001-50007). Additionally, the definition of how assets are classified, named and their attributes are defined in the Asset Data Dictionary Master Configuration (CRL1-XRL-Z3-ADDSD-CR001-50186).

4.2 Abbreviations and Acronyms

For an explanation of the Definitions, Acronyms and Abbreviations used in this document and by CRL when describing asset information related activities please refer to the Asset Information Glossary (CRL1-XRL-Z3-GUI-CR001-50012).

The term *Contractor* is a collective term in this Procedure used to refer to Framework Design Contractors, Design and Build Contractors, Construction Contractors or any other Contractor responsible for the design, build, creation, installation and commissioning of assets for the Crossrail programme.

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5 Responsibilities

Within this Procedure the following roles and responsibilities have been defined:

5.1 Head of Technical Information

Oversee the establishment and on-going maintenance of technical information related to supporting and enabling the whole life of the assets prior to handing them over to the Infrastructure Managers and Operators.

5.2 Asset Information and Configuration Manager (AICM)

Reports to Head of Technical Information to develop, produce and implement Configuration Management (CM) and Asset Information Management (AIM) standards, plans, procedures and activities to support the establishment and on-going maintenance of technical information related to the whole life of the assets prior to handing them over to the Infrastructure Managers and Operators.

Act as the focal point for all Configuration Management and Asset Information related activities.

5.3 Asset Information Provisioning Manager (AIPM)

Reports to the Asset Information and Configuration Manager:

- Acts as Data Steward for the Crossrail Asset Information Management System (AIMS) by taking an active role in the ownership, population, storage and utilisation of asset information.
- Manages the processes for the provision of asset information from contractors and other stakeholders.
- Measures and assesses the data quality of asset information with identification and delivery of appropriate remedial actions should data quality issues be identified.
- Determines whether any project specific variations to the overall procedure are required for any specific project, for example when design activities are more advanced than would normally be the case for a Stage of this Procedure
- First point of arbitration in case any issues arise

5.4 Asset Information Technician (AIT)

Reports to the Asset Information Provisioning Manager:

- Develops constructive relationships with key information providers to understand design intent and to support asset information provision
- Bulk creates ‘blank’ assets in AIMS based upon expected numbers of assets
- Receives asset information from information providers, checking that it is complete and valid and then updating AIMS with this information

5.5 Asset Information Systems Manager (AISM)

Reports to the Asset Information and Configuration Manager:

- Administers the Crossrail Asset Information Management System (AIMS) including creation and management of asset classes, attribute fields, system access groups, data imports/exports and process workflows
- Undertaking complex reporting on or changes to the data stored in AIMS

5.6 Project Manager (PM)

- Responsible for the delivery and completion to time and design of specific contracts

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- This also includes Manager of Engineering and any other role supporting the duties of Project Manager for a project

5.7 Project Engineer

A generic role responsible for undertaking technical engineering aspects of a project. This includes, but is not limited to, the following roles:

- Project Engineer (PE) - Responsible for technical engineering aspects of a Project
- Project Field Engineer (PFE) - Responsible for on-site activities
- Engineering Manager (EM) Responsible for technical engineering aspects of a Project

5.8 Designer

A generic term that can be applied to the following roles involved in design activities:

- Framework Design Consultants
- Contractor's Designers
- Systemwide Designers
- RIBA(F) Designer

Responsible for:

- Allocation of 'blank' Asset Tags to designed assets, recording of asset names, descriptions and attributes in the AIMS asset spreadsheet
- Return of Asset Data Collection Spreadsheets to the Asset Information Team

5.9 Contractor

Responsible for providing complete, timely and accurate asset information to the Asset Information Team, when required. This data should be supplied in the formats specified by Crossrail.

5.10 Contractor's Data Owner

The Contractor shall nominate a Data Owner who shall be accountable for the management, storage and population of the Asset Register data. The Data Owner shall attend, and contribute to Asset Information Governance Group meetings when required.

5.11 Project Information Manager (PIM)

The PIM has an overall responsibility to ensure that project information is obtained from Projects to comply with contract standards and timescales which includes the scope of this Procedure. They do not have specific responsibilities as part of this Procedure, but will provide an overall monitoring/policing/troubleshooting role.

5.12 Asset Information Governance Group (AIGG)

The Asset Information Governance Group (AIGG) is a senior level group who meet regularly to review the overall provision of asset information to Crossrail. The objective of the AIGG is:

- "The execution and enforcement of authority over the provision and management of asset information related to the Crossrail programme. These activities will ensure that asset information will support the long term management of these physical assets both whilst under CRL control and subsequently when transferred to the control of the relevant Infrastructure Managers."

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6 Procedure

6.1 Overview

The overall process for the provision, creation and update of asset information has been broken down into a five stage procedure, see Figure 1, below

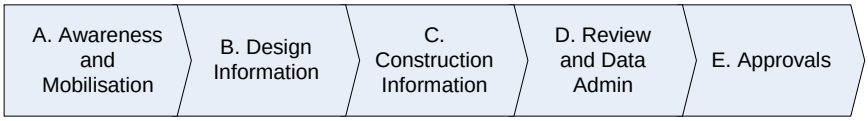

Figure 1 - Overview of asset information provision procedure

Note that, depending on the nature and timing of a particular project, some of these stages may be run concurrently and that the overall, process will be facilitated by the Asset Information Team. Any decisions on changes in responsibilities, specific application of procedure etc. shall rest with the Asset Information Provision Manager.

Specific asset information provision activities will be aligned with Construction Certification Packages in order both to align with actual work delivery activities and to support effective delivery assurance. This will mean that individual contracts and projects within this procedure will be treated as a number of discrete activities.

6.1.1 Stage A – Awareness and Mobilisation

The objective of this stage is to initiate the process of capturing asset information. The Stage is effectively in two parts:

- The first part to ensure that all staff involved in the provision of asset information are aware of both the overall process and their role within it, identification of key stakeholders, project priorities and milestone dates; and
- The second part of the process agrees the Functions and main Functional Units related to a project and the likely overall numbers of Asset Tags.

6.1.2 Stage B – Design Information

The objective of this stage is to allocate Asset Tags Placeholders to relevant design objects recording their names and asset IDs in the Asset Data Collection Spreadsheets. During this stage Asset Information will be compiled progressively and complete by each contractor no later than four weeks prior to the final design gate 3, this is a gate requirement.The requirements for this timescale are:

- All Asset Tag IDs shall be named by each contractor in Asset Data Collection Spreadsheets provided in accordance with the 'Asset Identification Standard' (CRL1-XRL-O6-STD-CR001-00031) and as further clarified in the reference documents listed in the 'Asset Data Dictionary Master Configuration' document (CRL1-XRL-Z3-ADDSD-CR001-50186).
- Asset Data Collection Spreadsheets (with relevant asset tag IDs and naming) will be supplied progressively by CRL via transmittal to each PM for each Contract.

6.1.3 Stage C – Construction Information

The objective of this stage is to record Equipment IDs and associated serial/batch IDs which have been installed to fulfil the requirements of the Asset Tag placeholders plus related attribute data. During this stage Asset Information will be compiled progressively and complete by each contractor no later than four weeks after the relevant asset has been installed, assets will also have been labelled by this point. The requirements for this timescale are:

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- Contractors to assign all equipment against installation positions (eg. equipment IDs assigned against asset tag IDs) in Asset Data Collection Spreadsheets provided.
- Relevant Asset Data Collection Spreadsheets will be supplied progressively by CRL via transmittal to each PM for each Contract.
- All assets labelled by the contractor. It is recommended that the contractor certifies asset/equipment labels via a Sub-Construction Certificate/Package listing. In particular, an 'as-built record' (containing photographic evidence of the affixed labels in place) should form part of the Package listing.

Within this stage is a further requirement that Asset Information (see the extent of the term Asset Information in section 2 Scope) is compiled and provided progressively to CRL by each contractor and complete no later than four weeks prior to handover completion for each 'Primary Functional Unit' and/or System (eg. Escalator, Track, OLE, Civil Structural System, Signalling & Control System, Customer Information System, Platform Screen Doors System, Floor System). This is a handover completion requirement and requires sign off by the Head of Technical Information at Stage E.

6.1.4 Stage D – Review and Data Administration

The objective of this stage is to review the supplied information to ensure that it meets quality requirements, delete any surplus assets in AIMS and change the status of correct assets.

6.1.5 Stage E – Approvals

The objective of this stage is to confirm that the Asset Information (see the extent of the term Asset Information in section 2 Scope) in AIMS is correct and complete and can be approved.

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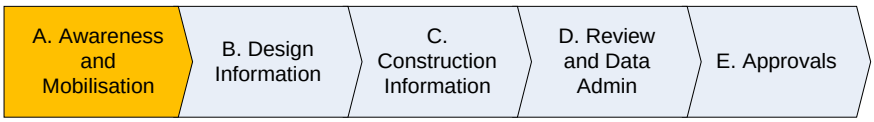
6.2 Stage A – Awareness and Mobilisation



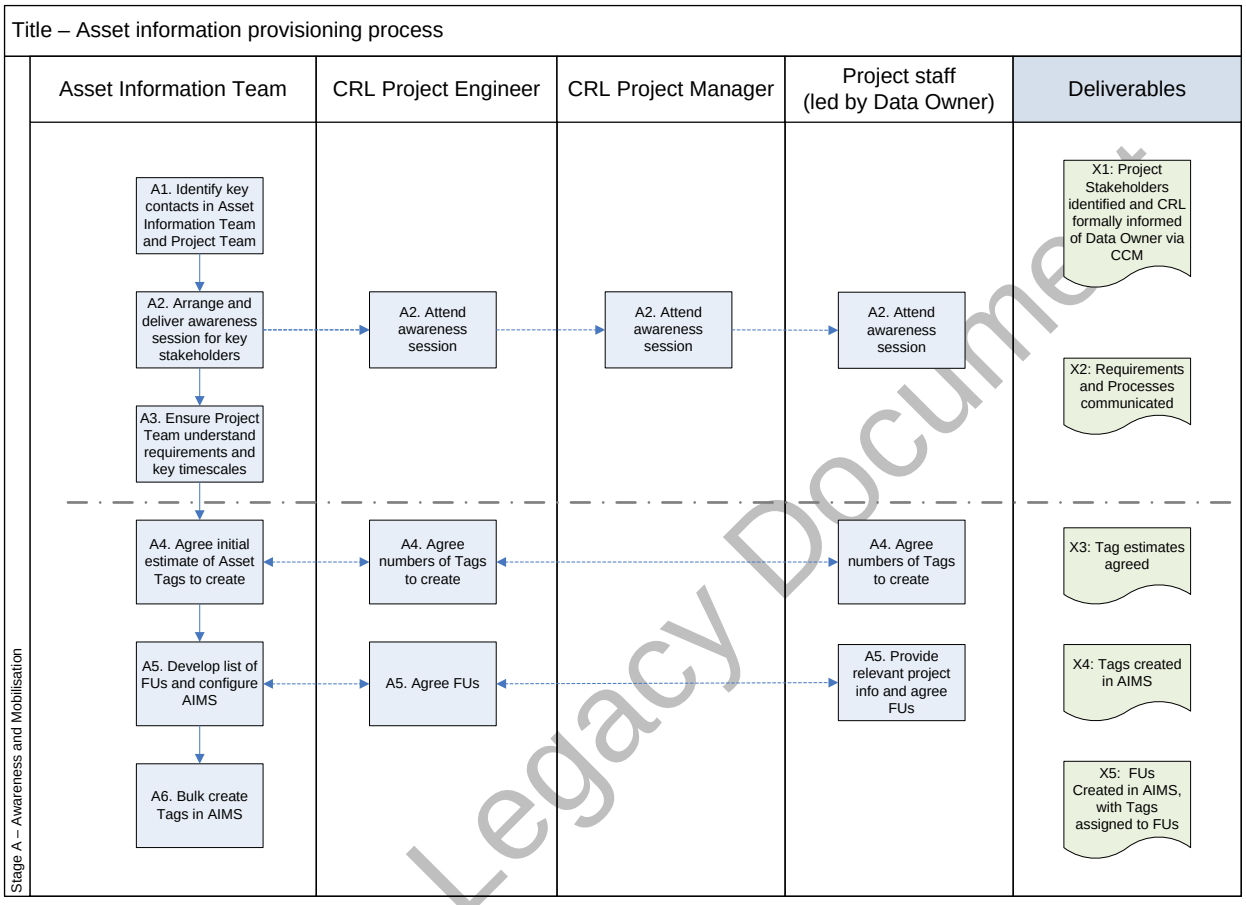


Figure 2 - Stage A - Awareness and Mobilisation

The first part of this Stage is primarily focused on communication and awareness.

A1 The Asset Information Team will identify and make contact with the appropriate PM, PE and Project Staff for each contract where Asset Data will be acquired. The Asset Information Team will agree with the project staff who the Data Owner and key contacts are for the project and will record all relevant contact details. This information will be recorded in a Project Stakeholder Form (see Section 9.1) for on-going usage by both the Asset Information Team and the Project Team. This Form shall be updated whenever a relevant change in role holder or responsibility occurs.

A2 The Asset Information Team will arrange an awareness session ensuring all required attendees are available. The awareness session will cover:

- Introductions to the Asset Information Team
- Walkthrough of the Contractors Information Pack which includes documents such as the Asset Information Provision Procedure (this document), Asset Identification Standards etc.
- Walkthrough of Asset Data Collection Spreadsheet
- Agreement of baseline project target dates for the Asset Information Provision Process

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- Agreement that all attendees understand their own roles and responsibilities in the Asset Information Process
- Agreement of key points of contact

The Project Manager, Project Engineer and relevant Project Staff should attend the awareness session in order to ensure that they are aware of the overall process and their responsibilities as part of that process. If they are not able to attend, or there is a change in post holder, arrangements should be made as soon as possible to set up another awareness session.

A3 The Asset Information Team will ensure that the Project Staff have access to the Contractors Information Pack and supporting documentation, understand requirements and key timescales and that suitable update processes are put in place, if required.

The second part of this Stage should enable the high level framework of asset information to be established in AIMS.

A4 The Asset Information Team will discuss the high level design with the Project Engineer relevant Project Staff in order to determine and agree the Functions and Classes of assets and the likely number of each in order to form the asset tag estimates.

A5 The Asset Information Team will develop and set-up a draft list of Functions and Functional Units relevant to the Contract in AIMS. This will include determining correct numbering sequences based on any existing LUL assets. eg Escalator 15 being the first Crossrail Escalator number due to the LUL station already having 14 Escalators. Project Staff will provide relevant info when required.

A6 The Asset Information Team will create sufficient Asset Tags in AIMS to cover the proposed design including a number of additional Tags to allow for design changes etc.

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6.3 Stage B – Design Information

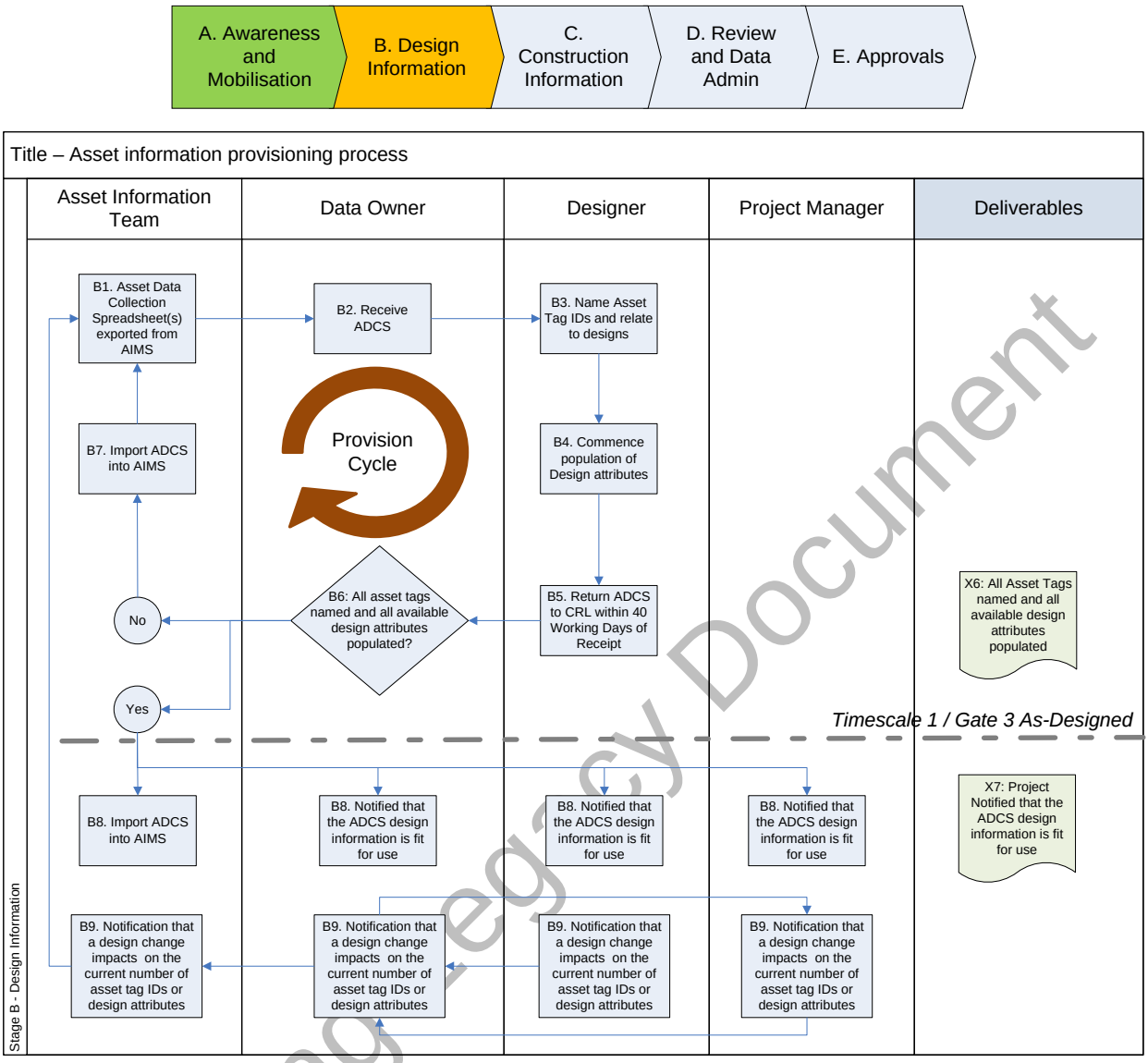

Figure 3 - Stage B – Design information

B1 The Asset Information Technician will export from AIMS Asset Data Collection Spreadsheet(s) with sufficient blank assets to allow the designer to assign Tag IDs in their designs

B2 The Designer will receive the Asset Data Collection Spreadsheet and check that sufficient assets have been created and that they understand how to use the spreadsheet

B3 The Designer will update the Asset Data Collection Spreadsheet with asset names (according to the Asset Identification Standard and relevant AD4 documents), Locations and Attributes and relate Tag IDs to designs

B4 The Designer will commence population of design attributes in the Asset Data Collection Spreadsheet (according to the Asset Identification Standard and relevant AD4 documents)

B5 The contractor has 40 working days to populate the Asset Data Collection Spreadsheet and send back to the Crossrail The Asset Information Team for them to review and send back out the next iteration within 10 working days (after B7-8)

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B6 Before returning the ADCS to Crossrail, the Data Owner will check that all asset tags have been named and all available design attributes have been populated. If “No” the Provision Cycle (B1 – B7) continues and if “Yes” proceed to B8

B7 The Asset Information Team will receive and check the supplied Asset Data Collection Spreadsheet taking note of the numbers of assets created, their names, attributes etc. If there are any concerns identified, such as the way that assets have been named, then the Asset Information Team will raise these with the Designer, perhaps providing further guidance and training, if required. The Asset Information Team will update the assets in AIMS based upon the supplied spreadsheet. This will both provide a secure record of the assets being created and provide wider visibility of these assets

B8 The Asset Information Team will receive and check the spreadsheet. Additionally, they will ensure that Design Elements have been correctly linked to Asset Tags. Any concerns about quality or consistency will be resolved with the Designer. The Asset Information Team will update AIMS to reflect the design and will notify the Project Manager and Data Owner that all Asset Tags have been named to standard and the Design information is fit for use.

B9 The Designer, Data Owner and Project Manager will notify the Asset Information & Configuration Management Team if a design change impacts on the current number of asset tag IDs or design attributes and process reverts to B1

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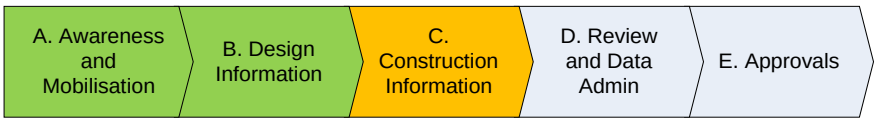
6.4 Stage C – Construction Information



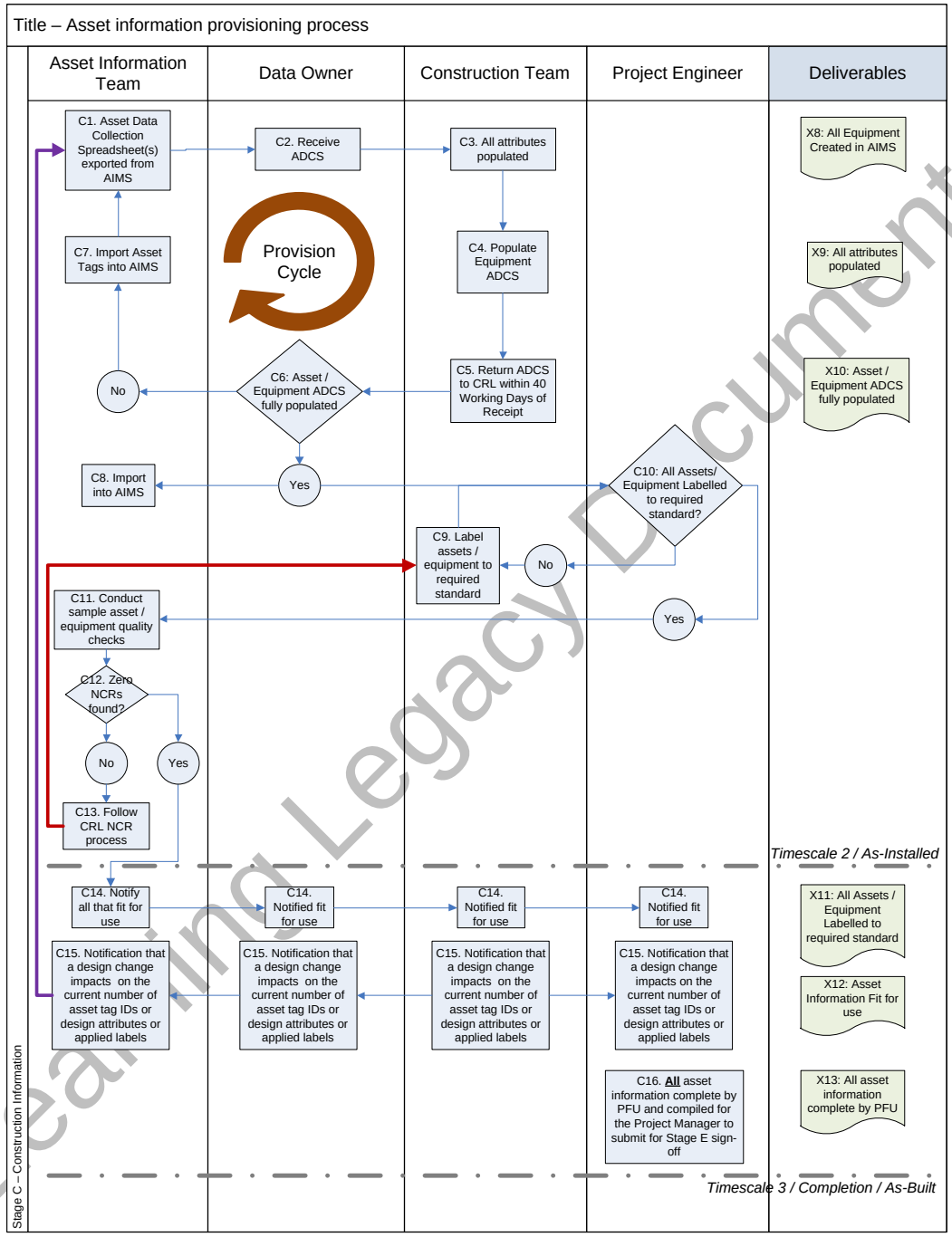


Figure 4 - Stage C – Construction Information

C1 The Asset Information Team will create and issue an Asset Data Collection Spreadsheet to the Construction Contractor covering the assets in scope of their work

C2 The Contractor will receive the Asset Data Collection Spreadsheet and check that all the assets they will be working on have been included and that they understand how to use the spreadsheet

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C3 The Contractor will populate attributes in the Asset Data Collection Spreadsheet

C4 The Contractor will update the Asset Data Collection Spreadsheet with details of the Equipment installed on site and the Serial numbers

C5 The contractor has 40 working days to populate the Asset Data Collection Spreadsheet and send back to the Crossrail The Asset Information Team for them to review and send back out the next iteration within 10 working days (after C8)

C6 The Data Owner will undertake checks on the quality of data supplied to ensure that the correct Equipment has been detailed and as relevant that the correct Serial or Batch Numbers and Attributes have been recorded If “No” the Provision Cycle (C1 – C7) continues and if “Yes” proceed to C8

C7 The Asset Information Team will receive and check the Asset Data Collection Spreadsheet from the Data Owner If there are any concerns identified, then the Asset Information Team will raise these with the Data Owner, perhaps providing further guidance and training, if required through the *Project Manager.* The Asset Information Team will update the assets in AIMS based upon the supplied spreadsheet. This will both provide a secure record of the assets being created and provide wider visibility of these assets

C8 The Asset Information Team will receive and check the Asset Data Collection Spreadsheet supplied by the Data Owner and update AIMS based upon the data supplied

C9 The Contractor will apply labels to Asset Tags and Equipment based upon the Asset Identification Standard, Asset Data Dictionary and the asset names/IDs as detailed in the Asset Data Collection Spreadsheet

C10 The Project Engineer will check that asset/equipment identification labels have been correctly manufactured and applied, collate results of asset/equipment identification label checks, record details of corrections required and raise these with the contractor

C11 The Asset Information Team will undertake sample asset/equipment quality checks to ensure that there are no data quality or labelling issues

C12 The Asset Information Team will record details of the results of the sample labelling and asset data quality checks and assess whether there is non conformance

C13 The Asset Information Team will follow the Crossrail NCR process to ensure the contractor corrects any data quality or labelling problems identified

C14 The Asset Information Team will notify the Project Engineer and Data Owner that all assets/equipment have been labelled to standard and the asset inventory information is fit for use

C15 The Designer, Data Owner and Project Engineer will notify the Asset Information Team if a design change impacts on the current number of asset tag IDs, design attributes or applied labels

C16 Project Engineer will compile and submit all asset information complete by PFU for Stage E sign off.

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6.5 Stage D – Review and Data Administration

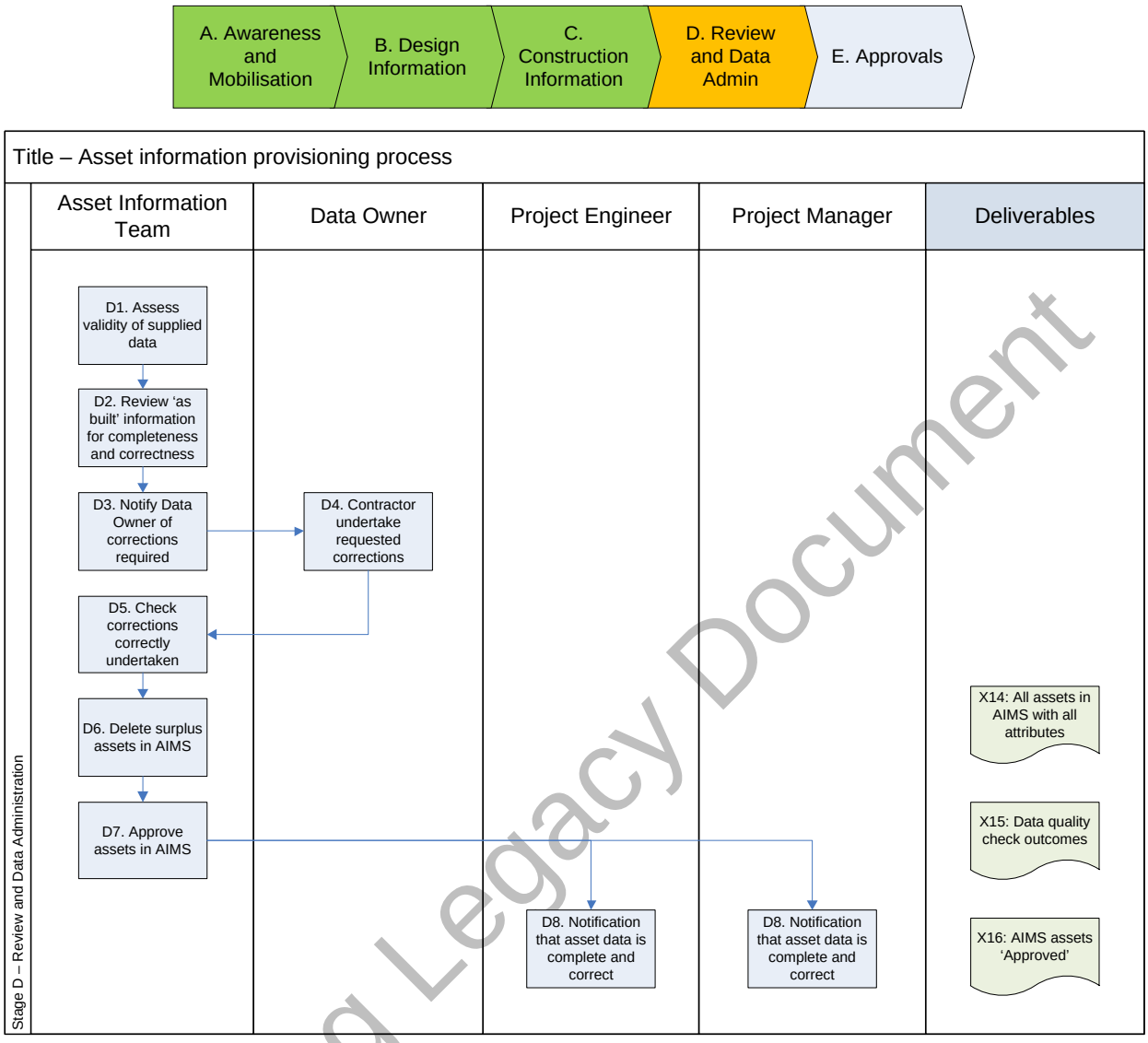

Figure 5 - Stage D – Review and Data Administration

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D1 The Asset Information Team will assess the validity of supplied asset data

D2 The Asset Information Team will review 'as built' information for completeness and correctness

D3 The Asset Information Team via the *Project Manager* will notify the Contractor of any data corrections required or further 'as built' information

D4 The Contractor will undertake the requested corrections to asset data or 'as built' information

D5 The Asset Information Team will check that the requested corrections have been made and information supplied

D6 The Asset Information Team will delete any surplus Asset Tags created in AIMS

D7 The Asset Information Team will set the status of all Asset Tags in AIMS to 'Approved' which will restrict uncontrolled edits

D8 The Asset Information Team will notify the Project Manager and Project Engineer that asset data is complete and correct (no later than 4 weeks prior to handover completion preferably 8 weeks)

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6.6 Stage E - Approvals

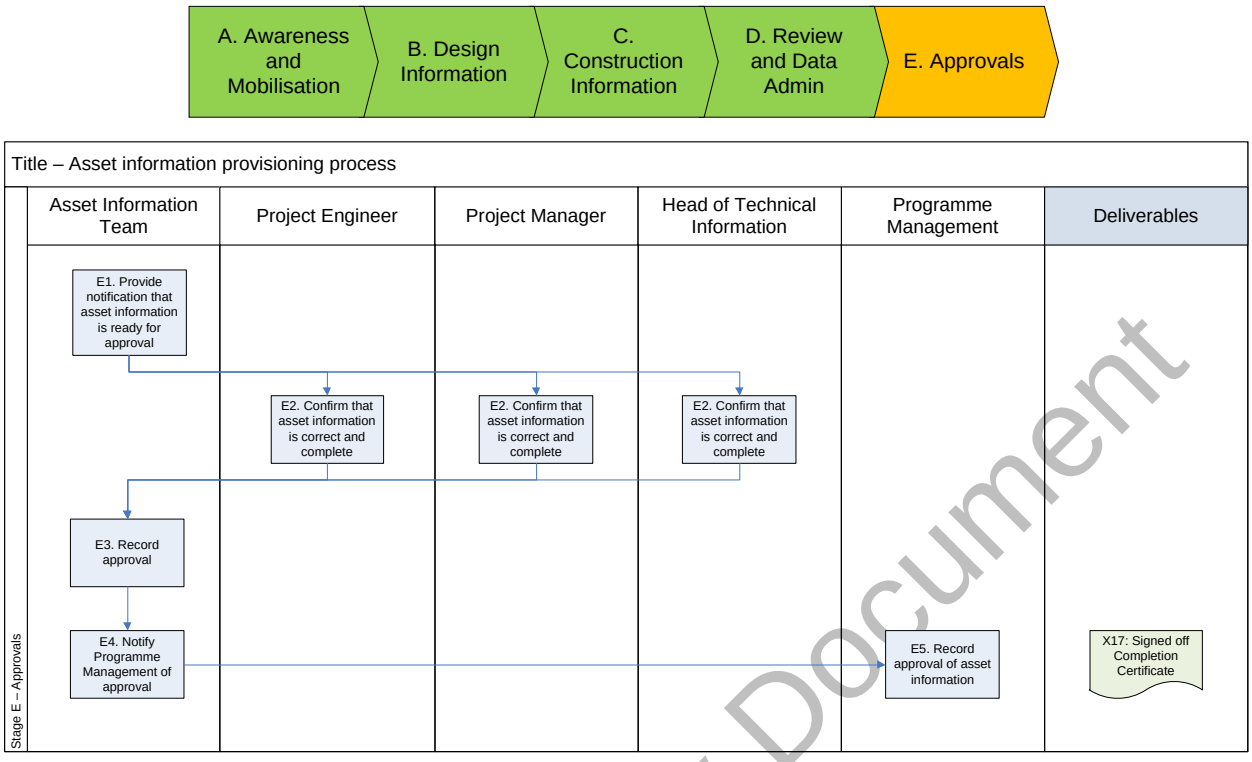

Figure 6 - Stage E - Approvals

E1 Once the asset information is assessed as complete and has passed the required quality checks (no later than 4 weeks prior to handover completion preferably earlier), the Asset Information Team shall notify the Project Manager, Project Engineer and Head of Technical Information (plus any other relevant parties) that the asset information relating to a particular project is ready for approval

E2 The relevant parties, or their nominated deputies, shall confirm that the asset information is complete and correct from their perspective with final sign off by Head of Technical Information.

E3 The Asset Information Team will record all approval details in eB and any other relevant systems in order to support programme management and project assurance processes

E4 The Asset Information Team shall notify the Programme Management Team of the successful delivery and approval of asset information relating to the specific project

E5 Programme Management shall record the successful approval in order to support project stage gates and assurance processes

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7 Key contacts

If you require more information, please use the following contact details:

Intranet:	Asset Info Intranet Site
Email:	AssetInfoTeam@crossrail.co.uk
Phone:	020 3197 5676 or Ext 5676
CAD Helpdesk:	CADSupport@crossrail.co.uk
IT Helpdesk:	0203 229 9777 or Ext 2777 support@crossrail.co.uk

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8 Reference Documents

This Procedure is part of the overall suite of documents describing Crossrail's approach to Asset Information, as illustrated below:

Asset Information Management Plan

CRL1-XRL-Z3-STP-CR001-50002

Discipline Specific Strategies

Crossrail BIM Principles document CR-XRL-Z3-RGN-CR001-50005

GIS Business Development Plan 2013 – 2015 CRL1-XRL-G-STP-CR001-50002 (Under Review)

Governance

Asset Information Governance Group Terms of Reference - CRL1-XRL-Z-STP-CR001_Z-50005

Specification	Acquisition	Storage	Transfer
Asset Identification Standard CRL1-XRL-O6-STD-CR001-00031 Asset Data Dictionary AIM-ADD-001 Asset Data Dictionary Master Configuration CRL1-XRL-Z3-ADDSD-CR001-50186 CAD Standards CR-STD-005 Asset Information Glossary CRL1-XRL-Z3-GUI-CR001-50012	Asset Information Provisioning Procedure CRL1-XRL-Z3-GPD-CR001-50004 Document Management Procedure CRL1-XRL-Z3-GPD-CR001-50001	AIMS User Manual CRL1-XRL-Z5-GML-CR001-50001 Asset Information Fundamentals CRL1-XRL-Z3-GPD-CR001-50007	Section 11 of Asset Information Management Plan

8.1 Asset Identification Standard

The Crossrail Asset Identification Standard defines the overall approach to the identification, naming and labelling of assets and is part of the overall Crossrail Standards Baseline. This is supported by the Asset Data Dictionary Master Configuration (CRL1-XRL-Z3-ADDSD-CR001-50186) which clarifies naming and labelling and holds other reference documents.

The Asset Identification Standard (CRL1-XRL-O6-STD-CR001-00031) can be located in eB or can be supplied by the Asset Information Team.

8.2 Contractor Information Pack

A collection of supporting information provided to Contractors to guide them through the process of providing asset information to Crossrail.

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8.3 Contract Clauses

The provision of asset information is included in the Contract Clauses of all contracts. The specific wording has been refined over successive versions in order to clarify the overall information requirements, but these changes have not changed the overall requirement for the provision of asset information.

These requirements are specified in:

- WORKS INFORMATION Volume 2B – General Requirements (Civils), section 13.5 'Asset Management & Traceability'; and
- WORKS INFORMATION Volume 2B – General Requirements (Systems), section 29.2.10 'Asset Management & Traceability'

Specific clauses are listed below:

The *Employer* will develop and manage asset information provision processes which should provide assurance that asset information is of suitable quality and to minimise the overall cost of asset information provision to both the *Contractor* and the *Employer*. These processes may be refined over the life of the contract to improve the effectiveness of asset information provision.

The *Contractor* shall be responsible for the provision of asset labels; the *Contractor* shall complete and submit to the *Project Manager* the Asset Data Collection forms in a timely manner thus allowing the *Employer* to issue the required asset label information.

The *Employer* shall operate managed processes to ensure consistent asset information is provided for each contract. In order to ensure consistent approaches to asset hierarchies and asset classification, the development and population of the asset hierarchies shall be undertaken by the *Employer*. Classification of assets will be based upon the Uniclass Standard and shall be undertaken by the *Employer*. *Contractors* shall be issued by the *Employer* with Asset Data Collection Forms relevant to their contract with the required attributes specified. *Contractors* shall populate the Asset Information Provision with all requested details and within the timescales specified in the information request.

The *Employer* will provide suitable briefing and training sessions to *Contractors* to ensure that they are aware of their responsibilities within the overall process. An example data collection form is included in Appendix 13L.

All asset data shall conform to the *Employer's* standards as specified in the Standards Baseline and the *Employer's* Asset Information Management Plan CRL1-XRL-Z3-STP-CR001-50002.

At an appropriate time the *Contractor* shall be provided with extracts of the *Employer's* Asset Information Management System (AIMS) database by the *Project Manager* containing planned assets to be constructed/ modified/ demolished/ preserved/ interfaced by the *Contractor* as detailed in the Asset Information Management Plan CRL1-XRL-Z3-STP-CR001-50002. These extracts will contain assets adjacent to the Site which the *Contractor* may need to be aware of.

Throughout the contract, the *Contractor* shall be responsible for the safe storage and management of the extracts of the *Employer's* Asset Information Management System (AIMS) supplied to them. They shall maintain suitable controls to prevent the loss, deletion, corruption or degradation of the Asset Register consistent with current industry good practice.

The *Contractor* shall populate the extracts of the *Employer's* Asset Information Management System (AIMS) to support future operational, maintenance and asset management activities. The Asset Information Management System (AIMS) extracts shall be updated to contain the complete asset listing covering the contracted works.

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The Asset Information Management System (AIMS) shall enable storage and access of the following information to *Employer's* standards:

• Asset identification

• Asset location

• Asset classification to the classification standards of the relevant infrastructure manager

• Asset status

• Asset criticality

• Asset attributes specific to the relevant class of asset

• The capability to store identifiers to allow linkage to other information systems

The Asset Information Management System (AIMS) extracts shall be populated by the *Contractor* with all specified data updates to comply with *Employer* requirements and shall be fully populated no later than four weeks after the relevant asset has been installed/ set to work.

The *Contractor* shall maintain at all times traceability of all assets and line wide replaceable units, including failure during testing and commissioning and product swap-out.

All assets, down to the line replaceable unit, shall have a unique identification number that is capable of being used to consistently identify the asset electronically and manually. Unique identification shall be compliant with the Employer's Asset Identification Standard (CRL1-XRL-O6-STD-CR001-00031).

All assets installed or supplied by the *Contractor* shall have a durable label or name plate appropriate to the environment either securely fixed to the asset, or securely fixed adjacent to the asset. These labels shall be compliant with *the Employer's* standards. These labels shall be compliant with *the Employer's* Asset Identification Standard (CRL1-XRL-O6-STD-CR001-00031).

The *Contractor* shall be accountable for the management, storage and population of the Asset Register data and shall attend, and contribute to *Employer* data governance meetings when required.

If changes are required to *Employer* standard reference data, then the *Contractor* shall notify the *Project Manager*.

The *Contractor* shall ensure that all data population and updates are consistent with the *Employer's* quality requirements. This shall include ensuring that the accuracy, validity, precision, completeness and timeliness of asset information comply with the *Employer* `s standards – listed as:

•Asset Identification Standard CRL1-XRL-O6-STD-CR001-00031

•Asset Information Management Plan CRL1-XRL-Z3-STP-CR001-50002

•The *Contractor* shall instigate suitable checks and audits of data quality to demonstrate that *Employer* `s standards are being complied with and shall demonstrate the effectiveness and outputs of these processes to the *Project Manager*, when requested.

•Requirements for the coding and numbering of *Employer* assets shall be compliant with the *Employer's* Asset Identification Standard CRL1-XRL-O6-STD-CR001-00031.

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The *Contractor* shall nominate a relevant senior employee as Data Owner who shall be accountable for the management, storage and population of the Asset Register data. The Data Owner shall attend, and contribute to *Employer* data governance meetings when required.

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9 Standard Forms / Templates

9.1 Stakeholder form

See overleaf for an example Stakeholder Form

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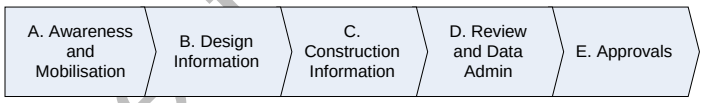
Asset Information Stakeholder Details: [Location]

Asset Information Team Contacts

Role	Name	Telephone	Email
Asset Information Team	-	020 3197 5676	AssetInfoTeam@crossrail.co.uk
Asset Information Provisioning Manager	[redacted]	020 3229 9571	markhoughton@crossrail.co.uk
Asset Information Technician			



Project Team Contacts

Role	Name	Telephone	Email
Project Manager			
Project Field Engineer			
Engineering Manager			

[Contract code and title]

Stage	Accountable	Telephone	Email	Area of Responsibility	Responsible	Telephone	Email
B	Fred Jones	020 3197 5423		*HVAC*	*Joe Bloggs*		
				MEP	*Jon Smith*		
C	Fred Jones	0203 229 9272					
D	Helen Lewis	020 3197 5423					
E	Alan Elton	020 3229 9805					

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