

EDEU-GGP-ZZZ-XXXXXX-PLN-IM-000001

EDEU BIM Execution Plan (BEP)

Strategic Infrastructure Onshore Exchange
INFORMATION MANAGEMENT

nationalgrid

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0 Document History

Table 0-1: Revision Table

Date	Revision	Status	Revised by	Description of changes
14/10/2025	P01	S3 -	R Williams, A Kok, Y Ardis	Completion of template for first revision.
21/11/2025	P02	S3 -	A Kok, R Williams	Changes to Federation strategy, Legacy Information and RFI
18/12/2025	P03	S2 -	A Kok, R Williams, G Stubbs	Major updates to sections 4, 5, 6, 7, 8.
11/02/2026	P04	S3 -	A Kok, R Williams, A Clegg, J Muroni, A Attia	Major updates to all sections of the document including several new sections.

Table 0-2: Contributors

Name	Company	Role
R. Williams	WSP	Senior BIM
A. Kok	LOR	Senior Project Information Manager
A. Ahmad	WSP	Package Information Manager
O. Akinwumi	WSP	Package Information Manager
G Stubbs	WSP	BIM Coordinator
Y. Ardis	WSP	BIM Coordinator

0.1 Governance

This BIM Execution Plan was created at the appointment of EDEU/: Brinsworth to High Marnham with specific consideration for the unique nature of the project. As the BIM Execution Plan is a formal appointment resource it will be subject to a change management process.

Table 0-1: Governance trigger events

Trigger event	Accountable party
Changes to the project's Exchange Information Requirements	Lead Appointed Party
Changes to the project's Delivery Team	Delivery Partners
Changes to the project's programme, plan of work or project scope	Delivery Partners
Approved changes to the Delivery Team's information management approach	Delivery Partners
Changes to the project's shared resources	Delivery Partners
Lessons learnt from project delivery	Delivery Partners

RACI review Record

Evidence of review from the different stakeholders

Table 0-2: RACI review table

Function/sub-function	RACI	Shared Date	Reviewed by	Reviewed Completed	Review Comments
EDEU Senior Project Information Manager (SPIM)	R		Armand Kok	Y	P04 Ready for S3
EDEU Senior BIM (SBIM)	R		Ross Williams		
EDEU Senior GIS (SGIS)	R		Matt Smith		
GGP IM Lead	C		Andrew Clegg Jack Muroni	Y	
GGP BIM Lead	C		Andrea Aita	Y	
GGP GIS Lead	C		Dionysios Kerasidis		
GGP Project Delivery Director (PDD)	A		Micheal Wilton		
Lead Designer (LD)	R				
Main Contractor (MC)	R				
Principal Designer (PD)-CDM	R				
NG Senior Project Manager (SPM)	I		James Leeming		
NG Project Controls Lead	I				
NG IM and Digital Lead	A		Marta Mroczka		

1 Introduction

This document is the BIM Execution Plan (BEP) produced by EDEU project integration team to convey the Integrated Delivery Team's approach to Information Management and Digital Delivery on EDEU: Brinsworth to High Marnham. It serves as a delivery resource, which the Delivery Team will use alongside other tools to produce, manage, and exchange project information throughout their appointment.

As shown in Figure 1, this BEP is a formal appointment resource that responds directly to National Grid's information needs for this project, as outlined in the Exchange Information Requirements, and Project Information Requirements. It also confirms any agreed amendments or additions to National Grid's Information Standard and Information Production Methods and Procedures required for the Delivery Team's purposes.

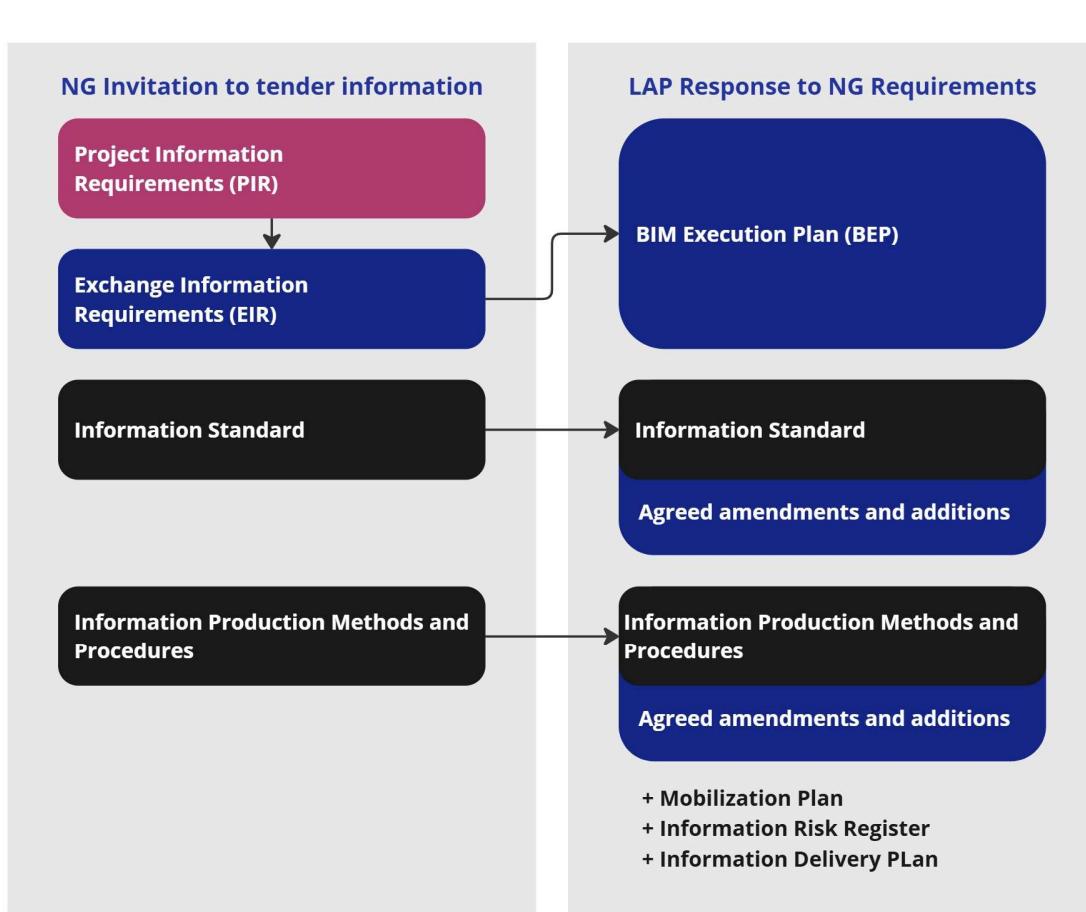


Figure 1-1: Relationship between the project's information requirements, Information Standard, Information Production Methods and Procedures, and the Delivery Team's agreed response to these documents.

1.1 Who uses the BIM Execution Plan?

The agreed BEP shall be used by the Integrated Project Delivery Team to produce, manage, and exchange information in a manner deemed suitable by National Grid and the project team. Each task team will refer to their Delivery Team's BEP to understand their information management functions, responsibilities, and agreed delivery strategy. The BEP also signposts to other useful delivery resources and tools, including:

- Agreed Information Standard
- Agreed Information Production Methods and Procedures
- Master Information Delivery Plan (MIDP)
- Delivery Team's information risk register

- Mobilisation plan
- Additionally, the BEP explains the Delivery Partner's federation strategy to all other project stakeholders.

Note: A BIM Execution Plan must be provided for each direct appointment to the Appointing Party.

1.1.1 Task Team Definition

For the purposes of this BIM Execution Plan a 'Task Team' refers to the specialised group responsible for delivering a specific work package or element (e.g., Substation Design, Civil Design, etc.) within the project.

Task Teams operate as components of an 'Appointed Party,' which is the organisation(s) formally appointed to deliver a complete package as shown in the Work Allocation Matrix.

The Integrated Project Delivery Team comprises all Lead Appointed Parties (equivalent to Delivery Partners on this project) and their associated Task Teams working collaboratively across the entire project scope. While a single Lead Appointed Party may coordinate multiple Task Teams, this arrangement should be distinguished from the Integrated Project Delivery Team, which represents the comprehensive project-wide organisational structure encompassing all delivery teams.

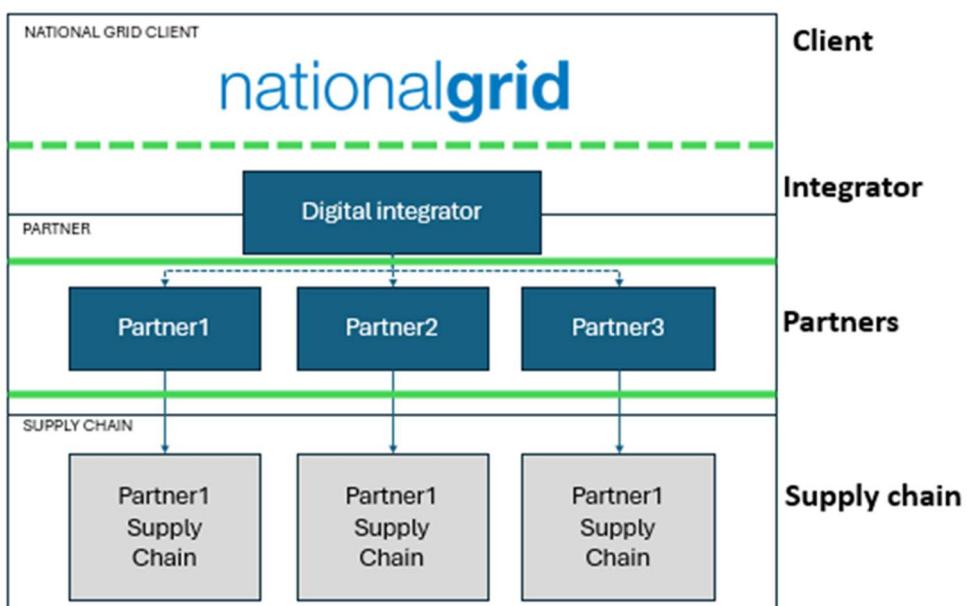


Figure 1-2: — Interfaces between parties and teams for the purpose of information management (Source ISO 19650-2:2018)

2 Project Description

2.1 Project description and purpose

Project Description

The Brinsworth–High Marnham Uprating Project (Figure 2-1) forms part of National Grid Electricity Transmission's (NGET) strategic reinforcement programme to strengthen the transmission network across the B8 system boundary. The project extends approximately 66 km, between Brinsworth (Metropolitan Borough of Rotherham, South Yorkshire) and High Marnham (Bassetlaw District, Nottinghamshire), passing through the existing Chesterfield Substation.

The existing 4ZV overhead line (OHL) currently operates at 275kV. To meet future system demands, this route will be uprated to 400kV, thereby increasing network transfer capability and supporting the integration of new generation and demand connections.

The principal physical works include:

Construction of three new 400kV substations at Long Lane, Chesterfield, and High Marnham.

Uprating of the existing 4ZV OHL between Brinsworth and Chesterfield to operate at 400kV, and continued use of the existing consented 400kV conductors between Chesterfield and High Marnham.

Diversion and reconfiguration of existing transmission circuits, including the erection of 19 new towers, 9 temporary towers, and the dismantling of 37 existing towers.

Cross-site cabling at Chesterfield, linking the existing 132kV NGED substation to new super grid transformers (SGTs) at the 400kV substation.

Commissioning of diverted circuits with associated protection and control modifications.

This project will also provide critical network interfaces for adjacent reinforcement schemes, including the Chesterfield–Willington and North Humber–High Marnham ASTI projects, forming part of the wider coordinated plan to strengthen the NETS.

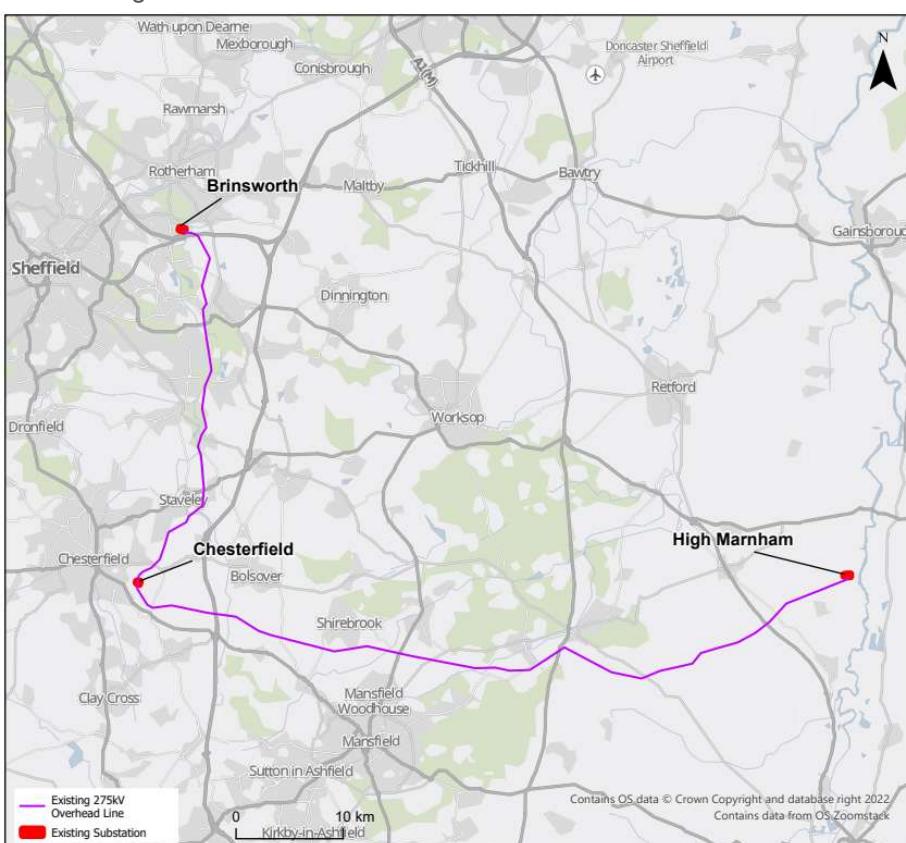


Figure 2-1: EDEU High level project map.

Table 2-1: Key project governance information.

Appointing Party	National Grid
Appointing Party Project Executive	James Leeming – National Grid Project Director
Project name / reference	EDEU/: Brinsworth to High Marnham
Project OPPM number	102185/102183
Current Governance Stage	Stage E (Gate 6) – Develop and Consent
Contract Form:	NEC 4 Option E

Project Purpose

The purpose of the Brinsworth–High Marnham Uprating Project is to reinforce the National Electricity Transmission System (NETS) across the B8 boundary to ensure ongoing compliance with the NETS Security and Quality of Supply Standard (SQSS) and to accommodate forecasted generation and demand increases by 2035.

National Grid's Network Options Assessment (NOA) has identified that, even with other planned reinforcements, the B8 boundary will experience a capacity deficit of 3,448 MW and a capability deficit of 11,579 MW. This project therefore provides a key system reinforcement to deliver an uplift in boundary transfer capability ahead of the planned 2029 energisation.

The project will deliver:

- Increased transmission capacity across the B8 boundary, addressing future energy transfer requirements.
- Enhanced system resilience and flexibility, enabling secure and reliable network operation.
- Integration with adjacent strategic reinforcements, creating a coordinated regional upgrade to support energy transition and system operability.
- Provision of new 400kV connection points to facilitate customer connections and regional growth.
- Contribution to NGET's wider Net Zero 2035 objectives, ensuring the transmission system supports decarbonisation and future electrification.

2.2 Great Grid Partnership Delivery Model

This project will be delivered as part of the Great Grid Partnership (GGP). Please see the below Figure 2-2 which shows the high-level operational model of the of how the partnership is structured with individual partners and their supply chain feeding into a central GGP integrator who set the standardisation of processes and procedures across the GGP. The integrator also serves as the connections point between the partner organisations and the client. Please note that where possible throughout this document the colour scheme used in Figures 2-2 & 2-3 serve as a key to identify the appropriate entity within the overall GGP delivery model.

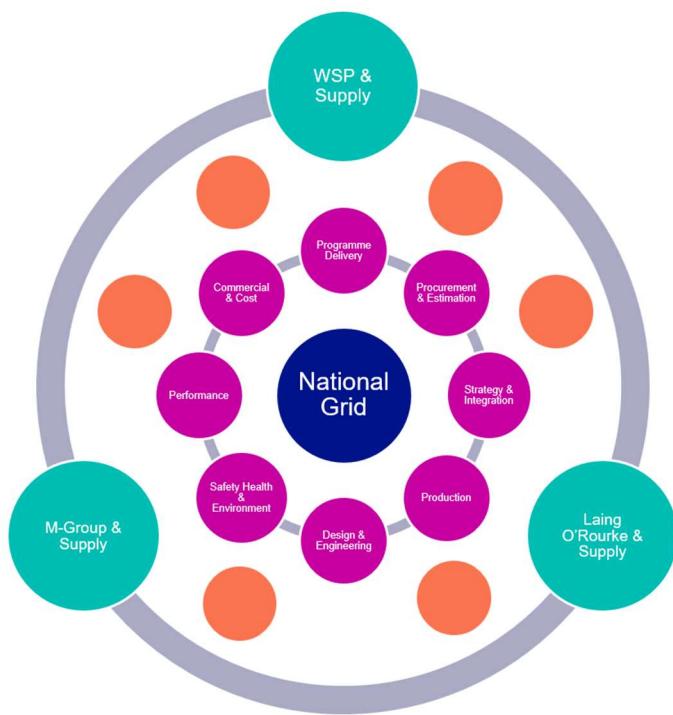


Figure 2-2: Great Grid Partnership high-level delivery model. Please note this does not depict contractual relationships, but rather the intended collaborative nature of the enterprise delivery model.



Figure 2-3: Colour scheme used to depict different entities in the Great Grid Partnership where applicable throughout this document in accompanying tables and figures.

2.3 Project plan of work/program/initiative

EDEU is broken down into the scope below that details which work packages will be delivered by each of the three enterprise partners (Table 2-2). The Lot 1 partner is WSP and the Lot 2 partners are Laing O'Rourke (LOR) and M-Group Energy Services (MGE). The high-level programme can be seen in Figure 4.

Table 2-2: Division of scope by GGP Partner organisations on EDEU.

Partner	Scope Summary	Work Packages
WSP	Design and Engineering Services	SUB 50 – 52*; OHL 70-74
WSP	Consents & Environmental Services	CONS, ENVS
M-Group Energy Services	Long Lane 400kv Substation Delivery Lead	SUB 50
M-Group Energy Services	Upgrading of existing OHL between High Marnham, Long Lane, Chesterfield and Brinsworth Substations	OHL 70 - 74
Laing O'Rourke	Chesterfield 400kv Substation Deliver Lead	SUB 51*
Laing O'Rourke	High Marnham 400kv Substation Delivery Lead	SUB 52

- The primary & secondary design of the Chesterfield substation is being undertaken by GEV on behalf of Laing O'Rourke.

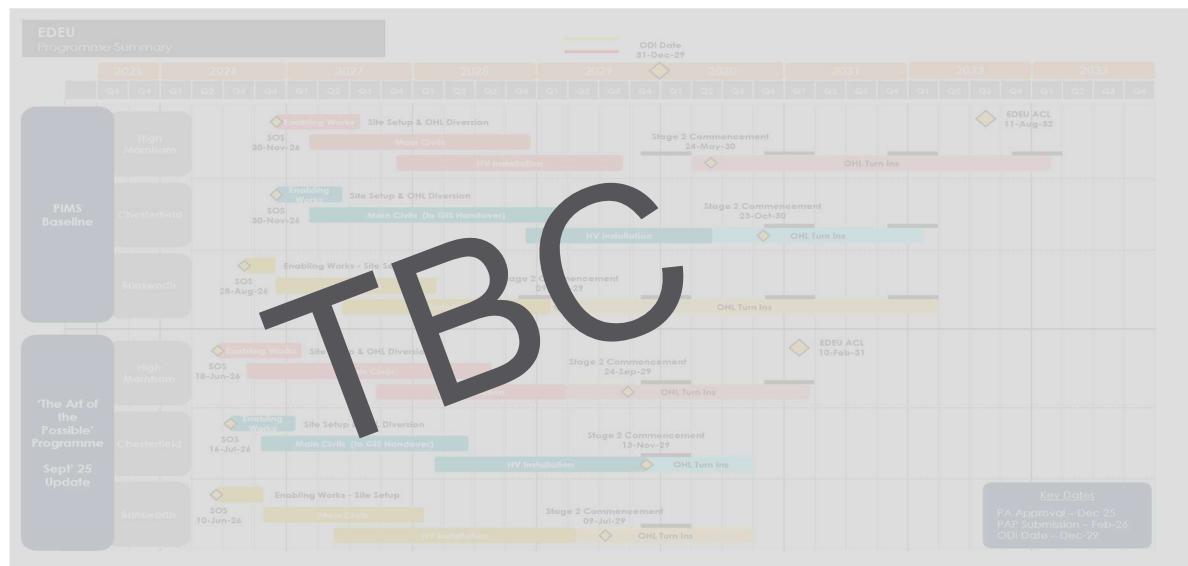


Figure 2-4: EDEU High level project programme.

A summary of the current programme can be found in the above image. A Link to the full project programme will be provided in future once all the partners have federated their programs into the project P6.

2.4 Referenced material

For information on the requirements to be adopted by the appointed parties involved in the project, please refer to the below Table 1-3 and APPENDIX B – Applicable Standards and Reference Summary. All standards below are available in the Clients collaboration SharePoint and will be made available on ACC once the programme level ACC workspace has been developed to bridge GGP standards to individual ACC project support libraries.

Table 2-3: Key project reference standards as set by the GGP digital integrator.

Guidance Documents reference	Title	Rev
GGP-NGD-XX-XX-PRC-IM-000001	Information Production Methods and Procedures	C02
GGP-NGD-XX-XX-SPC-IM-000002	Exchange Information requirements	C03
GGP-NGD-XX-XX-STN-IM-000001	Information Standard	C03
GGP-NGD-XX-XX-STN-IM-000003	Naming and metadata standard	C03
GGP-NGD-XX-XX-TEM-IM-000003	Information Mobilisation Plan	C01
GGP-NGD-XX-XX-TEM-IM-000007	Master Information Delivery Plan Template	C03
GGP-NGD-XX-XX-TEM-IM-000005	GGP Responsibility Matrix Template	C01
NGSI-NGD-XX-XX-STN-IM-000001	Geospatial Data standard	C02
NGSI-NGD-XX-XX-STN-IM-000002	File Naming and Metadata Code Book	C01
NGSI-NGD-XX-XX-STN-IM-000009	Cartography standard	C02

2.5 BEP Exceptions and Exclusions

Table 2-4: ISO Reference Standards exceptions

Reference	Change	Mitigation (if applicable)	Risk Register / Derogation Ref
ISO 19650-2:2018	Lead appointed party not single entity but rather the GGP integrator	Redefinition of roles captured in Roles and distribution matrix	

Table 2-5: Project reference standards, frameworks sections and content exceptions. All references in risk register related to EDEU Information Management Risk Register - EDEU-GGP-ZZZZ-XXXXXX-RGS-IM-000001

Reference	Change	Mitigation (if applicable)	Risk Register / Derogation Ref
SR135	Multiple agreed deviations as articulated in Appendix A of the Information Standard NGD-XX-XX-STN-IM-000001		Risk 7
SR188	Implementation of Progressive Assurance for	New S3 – Workflow included in section 9 of this document	Risk 9

	Review and Comment		
GGP-NGD-XX-XX-SHD-IM-000001	IDR Not issued from integration team	Develop TIDP and LOD without IDR	
GGP-NGD-XX-XX-PRC-IM-000001	S3 – Review and comment workflow derogation.	Changes to accommodate progressive S3	Risk 9

Table 2-6: Key reference EDEU documentation pertaining to information delivery and associated status. This list does not include the TIDP reference which are discussed in section 4 of this document.

Reference	Title	Rev	Purpose of issue	Risk Register Ref/Comments
EDEU-GGP-ZZZZ-XXXXXX-MAT-IM-000001	EDEU - Project IM Assignment Matrix	P0x	S0	Risk 8. Proposed in next revision
EDEU-GGP-ZZZZ-XXXXXX-REG-IM-000001	EDEU - Digital and Information Management Risk Register	P01	S2	
EDEU-GGP-ZZZZ-XXXXXX-MAT-IM-000002	EDEU - IM Roles and Distribution Matrix	P01	S2	
EDEU-GGP-ZZZZ-XXXXXX-MAT-IM-000003	EDEU - Detailed Responsibility Matrix	P0x	S0	Risk 10. Proposed in next revision
EDEU-GGP-ZZZZ-XXXXXX-REG-IM-000001	EDEU - Model Register	P0x	S0	New proposal, under development
EDEU-GGP-ZZZ-XXXXXX-PLN-IM-000004	EDEU - Information Management Mobilisation Plan	P01	S2	
EDEU-GGP-ZZZ-XXXXXX-PLN-IM-000005	EDEU - Information Management Capacity and Capability Assessment Plan	P0x	S0	Proposed in next revision
EDEU-GGP-ZZZ-XXXXXX-PLN-IM-000003.	EDEU – Master Information Delivery Plan	P0x	S0	Proposed after first issue of TIDP's.
	WAP	P01		
	DoR	P01		
EDEU-WSP-SS50-XXXXXX-SPC-ZZ-000001	Long Lane DID	P01	S3	
EDEU-WSP-SS51-XXXXXX-SPC-ZZ-000001	Chesterfield DID	P01	S0	
EDEU-WSP-SS52-XXXXXX-SPC-ZZ-000001	High Marnham DID	P01	S3	

3 Project Team and Roles

3.1 Project Team Organisation

Table 3-1 below outlines the project team organisation for Project EDEU Brinsworth to High Marnham for the overall phases of the project. It will be updated as parties join the project team. It is important to note this diagram does not act to identify contractual relationships. The individuals and parties shown below is summary of lead roles.

Table 3-1: Project Team Organisation.

Appointing Party		National Grid	
Lot 1 Delivery Team			
Package	1st Tier	2nd Tier	Organisation
CONS-Consenting	<i>Consents & Planning Lead – Finn Heberlet</i>	<i>Consents & Planning Manager – Laura Richardson</i>	WSP
ENVS-Environmental Services	<i>Environmental Lead – Andy Slows</i>	<i>Environmental Manger – Thomas Rogers</i>	WSP
Design – SUB 50 – 52; OHL 70-74	<i>Project Manager – Sub 50 (Long Lane) Richard Carr</i>	<i>Secondary Lead - Kamyab Khoshnasib</i>	WSP
	<i>Project Manager – Sub 51 (Chesterfield) Dapo Oginni</i>	<i>OHL Lead - Arif Rahman</i>	WSP
	<i>Project Manager – Sub 52 (High Marnham) Stewart Wilson</i>	<i>LCDAE – Evan Kalantzis</i>	WSP
	<i>Primary Design Lead - Mladen Radman</i>	<i>Civils CDAE – Paul Ditchburn</i>	WSP
		<i>HV Cables CDAE – Ashish Tiwari</i>	WSP
Lot 2 Delivery Team			
Package	1st Tier	2nd Tier	Organisation
SUB 50 – Long Lane OHL 70 - 74	<i>Project Manager – Steve Freeman (Interim)</i>		M-Group
		<i>Substation Project Manager – Tom Hogg</i>	M-Group
		<i>OHL Senior Project Manager – TBC</i>	M-Group
		<i>Site Manager Surveys – Eugene Fox</i>	M-Group
		<i>M&E Pre-Contract Manager – Andrew Waistow</i>	M-Group
		<i>Pre-construction Director – Ian Douglas</i>	M-Group
SUB 51 - Chesterfield Sub 52 – High Marnham	<i>Project Leader – Owen Ball</i>		Laing O'Rourke
		<i>Project Leader Civils – Andrew Frazer</i>	Laing O'Rourke
		<i>Project Leader HV – Yasir Siraj</i>	Laing O'Rourke
		<i>Project Technical Lead – Meeta Sandu</i>	Laing O'Rourke
		<i>Senior Design Manager – Aref Shaikh</i>	Laing O'Rourke
		<i>Principal Engineer – Tim Field</i>	Laing O'Rourke
		<i>Civils Project Manager – Tony Williams</i>	Laing O'Rourke
		<i>Design Manager Civils – Imogen Graves</i>	Laing O'Rourke
		<i>M&E Package Manager – Chris Holmes</i>	Laing O'Rourke

3.2 Information management responsibilities

Table 3-2 below outlines project information management functions and responsibilities on Project EDEU/: Brinsworth to High Marnham.

The functions and responsibilities outlined in Table 10 should not be confused with job titles or other professional designations within the project team. Additionally, the responsibilities outlined below are to be considered 'key' responsibilities associated with the project function as outlined in the BS EN ISO 19650 series. Any further responsibilities documented within the main body of this document are also to be fulfilled.

Table 3-2: Project roles and responsibilities

Function	Individual / Party fulfilling function	Responsibilities
Appointing Party		
Client Roles		
Client	National Grid	<ul style="list-style-type: none"> • Approval of the appointment of Project Stakeholders • Approving changes to the master programme, budget cost, design, and information management implementation • Provide Common Data Environment (ACC & SharePoint) for information delivery and collaboration • Agreeing information management approach for the project by acceptance of the Project BEP • Appointment of a Delivery Partner to undertake the role of Senior Project Information Manager (Information Management function). • Mobilises Client information management resources • Establish the information delivery milestones. • Review and accept the Task Information Delivery Plan from GGP Partners for correctness and completeness against agreed scope and information requirements.
Client Information Management	Digitalisation & Information Management Lead	<ul style="list-style-type: none"> • Establish and own the Project Information Requirements (PIR). • Establish and own of the Exchange Information Requirements (EIR). • Establish and own the Information Standard (IS). • Establish and own the Information Production Methods and Procedures (IPMP). • Establish and own the BEP template. • Establish a programme for the review of the Delivery Partner's IM risk register. • Report progress, drivers and highlight risks to the information management process to National Grid and project stakeholders. • Monitor programme level compliance • Review the outcomes of lessons learnt and the end of project. • Facilities and chair the information management governance committee • Support mobilisation and onboarding of project IM resources. • Confirm acceptance of Master Information Delivery Plan as compliant with client information requirements
Client	SI Digital	<ul style="list-style-type: none"> • ACC and SharePoint Platform level administration • Provision of licences and management of license model • Vendor management • CDE access strategy and ID management • Monitoring System Performance against vendor SLAs • CDE integration strategy and implementation of in line with GGP requirements • Technology enablement within CDE environment • Solution Architecture • Service management

Function	Individual / Party fulfilling function	Responsibilities
Client	Document Control	<ul style="list-style-type: none"> • Ensure all documents comply to the information standard • Ensure the correct revision(preliminary/contractual) is applied in ACC • Maintain audit trails for document approvals, revision and transmittals • Manage uploads, status updates and workflows in the shared and published CDE (ACC) • Generate compliance reports for information management leads. • Supports audits (internal and external) by demonstrating document history, approval and issue log. • Act as a point of contact for document submission queries.
GGP Integrator Roles		
Digital & Information Management (GGP Integrator)	GGP Lead Information Manager	<ul style="list-style-type: none"> • Implement, configure, and maintain the CDE to align with the information management principles defined in section 1.3 of the EIR. • Manage the operation, standards, culture, and implementation of CDE at project and package level, ensuring effective integration with the Delivery Partners' CDE and Shared Appointing Party CDE. • Monitor GGP programme level compliance and report against information supplied by the Delivery Team against the requirements set out herein. • Provide training and support to all relevant project stakeholders for use and understanding of CDE functions. • Support mobilisation of Senior PIMs and other project IM resources to Projects • Review and verify the Delivery Team's BEP. • Audit information delivery management processes within projects to ensure consistent approach across projects. • Review and accept the deliverable are produced in accordance with the BEP. • Review and verify Task Information delivery plans for compliance with information standards • Verify the Master Information Delivery Plans (MIDP) across projects to ensure consistency and compliance across projects • Review and verify, implement and maintain the processes and procedures for validating the Client's Exchange Information Requirements (EIR) across the projects. • Assess and report to the Client and Digital & Information Management Lead at defined intervals the compliance of the Delivery Partners' information deliverables shared via the CDE. • Assess and report to the Client and Digital & Information Management Lead that the Delivery Partners are utilising appropriate software and have the appropriate level of skills to deliver. • Manage the administration of the Project Autodesk Construction Cloud (ACC) and SharePoint CDE environments, ensuring that users have appropriate access levels and that the system is maintained effectively • Ensure the compliance for security requirements. • Managing and maintaining CDE workflow(s) configuration • Conduct periodic audits of the CDE to ensure data integrity and compliance with the Information Standard (IS), reporting findings to the Information Management Lead or other relevant stakeholders. • Provide requirements and support definition of effective CDE integration strategy between client provided Share-Published CDE and Partner production WIP CDE.

Function	Individual / Party fulfilling function	Responsibilities
Digital & Information Management (Integrator)	GGP Lead BIM/Digital Delivery Manager	<ul style="list-style-type: none"> Facilitate the management of the federated model by setting production standards and requirements for projects. Verify that Project BEP for BIM/digital delivery processes and deliverables meet IM framework requirements. Verify MIDP with respect to quality of BIM/digital deliverables against information requirements Conduct audit of federated models and other project Support BIM Coordination: Assist in resolving clashes or inconsistencies within the federated model by collaborating with Project IM Teams (Senior BIM Coordinators, SPIMs and Senior GIS coordinators) Ensure BIM Compliance: Liaise with Senior Project BIM coordinators to verify that the federated model adheres to the BIM Execution Plan (BEP) and Exchange Information Requirements (EIR). Facilitate and chair BIM/digital delivery working group to ensure alignment across all projects. Liaise with Stakeholders: Act as a point of contact between the Client and Delivery Partners to ensure BIM outputs meet the Project Information Requirements and IM Framework requirements. Monitor BIM Deliverables: Track the progress of BIM-related outputs against the Master Information Delivery Plan (MIDP) milestones. Lead assessment and implementation of digital tools within CDE environment to support digital design and digital construction delivery activities Lead development, implementation and management of digital object and component libraries within CDE.
Digital & Information Management (Integrator)	GGP Lead GIS Manager	<ul style="list-style-type: none"> Ensure that projects are aware and have access to the appropriate GIS standards relevant to the project. Review and verify Delivery Team's BEP for Geospatial data management, processes and deliverables meet IM framework requirements Verify MIDP with respect to quality of GIS deliverables against information requirements Ensure compliance through quality assurance and checking of Geospatial data deliverables with Geospatial Data Standards and any maps are compliant with Cartographic Standards and any other GIS requirements. Conduct periodic audits of project Geospatial data and mapping deliverables to ensure compliance reporting findings to the NGSI GIS Lead and relevant project contacts. Liaise with the NGSI GIS Lead regarding the NGSI geospatial platform to ensure it is updated with datasets required for central storage and geospatial applications serving the GGP programme or NGSI more broadly. Monitor Geospatial Deliverables: Track the delivery of geospatial datasets against Master Information Delivery Plan (MIDP) milestones.
Appointed Parties		
GGP Project Delivery Roles		
GGP Project Delivery Team	GGP Lead Designer	<ul style="list-style-type: none"> Mobilise and manage design resources across all appointed design teams. Coordinate with Package Design Leads (CDAE for disciplines) to ensure design scope alignment and integration. Appoint Senior BIM Coordinator for the project to oversee design federation and clash detection activities within BIM model environment in line with agreed BEP and client information requirements

Function	Individual / Party fulfilling function	Responsibilities
		<ul style="list-style-type: none"> Support the mobilisation of design-related digital tools and workflows (e.g., BIM authoring tools, clash detection platforms). Contribute to the BIM Execution Plan (BEP) from a design perspective. Ensure design deliverables are structured to meet the EIR, IDR, IS, and IPMP requirements. Ensure design outputs comply with the BEP, MIDP, Scope and project-specific standards. Collaborate with the Senior Project Information Manager to align design outputs with the information container structure and data drops (where these are required by BP/SR/TP221). Collaborate with the Senior Project Information Manager to maintain CDE access and support change management (BP/SR188). Support the verification of drawing numbers and metadata alignment with the MIDP. Participate in BIM briefings and working groups to align design and information management strategies (steering required as of when). Lead Design Coordination Meetings, ensuring multi-disciplinary integration. Ensure design models are structured and federated for coordination and clash detection. Review and validate design deliverables at key milestones (as per the role of the LCDAE, see BP/SR188). Manage design interfaces between disciplines and with other Delivery Partners. Ensure design integration supports the overall project delivery strategy. Provide guidance and support to Task Teams on design coordination and BIM requirements. Identify and manage design-related risks, especially those impacting information delivery. Document and share lessons learned related to design coordination and digital delivery. Coordinate with CDAEs to ensure timely submission are aligned with project milestones. Integrate CDAE requirements into the design programme and assurance planning. Ensure adherence to BP/SR188. Support the role as CDM duty holder (Principal Designer) and follow the process outlined in BP137. Contribute to the Health and Safety Register. Report design progress and coordination status to the Project Delivery Management Team
GGP Project Delivery Team	GGP Senior Project Information Manager	<ul style="list-style-type: none"> Mobilise, coordinate, and manage their appointed Package Information Managers and Project IM resources Interface with client information management function to ensure consistency and compliance against information standards Produce and maintain Digital and IM Mobilisation Plan for the project Establish and manage the project IM function governance for Project and Package information management teams (BIM, GIS and IM) Author, own and implement Integrated Project Delivery BIM Execution Plan (BEP). Ensure compliance with Information particulars (EIR/IS/IPMP) of the BEP requirements within the project. With Package Information Managers, establish and implement the information container structure and maintenance standards for the Project and Asset Information Model within the BEP.

Function	Individual / Party fulfilling function	Responsibilities
		<ul style="list-style-type: none"> • Coordinate and facilitate information model coordination meetings within the project • Support rollout of CDE systems, liaise with project management teams to provide project scope specific requirements for CDE implementation. • Lead adoption of Project CDE systems within the project • Provide training and support to Partner Package Teams (Task Teams) on information management requirements. • Verify and test information production methods and procedures within the project. • Establish and maintain the project detailed IM responsibility matrix. • Confirm with project teams the agreed milestones and data drops according to the scope and stage of the project. • Manage interfaces with other Delivery Partners regarding information delivery integration and alignment. • Compile and quality assure the Master Information Delivery Plan (MIDP) through collation of the Task Information Delivery Plans generated (TIDP) by each Task Team • Responsible for the verification of the NGET drawing numbers from PKIM's TIDP and ensure that the agreed codes are captured against deliverables in the MIDP when required. • Establish and maintain the project information delivery risk register associated with the timely delivery of information. • Review and approve IM deliverables from the IM Package before submission against the IDR (acceptance criteria) • Review and validate Task Team (package level) information models at key milestones as defined in the BEP. • Report progress on deliverables to the Project Delivery management team. • Document and share lessons learned with the Digital & IM Integrator • Maintain CDE access and oversee implementation of changes with CDE administrator. • Support implementation of information security protocols within project.
Lead Designer	Senior BIM Project Coordinator	<ul style="list-style-type: none"> • Lead implementation of digital design and construction standards for information production and delivery within project • Support capacity and capability assessment within project and wider ecosystem. • Supports mobilisation of BIM/CAD resources on projects and implementation of GGP ways of working • Provides guidance and direction to BIM/CAD specialists on the project • Responsible for the coordination of digital design with Shared CDE (ACC) • Verifies adherence to the BEP and Information particulars, with relation to CAD/BIM standards. • Ensure that CAD data deliverables are recorded within the MIDP • Support the Package IM teams with the delivery and quality assurance of 3D BIM deliverables with integrated data from design and construction. • Oversee design federation activities within 3d model environment • Compiles the Clash detection reports to the Package Information Managers <p>Reports any inconsistency with data dictionaries or deviations to the Package Information Manager.</p>

Function	Individual / Party fulfilling function	Responsibilities
Project Delivery Team	Senior Project GIS Coordinator	<ul style="list-style-type: none"> Supports mobilisation of the GIS resources on projects and implementation of GGP ways of working. Responsible for the coordination of GIS and geospatial data management on the project including the establishment of a project wide GIS platform if required. Responsible for the implementation of the NGSI Geospatial Data Standard and Cartography Standard within a project. Ensure compliance of project deliverables to the Geospatial Data standards and the Cartography standard. Ensure that geospatial data deliverables are recorded within the MIDP and their delivery is in accordance with this. Perform quality assurance checks of geospatial dataset deliverables, and its metadata is compliance with the appropriate standards. Request NGET asset and commercial geospatial reference datasets via appropriate RFI procedures and ensure data license compliance. Support creation and maintain project level maps and GIS solutions Support Digital Integrator Leads in development of GGP GIS data standards and schemas Participate in GGP information and digital alignment forums to drive standardisation of delivery approaches across all GGP projects
Partner Delivery Roles		
Delivery Partners	Package Information Managers (PkIM)	<ul style="list-style-type: none"> Mobilise Package Information Management resources; contributes to project level Digital and IM mobilisation plan. Mobilises Delivery Partner production systems and processors for information delivery management (aligned to requirements within information framework) Contribute to the Integrated Project Delivery Team BIM execution Plan. Ensure compliance with Information particulars (EIR/IS/IPMP) of the BEP requirements within their package scope. Establish and manage Delivery Partner's Work In Progress (WIP) CDE. Responsible for managing the self-allocation sheet in accordance with clause B3.2 of BP/SR135, specifically relating to the reservation of NGET numbers for ECM management. Responsible to produce and maintain the TIDP and contribute to the production of the MIDP. Agree with the Senior Project Information Manager the allocation of their deliverables against the NGET Drawing numbers. Review and approve IM deliverables from the IM Package before submission against the IDR (acceptance criteria). Manage exchange of information to Shared Project CDE systems Manage formal submission of package deliverables to Shared project CDE for delivery assurance purposes. Report progress on deliverables to the Senior Project Information Manager. Contribute to the production of the risk register around the timely delivery of information Contribute to the development of the detailed BIM responsibility matrix
Delivery Partner	Information/ Document controller	<ul style="list-style-type: none"> Perform Information Quality Assurance check upon any submission from WIP to Shared environment. Ensure that all documentation (including drawings) title blocks and revision history are compliant to Information Standard

Function	Individual / Party fulfilling function	Responsibilities
		<ul style="list-style-type: none"> Assist the Package information Managers with the allocation of The NGET Drawing number. Support Package Information Managers information submission to project Shared CDE systems
Delivery Partners	Task Information manager (TIM)	<ul style="list-style-type: none"> Ensure the adoption of the Information particulars (EIR/IS/IPMP) with the Package Information Manager. Contribute with the production of the TIDP and contribute to the production of the MIDP. Contribute to the development of the detailed BIM responsibility matrix. Report progress on deliverables to the Package Information Manager. Contribute with interface check with other Packages. Contribute to any risks to Information management.

3.3 Delivery team's organisational structure and composition

3.3.1 Task Teams

Table 3-3 and Figure 3-1, provide the details of the key project digital roles and contact details. Mandatory roles have been filled for all positions, with additional support being mobilised onto the project as we progress through detailed design.

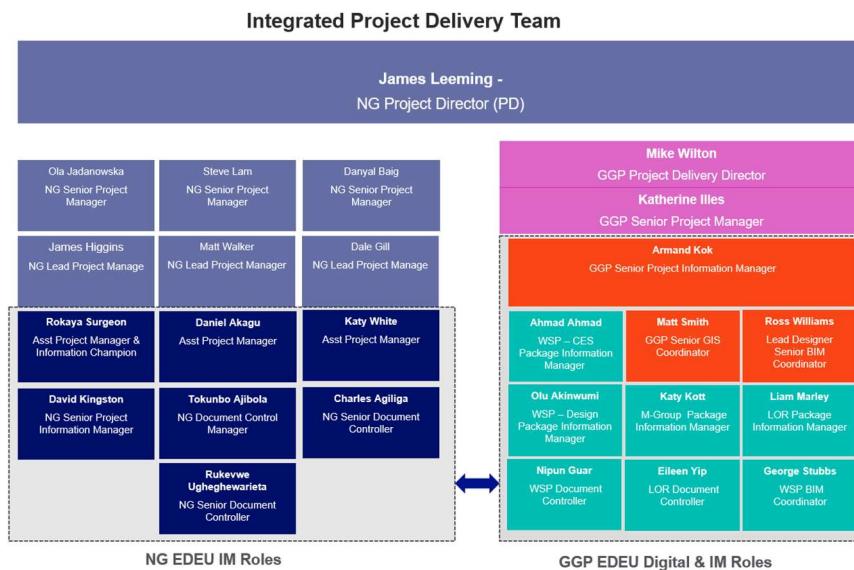


Figure 3-1: EDEU Distributed information management team structure between Client and GGP

Table 3-3: Delivery Team main contacts.

Task team/ organisation	Name	Digital Role	Security clearance	Contact
GGP Project Delivery Team	Armand Kok	Senior Project Information Manager	Yes	armandkok@laingorourke.com 07384 234154
GGP Project Delivery Team	Ross Williams	Senior BIM Coordinator	Yes	Ross.Williams@WSP.com
GGP Project Delivery Team	Matt Smith	Senior Project GIS Coordinator	Yes	matt.smith@wsp.com
WSP - Design	Olu Akinwumi	Package Information Manager	Yes	olufemi.akinwumi@wsp.com
WSP – CES	Ahmad Ahmad	Package Information Manager	Yes	ahmad.ahmad@wsp.com
WSP	Nipun Gaur	Information/ Document controller	Yes	nipun.gaur@wsp.com
WSP	George Stubbs	BIM Coordinator	Yes	George.Stubbs@wsp.com
M Group	Katy Kott	Package Information Manager	Yes	katy.kott1@mgroup ltd.com
Laing O'Rourke	Liam Marley	Package Information Manager	Yes	LMarley@laingorourke.com
Laing O'Rourke	Naomi Wren	Information/ Document controller	Yes	nwren@laingorourke.com
Laing O'Rourke	Eileen Yip	Information/ Document controller	Yes	ETang@laingorourke.com
National Grid	Rukevwe Ugheghewarieta	Information/ Document controller	Yes	rukevwe.ugheghewarieta@nationalgrid.com
National Grid	Charles Agiliga	Information/ Document controller	Yes	charles.agiliga@nationalgrid.com

3.4 Health and Safety

3.4.1 Introduction

The Appointing party has expressed an aspiration to progressively align Health and safety information management with the principles of **ISO19650-6:2024**, including the increased use of digital processes for the identification, recording and sharing of health and safety risk through the asset lifecycle.

While opportunities for the “*digitisation*” are encouraged and any suitable electronic tools and workflows proposed by project participants will be welcomed for consideration, the current mandated procedure for recording residual risk remain the use of BP137 forms in their established formats (word/excel-see standards BP137 supporting information).

The immediate requirement for this project is to ensure that all residual risks are comprehensively and accurately captured within the BP137 forms, thereby maintaining compliance in the Appointing party’s existing health and safety procedure while supporting a managed transition towards increased digital delivery in line with ISO19650-6.

The PIM information will be made available to the Lot 1 / Lot 2 Lead Appointed Parties by all Task Teams and Stakeholders for identifying and managing risk. The Lot 1 / Lot 2 Lead Appointed Parties and Delivery Team are obliged to inform of potential hazards and risks to the Appointing Party and Appointing Party Information Manager.

3.4.2 CDM

The Construction Design and Management Regulations 2015 place statutory requirements on all designers in the construction process. Please name the respective roles and responsibilities the Table 3-4 below:

Table 3-4: Key CDM contacts from each partner organisation.

Roles	Organisation	Name(s)	Contact (e-mail)
Designer			
Principle Designer (PD)	WSP		
Contractor			
Principle Contractor Sub-50 (Long Lane)	M Group		
Principle contractor Sub-51, 52 (Chesterfield & High Marnham)	Laing O'Rourke		

CDM aims to improve health and safety in the industry by helping you to:

- Sensibly plan the work so the risks involved are managed from start to finish.
- Have the right people for the right job at the right time.
- Cooperate and coordinate your work with others.
- Have the right information about the risks and how they are being managed.
- Communicate this information effectively to those who need to know.
- Consult and engage with workers about the risks and how they are being managed.

Refer to the Health and Safety Executive (<http://www.hse.gov.uk>) for more detail.

Project Stakeholders have a responsibility under the legislation to identify risks or hazards associated with the project and these are combined in a risk register with those generated by the other team members.

These risks can be integrated into the information model using the shared parameters, in the shared ACC Resources folder 00-Resource Library > Shared Resources. Any elements without associated risk shall be given an 'N/A' value.

Progress of health and safety information shall be monitored by the lead appointing party and addressed at each coordination meeting.

Residual Risk that are unmitigated shall be captured using [Impact/Safetybase] and /or recorded in a register the project residual risk registers (TBC)

All residual risk shall be transferred into BP137 forms.

3.5 Third party interface

This interface needs to be evaluated at mobilisation stage,

3.5.1 Neighbouring National Grid Projects

Table 3-5: Other National Grid & GGP Projects neighbouring EDEU.

EDEU Package	NG Project	Status
Sub-51 – Chesterfield	EDN2 (GGP)	GGP interface
Sub-52 – High Marnham	CGNC (GGP)	GGP interface
Sub-52 – High Marnham	WRRE (GGP)	GGP interface

3.5.2 Directly appointed Third party in NGSI

Table 3-6: Third parties appointed by NGSI with an interface on EDEU.

Organisation	Scope
Jacobs	Feed Design, Primary Consent Application and Management
Arcadis	Early Surveys
Gardiner & Theobald	Auditing
Ardent	Land Management
JBP Communications	Public Engagement
NGED (National Grid Electricity Distribution)	Asset Operator
Northern PowerGrid	External Stakeholder

3.5.3 Neighbouring schemes interfacing with Project EDEU

Detail the third-party involvement in the energisation of the project and/or commissioning interface at handover.

Table 3-7. Neighbouring schemes that interface with EDEU

Organisation	Scheme
Organisation A	e.g Windfarm ...

4 Information Delivery Strategy

4.1 Level of Information Need

As per the EIR, level of information need must be strictly in accordance with the ISO 19650 series. Additionally, information provided at information milestones aligned to key decision points, shall be sufficient to satisfy the Project Information Requirements (PIR).

Level of Information Need shall be understood as comprising the geometric and non-geometric aspects defined in Figure 4-1 below. Additionally, Level of Information Need shall be sufficient to satisfy the requirements outlined in Information Delivery Register - GGP-NGD-XX-XX-SHD-IM-000001.

Responsibility for geometric and non-geometric information is defined by the Detailed (BIM) Responsibility Matrix. GGP-EDEU-ZZZZ-XXXXXX-MAT-IM-000003.

As Per GGP requirements, it is to be clearly outlined what level of detail is required for each stage the project is at. The Information Standard (GGP-NGD-XX-XX-STN-IM-000001) states that the NBS specification bandings are to be used to create an understanding across the design teams as to the level of detail to work too.

LOD Bandings Explained :[Link to the NBS bandings here](#)

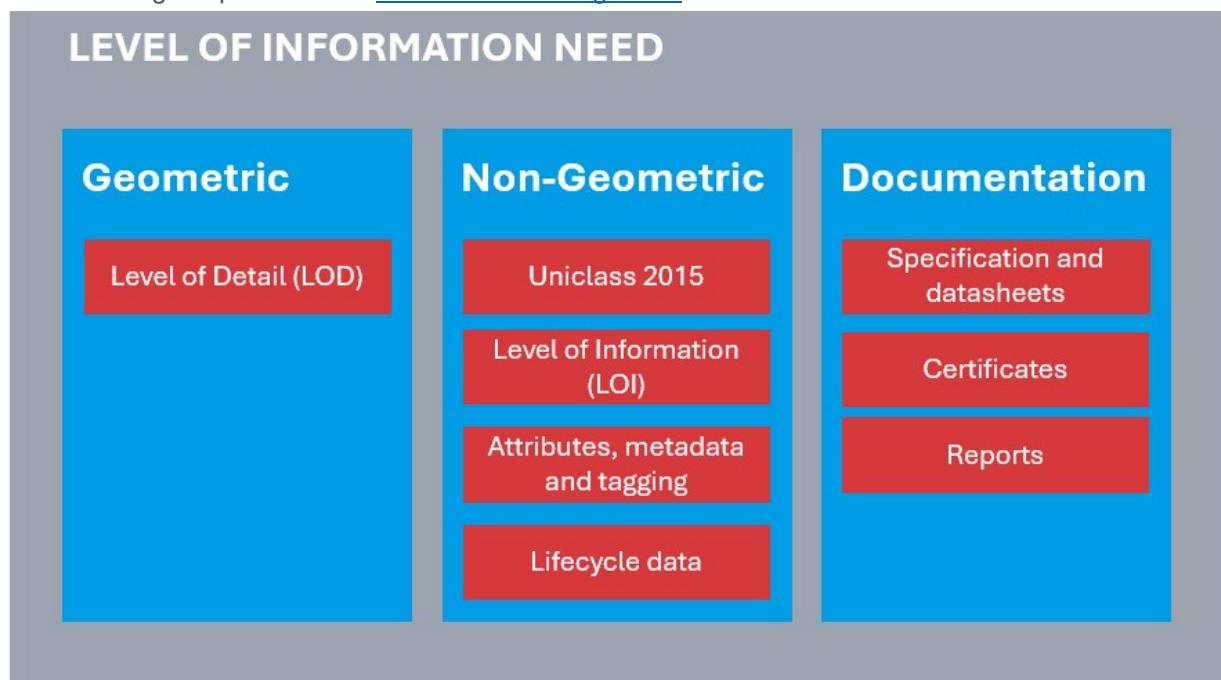


Figure 4-1: Constituent aspects of Level of Information Need.

4.1.1 Geometric Information

The geometric information requirements for this project are defined to ensure that the spatial and physical representation of the model meets the needs of all project stages.

The BIM execution plan is a live document, and it is intended that the information required shall be updated within this document as the project progresses. As per Lead Appointing Party Requirements, within the information standard document provided (GGP-NGD-XX-XX-STN-IM-000001), the project is currently at LOD 2 Concept Design. The project will be using the NBS LOD banding definitions. While the project is currently on LOD 2. Additional levels of detail will be adhered to as part of the standard as new information becomes available and will be updates in this document.

Table 4-1: Level of detail.

The project is currently at LOD 2 – Concept Design
Stage Purpose
To Propose visual indication at a concept stage and support general spatial coordination identifying key requirements such as access and maintenance zones for primary systems.

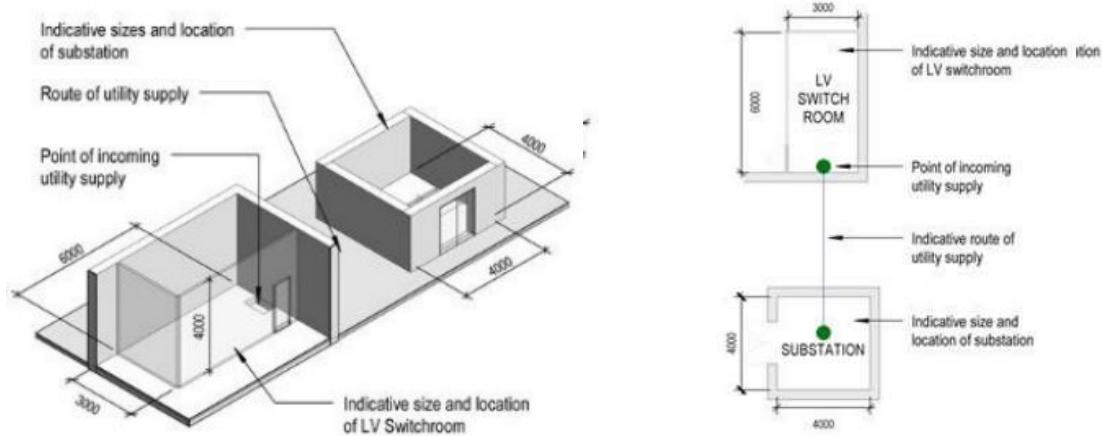


Figure 4-2: Example of LOD Level 2.

4.1.2 Non-Geometric Information

Non-geometric information requirements are established to provide a comprehensive dataset of attributes and documentation that supports the project's operational, regulatory, and sustainability goals.

All elements will be classified using the Uniclass 2015 Classification system to ensure consistency and interoperability across the project team.

The Level of Information (LOI) will be defined for each element, specifying the depth of non-geometric data required

As per the client requirements outlined in the information standard (GGP-NGD-XX-XX-STN-IM-000001) and IPMP (GGP-NGD-XX-XX-PRC-IM-000001), the NBS approach will underpin the delivery of this project. Non-Geometric information or data required will guided by the NBS LOI (level of information need). [Linked Here](#)

Table 4-2: Level of information.

The project is currently at LOI 2 – Outline Spec
Stage Purpose
This level of information is a simple description of types and concepts summarizing design intent. Outline specs may include incomplete descriptions of products and systems to be detailed in later project stages for example to capture client preferences

4.2 Information Delivery Plan

4.2.1 High-level responsibility Matrix

The high-level responsibility Matrix contains the allocated responsibility for each element of the information model and Key deliverables associated with each element, as may be identified in the Information particulars

Table 4-3: High-Level responsibility matrix – Package Sub-50 – Long Lane

Project Information model (PIM) elements	Stage E	Stage F		Stage G
	Development & Consent	Detailed design	Construction	Handover
	Resp. Org.	R Resp. Org.	Resp. Org.	Resp. Org.
Substation SITE	WSP	WSP	MGE	MGE
Site topography	WSP	WSP	MGE	MGE
Site Geotechnical	WSP	WSP	MGE	MGE
Underground utility	WSP	WSP	MGE	MGE
Substation Building	WSP	WSP	MGE	MGE
External form and appearance	WSP	WSP	MGE	MGE
Building layout	WSP	WSP	MGE	MGE
Substation Plant & Equipment	WSP	WSP	MGE	MGE
Primary systems	WSP	WSP	MGE	MGE
SLD & Schematics	WSP	WSP	MGE	MGE
Secondary systems	WSP	WSP	MGE	MGE
OHL	WSP	WSP	MGE	MGE
Substation flood studies	WSP	WSP	MGE	MGE
Protection and control	WSP	WSP	MGE	MGE
Support Structure	WSP	WSP	MGE	MGE
Foundation and plinths	WSP	WSP	MGE	MGE
Cables & Connections	WSP	WSP	MGE	MGE

Table 4-4: High-Level responsibility matrix – Package Sub-51 – Chesterfield

Project Information model (PIM) elements	Stage E	Stage F		Stage G
	Development & Consent	Detailed design	Construction	Handover
	Resp. Org.	R Resp. Org.	Resp. Org.	Resp. Org.
Substation SITE	WSP	WSP	LOR	LOR
Site topography	WSP	WSP	LOR	LOR
Site Geotechnical	WSP	WSP	LOR	LOR
Underground utility	WSP	WSP	LOR	LOR
Substation Building	WSP	WSP	LOR	LOR
External form and appearance	WSP	WSP	LOR	LOR
Building layout	WSP	WSP	LOR	LOR
Substation Plant & Equipment	WSP	WSP	LOR	LOR
Primary systems	WSP	WSP	LOR	LOR
SLD & Schematics	WSP	WSP	LOR	LOR
Secondary systems	WSP	LOR	LOR	LOR
OHL	WSP	WSP	LOR	LOR
Substation flood studies	WSP	WSP	LOR	LOR
Protection and control	WSP	LOR	LOR	LOR
Support Structure	WSP	WSP	LOR	LOR
Foundation and plinths	WSP	WSP	LOR	LOR
Cables & Connections	WSP	WSP	LOR	LOR

Table 4-5: High-Level responsibility matrix – Package Sub-52 – High Marnham

Project Information model (PIM) elements	Stage E	Stage F		Stage G
	Development & Consent	Detailed design	Construction	Handover
	Resp. Org.	R Resp. Org.	Resp. Org.	Resp. Org.
Substation SITE	WSP	WSP	LOR	LOR
Site topography	WSP	WSP	LOR	LOR
Site Geotechnical	WSP	WSP	LOR	LOR
Underground utility	WSP	WSP	LOR	LOR
Substation Building	WSP	WSP	LOR	LOR
External form and appearance	WSP	WSP	LOR	LOR
Building layout	WSP	WSP	LOR	LOR
Substation Plant & Equipment	WSP	WSP	LOR	LOR
Primary systems	WSP	WSP	LOR	LOR
SLD & Schematics	WSP	WSP	LOR	LOR
Secondary systems	WSP	LOR	LOR	LOR
OHL	WSP	WSP	LOR	LOR
Substation flood studies	WSP	WSP	LOR	LOR
Protection and control	WSP	LOR	LOR	LOR
Support Structure	WSP	WSP	LOR	LOR
Foundation and plinths	WSP	WSP	LOR	LOR
Cables & Connections	WSP	WSP	LOR	LOR

4.2.2 Detailed Responsibility Matrix

The Detailed Responsibility Matrix outlines the allocated responsibility for each element of the information model and the key deliverables associated to each element. National Grid and the GGP integrator are currently establishing a programme-level Responsibility Matrix that defines will more clearly define the level of detail, level of information, task teams, roles and responsibilities. Refer to file name of the DRM.

4.2.3 Task Information delivery plan(s)

All Appointed parties shall populate a Task Information Delivery Plan (TIDP) for each task within the project using the template available, refer to template EDEU-NGD-ZZZZ-XXXXXX-TEM-IM-000001. Table below provides the full list of the TIDP's.

The **Task Information Delivery Plan (TIDP)** shall be verified against the **Works Allocation Package (WAP)** to confirm that all defined tasks, deliverables, responsibilities, and information outputs are fully aligned with the formally agreed scope of works. This verification ensures that each information deliverable within the TIDP is directly traceable to the corresponding allocated works, avoids omissions or duplication across delivery partners, and provides assurance that the planned information production accurately reflects contractual responsibilities, interfaces, and programme expectations.

Table 4-6: Task information delivery plan list

Package	Org.	File Name	Descriptions
Project Wide	GGP	EDEU-GGP-ZZZZ-XXXXXX-PLN-IM-000001	GGP Task Information and Delivery Plan – Route Wide GGP Partner Collaboration
ENVS- Environmental services	WSP	EDEU-WSP-ENVS-ZZZZZZ-PLN-IM-000001	WSP Task Information Delivery Plan – Environmental Services
CONS - Consenting	WSP	EDEU-WSP-CONS-ZZZZZZ-PLN-IM-000001	WSP Task Information Delivery Plan – Consents
SUB-50 Long Lane	WSP	EDEU-WSP-SS50-XXXXXX-PLN-IM-000001	WSP Task Information Delivery Plan - Long Lane 400kV Substation (LONL4)
	MGE	EDEU-MGE-SS50-XXXXXX-PLN-IM-000001	M Group Task Information and Delivery Plan - Long Lane 400kV SS
Sub-51 Chesterfield	WSP	EDEU-WSP-SS51-XXXXXX-PLN-IM-000001	WSP Task Information Delivery Plan - Chesterfield 400kV Substation (CHTE4)
	LOR	EDEU-LOR-SS51-XXXXXX-PLN-IM-000001	Laing O' Rourke Task Information and Delivery Plan - Chesterfield 400kV SS NEW
Sub-52 High Marnham	WSP	EDEU-WSP-SS52-XXXXXX-PLN-IM-000001	WSP Task Information Delivery Plan - High Marnham 400kV Substation (HIGM4)
	LOR	EDEU-LOR-SS52-XXXXXX-PLN-IM-000001	Laing O' Rourke Task Information and Delivery Plan - High Marnham 400kV SS NEW
OHL 70 - 74	WSP	EDEU-WSP-OH71-XXXXXX-PLN-IM-000001	WSP Task Information Delivery Plan - Overhead Lines Routes 4ZH
	WSP	EDEU-WSP-OH72-XXXXXX-PLN-IM-000001	WSP Task Information Delivery Plan - Overhead Lines Routes ZDA
	WSP	EDEU-WSP-OH73-XXXXXX-PLN-IM-000001	WSP Task Information Delivery Plan - Overhead Lines Routes ZDF
	WSP	EDEU-WSP-OH74-XXXXXX-PLN-IM-000001	WSP Task Information Delivery Plan - Overhead Lines Routes XE
	MGE	EDEU-MGE-OH70-XXXXXX-PLN-IM-000001	M Group Task Information and Delivery Plan - OHL Routes (4ZH, 4ZV, ZDA, ZDF, XE)
	LOR	EDEU-LOR-OH70-XXXXXX-PLN-IM-000001	Laing O'Rourke Task Information and Delivery Plan - OHL Routes (4ZH, 4ZV, ZDA, ZDF, XE)

4.2.4 Master Information Delivery Plan

This document shall remain live throughout the project. The Lead Appointed Party is responsible for updating the MIDP as required, including on occasions when a new task team joins the Delivery Team. A previously mentioned, to facilitate this, each Task Team shall maintain their own TIDP and notify the Lead Appointed Party as the nature of the information they plan to delivery changes.

For the Master Information Delivery Plan Template refer to the following document - EDEU-GGP-ZZZ-XXXXXX-PLN-IM-00003.

4.3 Client and Project IM & Digital Objectives

The Delivery Team has collectively identified objectives and goals for the collaborative production of information. Details of these are contained within table below.

Table 4-7: Delivery Team's objectives and goals for collaborative production of information

Strategic Objectives	Digital Action	Response
Ensure that there is a mechanism in place for the diligent handling of information and its transfer	Use of a Common Data Environment for storing and sharing data, ACC has been developed and there is a clear differentiator between WIP, Shared & Published information. Workflows have been developed on ACC in accordance with the high level naming convention provided by the appointing party. The system is agile to cater for any changes in approach	Information Management Function To Manage CDE & Transfer of Info through frequent communication with design task teams
Modelling/Design Coordination	A plan has been set out and implemented that allows for the various software platforms being used on this project to interact with each other and provide a collaborative approach between design task teams. The files are all stored on ACC and are linked allowing for a progressive approach to clash detection, enabling design issues to be identified and rectified sooner.	Information Management Function To coordinate the "Master" model file and provide a high level progressive design philosophy
TIDP / MIDP	The TIDP has been created for each design function and is aligned with the ACC structure, workflows are created within ACC and are aligned with the naming convention outlined by the client, this should ensure that naming of documents are correct and present when required throughout the project.	PKiM coordinates TIDP & MIDP development alongside SBIM
Coordination and Clash Detection	By creating a master model file for all design teams to feed into it allows us to monitor the direction of the design holistically, the clash detection process will be ran every 2 weeks as per client requirements and the above process should speed this task up as we are progressively collaborating daily	BIM Coordinator to handle day to day coordination and clash detection alongside the SBIM
Measurement of quantities	Use the 3D model to generate quantity take off and BoQ	TBC
Health and Safety	Model used to support Health and Safety Assessments and CDM obligations. Method Statements to be supported by BIM graphics/4D animations. Model will be used to host 3D identifiers for residual CDM issues/risks.	[Enter responsible task team]

Strategic Objectives	Digital Action	Response
Field Use	Temporary Works Modelled to understand co-ordination. Field applications on mobile devices to fill site forms, snagging etc. Site Inductions Using BIM Models	[Enter responsible task team]
Analysis	BREEAM Evaluation. Structural Calculations. Acoustic/Solar/Wind/Lighting. Thermal/Energy analysis software. Embodied Carbon Calculations. Orientation Analysis.	BIM Coordinator to coordinate with relevant members of the design team

4.3.1 Approach to facilitating the Appointing Party's Information management goals

To maximise National Grid's benefit from implementing the information management strategy, the Delivery Team will work openly to achieve the Appointing Party's information management priorities as well to respect the acceptance criteria outlined in section 1.3 of the Exchange Information Requirements – GGP-NGD-XX-XX-SPC-IM-000002 (EIR). **The following table includes the project priorities to fulfil the client requirements.**

Table 4-8: Project Priorities to fulfil the client requirements.

Strategic Objectives	Digital Action	Response

4.4 Mobilisation plan

The EDEU - information management mobilisation plan (EDEU-GGP-ZZZ-XXXXXX-PLN-IM-000004) is available. This document is based on the GGP Mobilisation Plan template. Below is the location of the checklist to generate/update the document above.

APPENDIX C – Mobilisation Checklist

4.5 Delivery Team Capability & Capacity Summary

The project team information management capacity and capability assessment plan(EDEU-GGP-ZZZ-XXXXXX-PLN-IM-000005) is based on the GGP Capacity and Capability ([link to resource](#))

The capability and capacity must be completed by all Appointed Parties within the Delivery Team as at organisation level and all discipline delivery teams in a package.

4.6 Training requirements

The following relates to Partner WIP IM training plans.

Table 4-9: Training requirements from partner organisations and their supply chain.

Project Module Name	Expected Duration	Module Delivered to	Target Delivery/ Refresh Dates
GGP IM Framework WIP Implementation – Overview, TIDP and Folders	1 hour max	All project users	Self-taught, Training on request
Partner WIP CDE Document Creation and Workflow Principles	2 hours max	Task Teams, PkIM, NG PMs, NG Executive teams	Self-taught, Training every quarter or on request
Partner CDE Document Assurance Workflows and Transmittals	2 hours max	Task Teams, PkIM, NG PMs, CDAE, DAE, Functional Leads.	Self-taught. Monthly training, Training on request

The following relates client systems training plans

Table 4-10: Client System Training requirements

Project Module Name	Expected Duration	Module Delivered to	Target Delivery / Refresh Dates
GGP IM Framework Training – Intro and Overview	1 hour max	All project staff	Monthly for all new joiners
Client CDE Document Creation and Workflow Principles	2 hours max	DC, Package Information Managers, Engineers, IM Coordinators	1-2 Weeks after initial access
Client CDE Document Assurance Workflows and Transmittals		All project Staff requiring ACC access	Self taught
Client CDE Document Assurance Workflows and Transmittals	2 hours max	BIM Coordinators, Design Managers, Construction Planners	1-3 Weeks after initial access
Client CDE Model Coordination and & Coordination	1 hours max	All project Staff requiring ACC access	On request, and included in supporting material
Client CDE RFIs/ TQs	30 minutes	GIS Coordinators, Engineers, Design Managers, Construction Planners	On request
Client GIS Viewer Access	1 hour	All project staff	TBC
Client GIS App Training	1 hour	GIS coordinators, Engineers, Design Managers, Construction Planners	On request

4.7 Delivery Team's information risk register

The risk register identifies all risks associated with the prospective delivery team's management and production of information throughout the appointment, as well as how they intend to manage said risks. The Delivery Team's Information Risk Register EDEU-GGP-ZZZZ-XXXXXX-RGS-IM-000001 will be maintained throughout the project.

5 Federation strategy

The Federation Strategy means combining different models to describe a whole project, and asset or a part of it for a distinct purpose. A federation strategy is essential because it helps organise how the team produce the models and define who is responsible for what.

Models can be federated for multiple purposes, coordination, collaboration, phasing, lifecycle assessment, safety, geographical and asset delivery exchange.

To ensure model are manageable for opening, updating, exporting and importing, they should not become too large. Size limitation is a factor when defining model breakdown.

5.1 Federation for Coordination

Focuses on combining discipline specific models into a single coherent view to support design and coordination activities.

5.1.1 Model Breakdown Structure

A Model Breakdown Structure (MBS) is a systematic way of dividing a project's model files into smaller, manageable, clearly defined component. It ensures that models from different disciplines are created, shared, and federated in a consistent and coordinated manner. The following hierarchy applies:

1. **Asset (Substation, UGC, OHL):** Primary division by work package.
2. **Design Package:** Further subdivision where complexity requires.
3. **Discipline:** Division by discipline (i.e. Civils, Structural, Electrical, MEP) within each package.

Additional principles:

- Systems-based sub-division within discipline models aligned with Uniclass 2015 classification
- File size management: Please refer to Section 5.1 of the IPMP (**GGP-NGD-XX-XX-PRC-IM-000001**)
- Each model component shall have a designated owner per the Responsibility Matrix

5.1.2 Federated Model Breakdown

As part of our project information management requirements, please complete the Project Model Register using the column outlined below.

- Federation Model Name
- Federation Model Description
- Nested Information Containers (each model in the federation)
- Responsible Organisation for each information containers (models)
- Frequency of federation
- Revision/Version
- ACC View dependent (Yes/no)
- Asset interface (SUB-50 – OHL-70, 71, SUB-51- OHL – 71,...)
- Description of interface
- Interface Organisations

To support the Federation Strategy and to provide a single point of reference for locating all 2D/3D information models within the CDE. The register shall be maintained by the Senior BIM Coordinator as well as the Senior Project Information Manager and updated as new models are created or existing models are subdivided.

A live project-specific Model Register shall be maintained as a standalone spreadsheet within the ACC Resource Library:

Project Files > 00-Resource Library > Model Registers >

EDEU-GGP-ZZZZ-XXXXXX-RGS-IM-000002_EDEU Model Register.xlsx

5.1.3 Model Coordination Baseline

All models shall be using a common coordinate system to ensure accurate spatial federation. The Design Lead Appointed Party shall issue a 'Shared Levels and Grids' model to the CDE which all task teams

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CI-Confidential

EXPORT CONTROLLED: Y

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shall reference. Refer to the section 8.3.1 Coordinate Grid Baseline in this document for application different grids.

Geolocation Verification Requirements:

- All task teams shall verify their model origin against the Shared Levels and Grids model prior to each data drop
- Values for Project Base Point, Survey Point, Internal Origin, and Rotation from True North shall not be altered without SBIM approval
- Coordinate system discrepancies shall be reported immediately to the SBIM for resolution
- Local project grids must include documented transformation parameters to OSGB36 (EPSG:27700) as per BS 5964-3

For the coordinate system values and file location, refer to Section 8.3 Coordinates

5.1.4 Model Federation Process

The party responsible for federation shall be confirmed at project mobilisation, the Senior BIM will be appointed, and role and organisation shall be recorded in the Responsibility Matrix. This role will be appointed from a Lot 1 or 2 delivery partner depending on project stage, alliance arrangements, and scope. Responsibility for federation shall be reviewed at each stage gate and updated where required.

All federation models listed in Federation Model Breakdown shall be produced using a single model file per federated model (NWD or IFC2x3) and shared in the Shared and Published CDE (ACC).

5.1.5 Federation Process Steps

The federation process shall follow the steps below (please also see Figure 5-1). Federation frequency and cycle are capture in section 9.1.3 of this document.

1. Each task team uploads their discipline-specific S1 models to the designated ACC Coordination Space according to the agreed data drop schedule and MIDP.
2. Task teams validate their S1 models prior to publishing using their quality assurance procedures. Validation shall be performed in the task team's WIP area prior to sharing. Models not meeting QA requirements shall not proceed to federation
3. The SBIM, supported by PkIM's, creates a federated model using the S1 models.
4. ACC Model Coordination automatically detects potential clashes upon model upload. The SBIM reviews the automated clash results and creates Coordination Views for team review.
 - For advanced clash analysis, the SBIM opens the ACC Coordination Space models directly in Navisworks Manage. Detailed clash tests with custom tolerances and groupings are executed using Clash Detective, adhering to the Coordination View 2.0 Model View Definition (MVD) and IFC2x3 schema.
 - Clash detection follows the tiered methodology defined in Section 9.2.3.
5. Issues are created in ACC Model Coordination or Navisworks (via the Navisworks Coordination Issues Add-In). Note that Issues created in Navisworks sync to ACC when using the Add-In; however, this is one-way synchronisation from Navisworks to ACC. Issues shall include:
 - 3D viewpoint with clash highlighting
 - Screenshot attachment
 - Assignment to responsible party via the Responsibility Matrix (GGP-NGD-XX-XX-TEM-IM-000005)
 - Resolution deadline aligned to the fortnightly coordination cycle
6. Task teams resolve assigned issues in their authoring software and re-publish corrected models.
7. The federated model snapshot (as per IPMP Section 5.1.1.1) is published to the 03 Federated Model folder, named per the File Naming and Metadata Standard (NGS-NGD-XX-XX-STN-IM-000008).
8. Resolved issues are verified in the subsequent federation cycle (fortnightly minimum per Section 8.4.3); unresolved critical clashes are escalated per IPMP Section 8.3.4 (Issue Resolution).

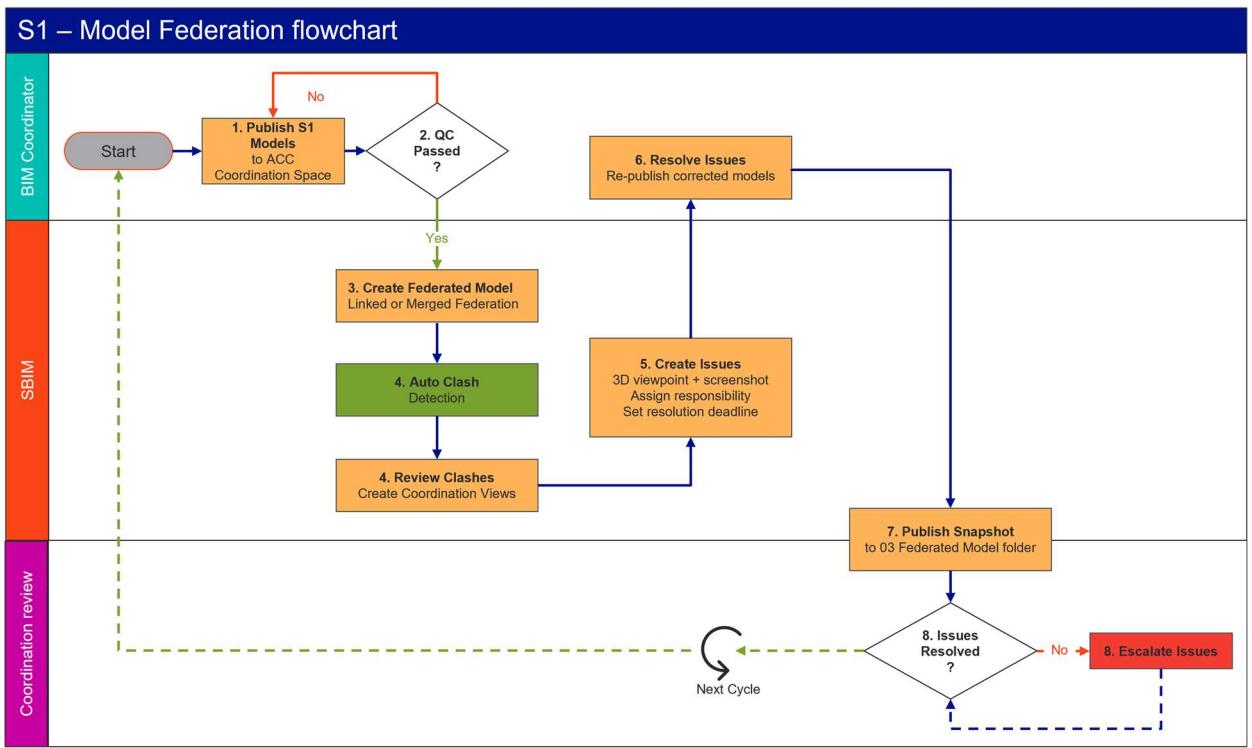


Figure 5-1: Federation flowchart

Note: For detailed federation procedures, refer to the Information Production Methods and Procedures (GGP-NGD-XX-XX-PRC-IM-000001), Section 5.1.1.2.

6 PIM And AIM Delivery strategy

6.1 Overview of Information Requirements and Delivery Model

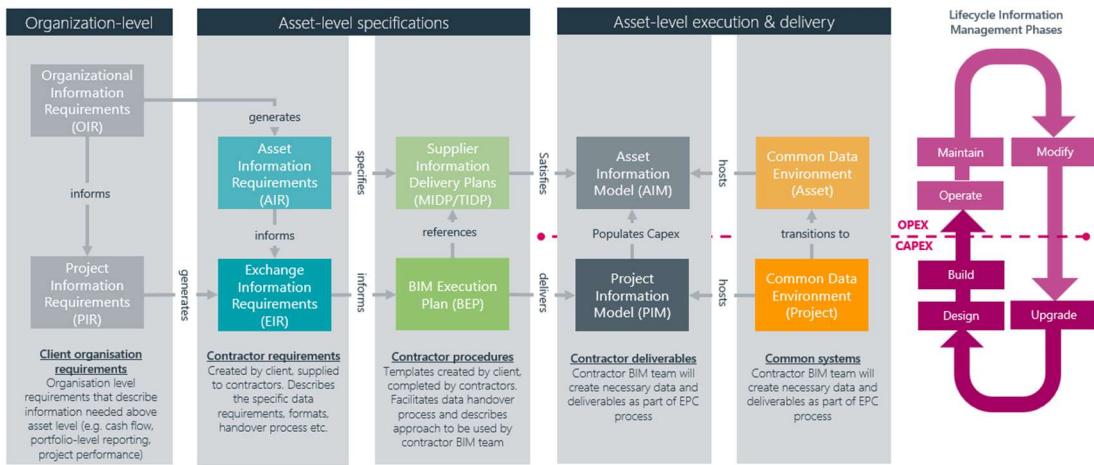


Figure 6-1: Information requirements and delivery model

6.2 Project Information Model delivery strategy

The Project Information Model (PIM) strategy defines the validation, acceptance, and assurance framework governing how all information is delivered and accepted at each delivery milestones across project lifecycle.

This includes the identification of stage-based information milestones, the criteria for assessing information suitability, and the records required to evidence validation and acceptance.

The PIM strategy may reference supporting mechanisms such as information delivery milestones, certification or compliance statements, and formal acceptance records, without prescribing the detailed execution of validation activities.

6.2.1 Common Data Environment – Client

The purpose of the CDE is to provide National Grid and Project Stakeholders with a secure, central, accessible resource for collecting, managing and disseminating each information container through a managed process. A CDE ‘workflow’ describes the processes to be used and a CDE “solution” can provide the technology to support those processes. The CDE is not a single platform, but a group of integrated systems. 3.1 of the Information Standard outlines the CDE systems for delivery exchange.

National Grids' CDE is made of several technical solutions, see table below. On this project, the CDE is owned by National Grid. The CDE will be the repository for the SPIM for the project lifecycle.

The Appointing Party Project Information Manager has established the project's common data environment (CDE) to serve the overall requirements of the project and to support the collaborative production of information. All stakeholders shall comply with the information management processes outlined in the Information Management Protocol.

Project Stakeholders are responsible for storing and maintaining a copy of all their project information in a secure, stable location within their own organisation and must make information available if requested, over the CDE. National Grid must have access to both native and exchange information models stored in the CDE at any point during the project. The location for storing Project Stakeholders project information is outlined in **6a** of this document.

Table 6-1: EDEU Distributed CDE Resources – Client Systems

CDE Resource	Location	Activities
Autodesk Construction Cloud Environment (ACC)	NG ACC (EDEU)	Shared and Published Internal and External project coordination and collaboration for all Contractual and Non-contractual deliverables.
Autodesk Construction Cloud Environment (ACC)	RFIs - Autodesk Build	RFI/TQ Management
Integrated Project SharePoint Site	EDEU – GGP - Collaboration	Project Collaboration Site
ESRI ArcGIS Enterprise Portal	To be confirmed in the next issue of the BEP	WIP internal and external collaboration platform for all project spatial data, including but not limited to Design Engineering Packages, Survey Data and Constraints Mapping.
Fast Draft	1. WSP > NG	Commercial, legal communication
	2. LOR > NG	Commercial, legal communication
	3. MGE > NG	Commercial, legal communication

6.2.1.1 Common Data Environment – Partners

Partners are responsible for configuration, management and maintenance of their various WIP CDE/s. This also includes the full approval workflow and audit trail of information pushed through the CDE.

Table 6-2: EDEU Partner CDE Systems

Partner	CDE Resource	Location	Activities
WSP	Autodesk Construction Cloud	Autodesk Construction Cloud	WIP internal collaboration platform and extended to supply chain
	InfraCatalyst (SharePoint)		WIP internal collaboration platform and extended to supply chain
	ESRI Enterprise GIS		WIP internal collaboration platform and extended to supply chain
Laing O'Rourke	ASite	LOR-EDEU-Asite	WIP internal collaboration platform and extended to supply chain
	SharePoint	LOR-EDEU-SharePoint	WIP internal collaboration platform and extended to supply chain
	ESRI AGOL	LOR-EDEU-AGOL	WIP internal collaboration platform and extended to supply chain
M Group	SharePoint		WIP internal collaboration platform and extended to supply chain

6.2.2 Distributed information model

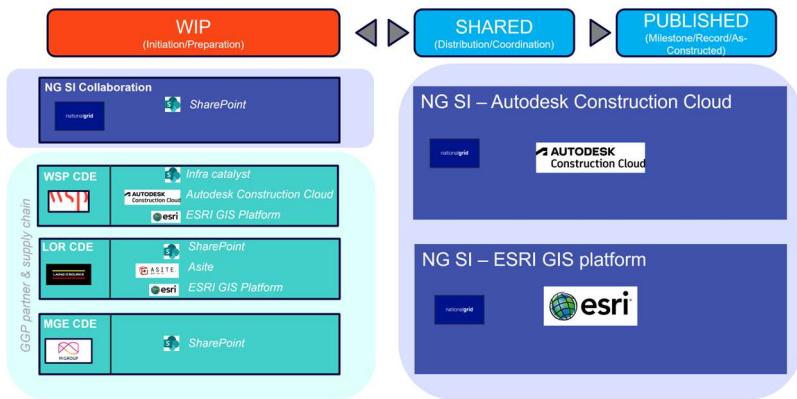


Figure 6-2. EDEU Distributed CDE

6.2.3 PIM Exchange

- WIP (Delivery partner & Supply chain): “all” working information for the task team including temporary use of primary field data, but only to the extent needed for production and coordination; not visible to others until promoted to Shared.
- Shared and Published: all relevant shared and published information, including primary field data, that is needed to define and appoint specialists, with a clear record of what information each appointment was based on.
- Client: all information that has been shared or published to them, plus the record of assurance (checks, approvals, certifications) and a record of the field data and other evidence on which key decisions and acceptances were made.

Table 6-3: Project Information Model exchange summary.

CDE Environments	Owner	Type of Information	Status/Permitted use	What is retained
WIP CDE	WSP, LOR, MGE	<ul style="list-style-type: none"> - Engineering - Non-engineering - Client Records - Supplier Records - Manufacturer info - OEM 	WIP and Shared information (S0-S5) Record of Published information (An)	WIP approval audit Trail Federation Audit trail (Delivery Partner to supply chain)
WIP CDE (SharePoint)	Client	<ul style="list-style-type: none"> - Sustainability and Environmental Strategy documentation - Raw ground investigation surveys - Information requiring multiple partner input at WIP (DID,BEP ect.) - Various project registers 	WIP Information (S0)	WIP approval audit Trail
Shared and Published CDE (NG ACC)	Client	<ul style="list-style-type: none"> - All content for Progressive assurance and Client acceptance - Client Records - Supplier Records - Manufacturer - OEM 	Shared information (S1-S5) Published information (An)	<ul style="list-style-type: none"> - Shared and Published Audit Trail - Commenting - Assurance of Generic information - Federation Audit trail (Delivery Partner to Delivery Partner)

Project Information Model (PIM) Validation and acceptance framework can be found in Section 10.1 of this document.

6.2.4 Information model Assurance

The Design Lead (WSP) shall review the **WAP (Work Allocation Programme)** and **DID (Design Intent Documents)** to identify the required design packages and develop the **TIDP**, ensuring all deliverables are included and named in alignment with the corresponding work packages.

Manage design interface via federation strategy (model only). Upon clearance of any issue found during coordination, the deliverables shall be submitted for internal review and comment between the Lot1 and Lot2 partners. Successful review shall be aggregate in the design pack submission (no partial design submission) in the DCAAR form and initiate Assurance Review within CDE (Shared& Published) with the Appointing party technical assurance representatives.

PLEASE NOTE: Any deviation of the workflow for **S3** and **S5** provided in the IPMP will be detailed in section 10 of the document

6.2.4.1 Engineering deliverable (S5) in Stage F

Engineering deliverables must be initiated through the **S5** workflow in ACC, supported by the completion of the Design Compliance Assurance Audit Review (DCAAR). A successful DCAAR requires updating the status to “Published” with status code “**An**”* for all approved deliverables, as well as revising the DCAAR form status code register prior issue to site. Any referenced information will remain classified as preliminary until assurance is complete. Assured deliverables will be stamped in accordance with the SR135 process map and its Appendix A.

If a DCAAR is rejected, the DAE (Engineering) will issue comment sheets, which will be stored in the relevant work package folder in ACC. These comments will be used by the delivery team to address and rectify any identified non-compliances.

PLEASE NOTE: Stage E and G to be confirmed- see table 8 in 6.1.4.1.

6.2.4.2 Non-Engineering (S5) in Stage F

Non-engineering deliverable packages must be submitted by the Delivery Partner for S5 Lead Function review and acceptance through the workflow in the Shared & Published CDE (ACC). Successful workflow will require updating the deliverable to Status “Published” with Status code “**An**”*. If a deliverable is rejected, the Function Lead will issue comment sheets, which will be stored in the relevant work package folder in ACC.

*The “n” refers to the stage in accordance with BS8536-2022.

6.2.5 Stage-based delivery

The key Milestones and Gates relate the BP500 SI Stage Gated process:

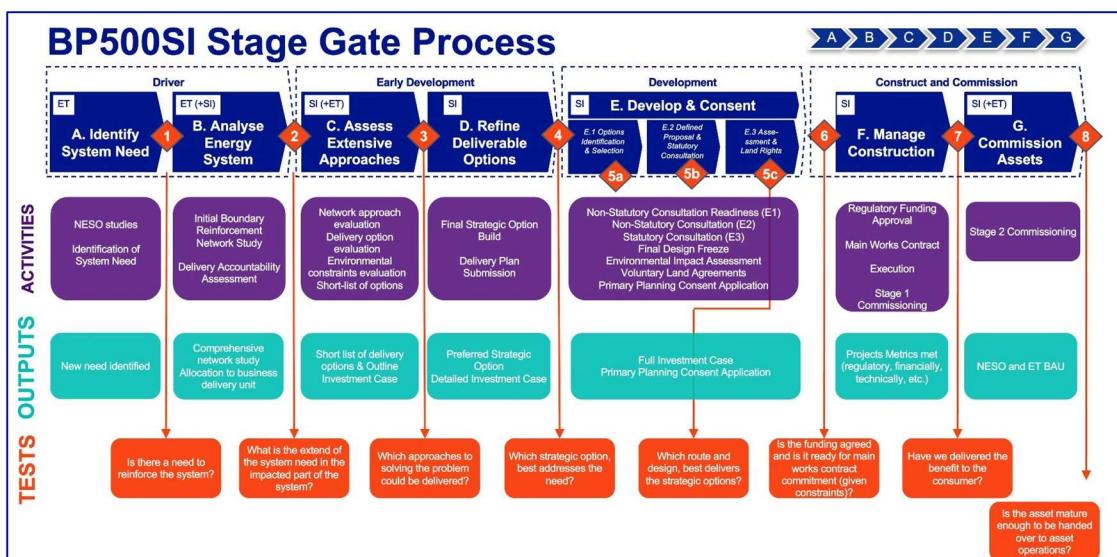


Figure 6-3: National Grid BP500SI Stage Gate Process diagram

PIM Stage by Stage approval in National Grid projects is normally run as a progressive technical assurance process where each design package is checked against SDS, CDS and technical standards, documented in the Assurance Report agreed beforehand and then formally “Assured”.

The Design Intent Document (DID) is used to agree the technical scope and key design principles for the project; this scope is then allocated into Work Allocation Plan (WAP), which define which *Enterprise partner* or *Contractor* is responsible for each part of the DID. The Agreed Design scope within each WAP is compartmentalised into Design Packages. The Design packages are identified and scheduled in a Task information delivery plan (TIDP) and must be accepted prior any Assurance reports taking place.

Each Design Package shall include the full design requirements for a specific subset of the works. Design Packages shall be holistic and standalone such that they can be reviewed independently and be limited to a single Core Design Discipline (or specialist discipline) unless otherwise agreed with the Design Assurance Engineer (DAE).

For each Design package, at each key stage, the Enterprise delivery partner(contractor) prepares the Assurance reports (DCAAR as an example) that demonstrate requirement by requirement, how the package complies with DID, SDS, CDS and National grid technical requirements.

The agreed Assurance Reports must be signed by the LCDAE or CDAE prior submission. ACC will retain the progressive assurance record of any comments that may rise during review. The Assurance reports excludes non-engineering documentation, which require signoff by the Lead discipline manager directly in ACC.

The table below will highlight the stage-by-stage assurance require for non-engineering and engineering deliverables.

Table 6-4: Stage by stage assurance table

Stage	Stage Description	Information Type	Framework assurance (including reports)	Publish State code (BS 8536/SR135)
E	Development and consent (FEED /pre-construction)	Engineering drawings (CAD/GIS).		A3
		Non-Engineering drawings (GIS)	S5 Function Lead review	A3
		Non-Engineering documents		A3
		Surveys	S5 Function Lead review	A3
F (1)	Manage Construction (Detailed Design)	Engineering drawings (CAD/GIS).		A4
		Non-Engineering drawings (GIS)	S5 Function Lead review	A4
		Non-Engineering documents		A4
		Surveys	S5 Function Lead review	A4
F (2)	Manage Construction (Construction)	Engineering drawings (CAD/GIS).	DCAAR	A5 (B, C, D)
		Non-Engineering drawings (GIS)	S5 Function Lead review	A5
		Non-Engineering documents		A5
		Surveys	S5 Function Lead review	A5
G	Commissioning and Handover	Engineering drawings (CAD/GIS).	CE SR135 Signoff (SR135 process map)	A6 (stamp E)
		Engineering Models (CAD/GIS)	S5 Function Lead review	A6
		Non-Engineering drawings (GIS)	S5 Function Lead review	A6
		Non-Engineering documents		A6
		Surveys	S5 Function Lead review	A6

*Please confirm is the following reports are applicable

PLEASE NOTE: that the current edition of **SR188** and **SR135** does not stipulate assurance for Pre-construction (E) and Engineering deliverable in Stage G are assured via the SR135 process map. These need to be confirmed by NG design assurance team.

6.2.5.1 Security on Exchanges

The following are the current data classification to be adopted in line with the Data classification and labelling standard.

PLEASE NOTE: A Delivery Partner Data Classification and Labelling Standard is currently being developed. Once approved, this BEP will be updated to reflect its adoption and to ensure alignment with the Client's own Data Classification and Labelling Standards.

Table 6-5: Security classifications

Code	Description
PA	Publicly Available
IU	Internal Use Only
CI	Confidential Information
SC	Strictly Confidential Information

The following security controls will be implemented as a partner-led, distributed process supported by central validation at defined exchange points. Please see below for guidelines.

1. Local WIP Classification (Originating CDE)

Each Appointed Party shall:

- Apply a security classification to information within their own WIP CDE at the point of creation.
- Undertake a lightweight risk screening considering sensitivity, aggregation risk, intended audience, and potential impact if misused.
- Record classification within CDE metadata and apply appropriate local access controls in line with IPMP baseline controls.

2. CDE-to-CDE Transfer Validation

A mandatory security check shall be applied whenever information moves:

- Between partner WIP CDEs and the client Shared/Published CDE; and
- Between Shared and Published containers within the client CDE. This check confirms that classification is present, appropriate controls are applied, and the Intended recipients and use are authorised.

3. Shared / Published State Controls

Information proposed for Shared or Published states shall:

- Retain its classification and be subject to role-based access controls.
- Follow defined approval and audit trail requirements for sensitive or restricted information; and
- Comply with IPMP baseline technical and procedural controls (e.g. access protocols, secure transfer, logging).

6.2.6 Information Delivery Milestones

The table below sets out the agreed information-delivery milestones, together with the key gates aligned to the project work stages and the project delivery sequence illustrated in Figure 6-3.

Table 6-6: Information delivery milestones

Stage (BP500SI)	Information Delivery milestone	Gates	Start Date	End Date	Programme Issue date	Ver.
E – Develop & Consent	E1-Option identification and selection		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Gate 5a-Non statutory consultation	5a	24/01/2025	24/01/2025	01/01/2026	1
	Design Freeze1-Option definition	5a	13/09/2023	13/09/2023	01/01/2026	1
	Design Freeze2-Technical Assessment PH1	5a	24/01/2025	02/01/2026	01/01/2026	1
	E2-Defined proposal & Statutory consultation		06/03/2023	16/01/2025	01/01/2026	1
	Design Freeze3-Final design for consent	5b	24/01/2025	25/11/2025	01/01/2026	1
	Gate 5b- Statutory consultation	5b	22/12/2025	05/02/2026	01/01/2026	1
	E3 Assignment of Land rights		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Gate 5c Application for Consent submitted	5c	dd/mm/yy	dd/mm/yy	01/01/2026	1

Stage (BP500SI)	Information Delivery milestone	Gates	Start Date	End Date	Programme Issue date	Ver.
	DCO submission	5c	dd/mm/yy	dd/mm/yy	01/01/2026	1
	Gate 6- Consent secured	6	dd/mm/yy	dd/mm/yy	01/01/2026	1
F- Manage Construction	F-Manage construction		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Detailed design		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Construction commenced		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Construction Complete		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Gate 7-Ready to commence commissioning	7	dd/mm/yy	dd/mm/yy	01/01/2026	1
G-Handover and commission	G-Asset commission		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Commissioning complete		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Asset information complete		dd/mm/yy	dd/mm/yy	01/01/2026	1
	Gate 8-In use/Asset Management	8	dd/mm/yy	dd/mm/yy	01/01/2026	1

For information on changes to the delivery milestones please refer to the Master P6 Project Programme and Master Information Delivery Plan.

6.3 Asset Information Model Delivery Strategy

The Asset Information Model (AIM) strategy defines the validation, acceptance, and assurance framework governing the transition of project information into operational asset information.

This includes the identification of handover milestones, the criteria for determining asset information readiness, and the records required to evidence validation and formal acceptance prior to incorporation into operational systems.

The AIM strategy may reference supporting mechanisms such as handover certifications, asset data validation records, and acceptance statements, without prescribing detailed operational procedures.

6.3.1 Scope

This section defines how the project will develop, assure, structure, and hand over the Asset Information Model (AIM) in accordance with:

- **NG/ET/BP221 – Technical Data Processing & Assurance** (including the Asset Data template)
- **ECM rules** for accepted documentation and metadata (BP200 & BP135)
- **NG/ET/SR137** Construction and Design Management
- Operational requirements for populating **Ellipse**, National Grid's master asset data system

The AIM will be built progressively throughout design, construction, testing, commissioning and prepared for operational readiness at handover.

6.3.2 AIM diagram

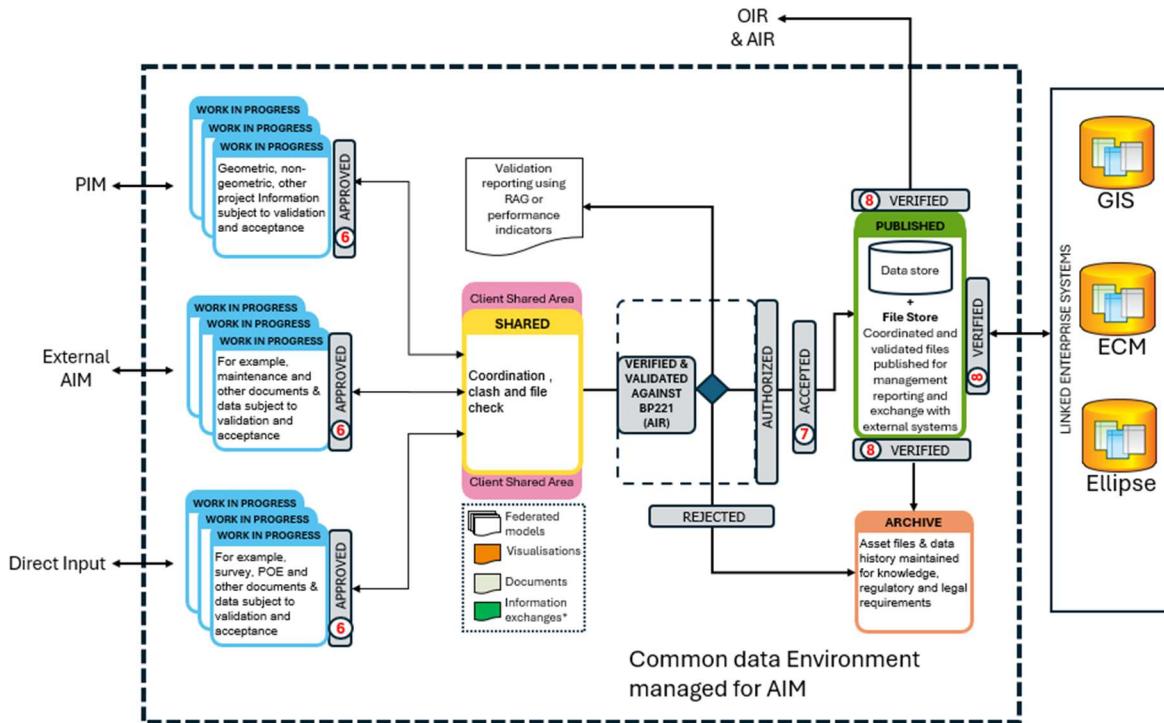


Figure 6-4: Asset Information Model.

6.3.3 Validation and readiness criterion

Outlined below are the project validation requirements and readiness criteria for all deliverables expected for handover.

6.3.3.1 Asset Data template (ADT)

ADT used as the authoritative structure for all technical asset data.

- Populated progressively and verified at each information exchange.
- Checked using ETL (FME from Safe Software- or alternative) for formatting, completeness, and compliance.

Final acceptance:

- Fully completed for all new, modified, and removed assets
- Technically assured in line with BP221 requirements-sign off
- Consistent with as-built drawings, models, and commissioning records
- Supported by documentation required for Ellipse population

6.3.3.2 GIS data exchange readiness

- GIS data must comply with Ellipse and ArcGIS Enterprise requirements (4 weeks in advance to completion).
- Data exported in CSV and XLSX structures as required for BP221.

Final acceptance:

- Maps QA (symbology, scales etc.)
- Delivered in required formats compatible with ArcGIS Enterprise
- Validated using [FME if you wish] and aligned with ADT identifiers
- Data schema Mobilisation checks (6c's)
- Web Apps/Dashboards Mobilisation Checks
- Security classification

6.3.3.3 CAD deliverables

- All as-built CAD files delivered in DWG or DGN (PLSCADD)
- Single-sheet compliant submissions into ECM
- Renamed and structured to NG/ET/SR135 (if required)
- Reflect final installed condition and align with ADT references

6.3.3.4 Documentation metadata and compliance

All AIM outputs must comply with ECM naming, metadata, and lifecycle rules.

- As-built documentation must follow NG/ET/BP135 file naming rules.
- Extract-Transform-Load (ETL) program (FME?) will be used to apply naming conventions within the Lead Appointed Party CDE (if required to conform to ECM file naming acceptance (if required)).
- SDI register needs to be fully completed, and codes aligned with drawings tags.
- All files must be free of stamps, overlays, or vendor references (in ECM upload).

6.3.3.5 Health and Safety (BP137)

- Complete BP137-compliant H&S File forms
- Includes: hazard records, key safety decisions, residual risks, long-term O&M considerations
- Reviewed and validated for operational use/sign-off.

6.3.3.6 OEM, Commissioning and Technical records

- O&M manuals
- Commissioning and testing records
- Any additional technical data required under NG ET BP221.

6.3.4 Evidence to Demonstrate Acceptance

Acceptance will be demonstrated through:

- ADT validation reports (FME outputs)
- ECM metadata compliance checks
- Review/approval logs for as-built drawings (CE sign-off) and as-built models
- Completed BP137 Health & Safety File
- Commissioning and test certificates
- Document control audit trails (if required)

6.3.5 Segregation from Project Delivery and Operations

Classification needs to be compliant with Data classification and labelling standard

Segregation from project delivery (ACC)

- AIM development and assurance activities will be undertaken in the project-controlled environment (folder structure to be agreed).
- Controlled access, audit logs, and naming rules applied consistently.
- Intermediate files remain in ACC and do not enter operational systems.
- ESRI GIS data exchange.

Segregation from Operations

The final repository of the operations data generated during the project is currently being developed and will be defined in this document at a later stage.

7 Software, hardware and IT infrastructure

7.1 Software

The agreed software, version and service pack that the Lead Appointed Party and Delivery Team will use are defined below. Only software identified below shall be used to author, coordinate and validate information models. Any update or change to those that agree must be approved by the appointing party and information managers.

The CDE technical solution, as required by 3.1 of the Project's Information Standard GGP-NGD-XX-XX-STN-IM-000001.

Table 7-1: Software

Discipline / Task Team	Software & Version	Service Pack
Information container management		
Design Packages	Autodesk Construction Cloud	N/A
GIS Management	ESRI ArcGIS Enterprise/ArcGIS Online (AGOL)	N/A
Commercial and Legal communications	Fast Draft	N/A
Coordination & clash detection		
All – internal checks	[, CAD, Revit , Civils, PLS CADD]	[2025.4.2]
Internal – Federation	Autodesk Construction Cloud Design Coordination Module	N/A
Multiple - Federation	[GIS]	[Enter most recent service pack]
Data verification		
FME	[Enter application name and version year]	[Enter most recent service pack]
Construction Programming		
[Insert]	[Enter application name and version year]	[Enter most recent service pack]
Discipline / Task Team		

Note: Project stakeholders authoring information models shall allow for full version updates on a repeating two-year cycle, e.g Revit 2023 to Revit 2025. Version updates may at the appointing party's discretion occur less frequently, or by agreement of all stakeholders occur more regularly. Please refer to Section 3.2 of the Information standard for additional information.

8 Implementation of the Information Standard

The Lead Appointed Party and all Appointed Parties are obliged to produce information that conforms with the Project's Information Standard GGP-NGD-XX-XX-STN-IM-000001.

This document details specific standards for exchange of information, means of structuring and classifying information, method of assignment of level of information need and the use of information during the operation phase of the asset.

8.1 File Referencing and Naming Conventions

For further information on the naming convention and the attribute system, refer to Section 4 of the Information Standard, GGP-NGD-XX-XX-STN-IM-000001. For convenience most of the metadata will be replicated in part below, however the original reference retains preference.

8.1.1 Information container identification

Each information container must have a unique ID, based on section 4.1.2 of the National Grid information standard, GGP-NGD-XX-XX-STN-IM-000001, and must use the attribute fields agreed in section 4.2.

Table 8-1: Information container identification (ID)

Description	OPPM Master	Originator	Functional Breakdown	Spatial Breakdown	Form	Discipline	Sequence number
Example	EDEU	- WSP	- SS51	- C00484	- M3D	- AR	- 000001
Length	4 Alpha Characters	3 Alpha Characters	4 Alphanumerical Characters	6 Alphanumerical Characters	3 Alphanumerical Characters	2 Alpha Characters	6 numbers

Note: If an information container is removed or exported from the common data environment, then the additional fields 'suitability' and 'revision', separated by a hyphen, should be added to its ID as a suffix.

8.1.1.1 Agreed originator codes

The following codes shall be used within information container IDs to identify the originator. A list of agreed codes for all other fields may be found within the GGP Naming and Meta Data Standard.

Refer to NGSI-NGD-XX-XX-STN-IM-000002 and NGSI-NGD-XX-XX-STN-IM-000008 Naming and Metadata Standard.

Table 8-2: List of EDEU Originator Codes

Originator (task team)	Code
WSP	WSP
Laing O'Rourke	LOR
M Group Energy	MGE
National Grid	NGD
GE Vernona	GEV
Great Grid Partnership	GGP
OFGEM	OGF
National or Local Government	GOV
Archaeology Group	AOG

8.1.2 Object identification (ID) – Specific to Designer

All objects within information models shall be identified in accordance with the BS EN ISO 22014:2024. For convenience the project's interpretation of object identification (ID) is replicated in part below, however the original reference retains preference and is applicable in full.

Table 8-3: Object identification for classified objects

Field	Description	Format/Convention	Example
Originator	Identifies the organization or discipline creating the object (e.g., civil, structural).as per section 7.1.1.1	Use a 3-letter code (e.g., CIV, STR).	WSP
Type	“ what is the object “	Follow Revit Default Type Catalogue	Door,Window,Column,
Sub-Type	“ A refinement on the Type “	A type identifier	e.g. Double door , Bay Window , UC 152 x 152
Category	As Per Uniclass 2015	From the NBS Uniclass Menu	Pr_30_59_24
Plain Language	Identify what the “ Thing “ is clearly	Text	Double internal door
Example: WSP_Door_Double 1800x2000_Pr_30_59_24_Double Internal Door			

Note: This convention applies to standard library objects and classification. For further information, please refer to Section 5.5 of the Information Standard.

Dimensions and various other important pieces of information relating to the content that is being created will be stored as metadata. A project generic set of parameters will be released within the next BIM execution plan revision.

8.2 Units

Model units for this infrastructure project will be set to metric, with model geometry authored in millimetres for building and substation elements and in metres for linear infrastructure where appropriate to suit design workflows and software capabilities. All coordinate inputs, survey control and setting out data will follow the agreed OSGB36 / ETRS89(Via OSTN/OSGM transformations) control framework described in the survey and coordinate strategy, with angles stored in decimal degrees and levels in metres above Ordnance Datum.

Model authors must ensure that authoring and coordination software use consistent base units, that any deviations (for example manufacturer models authored in different units) are converted on import, and that unit settings are not altered mid project without formal change control recorded in the BEP revision history. All exported open formats will state their units explicitly so downstream users and GIS/analysis platforms can interpret geometric and numeric information correctly.

Table 8-4: Definition of Units to be used on project.

Information type	Unit system	Unit Symbol	Notes
Linear dimensions- Building, plant	Metric	mm	Default authoring unit for substations and equipment models.
Linear dimensions- linear works	Metric	m	For long extent assets (see OHL) where meters are more practical
Levels/elevations	Metric	AOD	Meters above ordnance datum Newlyn (AOD)
Plan coordinates	Metric	M (grid)	OSGB36/ETRS89 derived (see OSTN/OSGM) derived grid coordinates
Angles	Metric	0°,000000	Decimal degrees for bearings, rotation and model orientation
Area	Metric	m ²	Schedules, reports and IFC objects
Volumes	Metric	m ³	Schedules, reports and IFC objects
Object properties	Metric	mm	Units stated explicitly in field headers or documentation
Time (programme/phasing)	SI	s/days	Seconds for simulations, days for programme

8.3 Coordinates

The project will adopt OSGB36 as the “default” horizontal coordinate reference system, using the OSTN15 (horizontal) and OSGM15 (vertical) transformation models from ETRS89 for all survey control, design coordination and setting out activities.

For linear works and large extent layouts associated with pylons & OHL, the use of national mapping coordinates derived from this system is permitted, on the basis that the small footprint of each pylon means residual distortions are negligible.

For substations and other sites requiring precise layout and setting out, a local site grid will be established by applying a similarity transformation from the project control (footprint 100meters affects up to 20-40mm, footprint over 1000 meters could affect between 200-400mm).

The parameters and implementation of this transformation will be defined and submitted within this BEP, or, where not yet available, included in the next revision of the BEP for formal agreement.

8.3.1 Coordinate Grid Baselines

This section will list the grids used for Design coordination (Federation), Setting out and handover.

Table 8-5: Coordinate systems to be used on project.

Use case	Grid name	Coordinate type	CRS	Purpose	Notes
Design Coordination/ Local Grid	Local Grid	Local Engineering grid*	Derived from OSGB with Similarity transformation.	Federations / High accuracy setting out,	Origin, rotation and scale fixed; aligned to survey control 1:1 (scaling factors incl.)
Internal Grid	Project Orientated Grid	Local orientated to Building	Local aligned with north or easting aligned to building	GA layouts for drawing layouts	Flatten grid reorientated so Origin conform to Drawing layout (Revit internal)
OHL, Terrains, Mapping & Handover	Mapping/national grid	National Grid	National Grid	GIS deliverables, handover mapping, route plans and long extent visualisation	Used for GIS and client mapping: See EPSG:27700

*Contractor to provide similarity transformation, in line with the table provided in Information Standard

8.3.2 Project Points/Survey points (Revit)

The following coordinates are based on the FEED topographic survey which was issued for Information by National Grid, the accuracy or otherwise of this information is to be verified by the respective design organisation to satisfy themselves of the suitability for use on Detail Design

Table 8-7: Project survey points for Sub-50 Long Lane

Coordinate	Northing (m)	Easting (m)	Elevation (m)	Rotation from True North (°)
Project base point	???	???	???	???
Survey point	389403.531	444346.022	34.71	???

Table 8-8: Project survey points for Sub-51 Chesterfield

Coordinate	Northing (m)	Easting (m)	Elevation (m)	Rotation from True North (°)
Project base point	???	???	???	???
Survey point	???	???	???	???

Table 5-9: Project survey points for Sub-52 High Marnham

Coordinate	Northing (m)	Easting (m)	Elevation (m)	Rotation from True North (°)
Project base point	???	???	???	???
Survey point	370656.360	479891.239	16.21	???

8.4 Classification of information

All elements within the project information model will be classified using the [Uniclass 2015](#) Classification system to ensure consistency, interoperability, and alignment with National Grid's information management requirements.

In addition, the classification of library objects (e.g., components, products, and systems) shall adhere to the recommendations outlined in BS 8541-1:2012 - Library objects for architecture, engineering and construction: Identification and classification.

8.4.1 CAD Layer Naming Strategy

8.4.2 Layer format

The following convention for naming CAD layer should be utilised:

[Agent] - [Element] - [Presentation] - [[Description] or [User Defined]]

8.4.2.1 Layer Naming Fields

Table 8-10: Civil Object Naming Fields

Field	Description	Format/Convention	Example
Agent	Defines package layer relates to.	Discipline Code as per MIDP	CE (Civil Engineer)
Element	Defines the elements layer relates too	Uniclass 2015 Code (Level 2 Min)	Ss_30_14_65_25
Presentation	Defines what the layer is presenting	From Picklist	T (Text)
Description	Defines spatial location within a package	Either Uniclass description or user defined description as per the Design Manual for Roads and Bridges (DMRB), GG184-Specification for the use of Computer Aided Design - available from the Standards for Highways website ("Standards for Highways", Webpage: https://www.standardsforhighways.co.uk/ , Last accessed: 12/12/2025), based on BSEN ISO 13567 with the Optional Clause 7.7.	DrainageLayerSystems

Example: CE-Ss_30_14_65_25-T-DrainageLayerSystems

For presentation Picklist, please refer to Information Standard

8.5 Exchange Formats and Version Compatibility

8.5.1 Agreed Exchange Formats

The delivery team shall implement the exchange formats specified in Table 13, Section 3.2 of the project's Information Standard for all information exchanges. The Lead Appointed Party shall ensure that all task teams:

PLEASE NOTE: MS Word document type formats .doc; docx; docm are not permitted as an exchange format in the clients CDE ACC

Table 8-11: Agreed exchange formats.

Deliverable Type	Agreed Exchange Format
Documentation	
Reports & Specifications	PDF
Registers, Lists & Data Sheets	XLS/XLSX, CSV, JSON, XML, PDF
Calculations	XLS/XLSX, MCD, PDF
Presentation Material	
Presentations	PPTX, PDF
Images	TIFF, JPEG, PNG, ECW
Animation and Media	WAV, AVI, MP4, H264
2D Technical Information	
Drawings and Schematics	DWG, DGN, PDF, DWFX
3D Technical Information	

3D Models	RVT, DWG, DGN, IFC4 (Add2, 2016), IFC (2x3 Coordination view 2.0)
Point Clouds	RCP, RCS
Federated Models	NWF, NWD, NWC
Time Based Information	
4D Models	Synchro (Sp, SPx), MP4
Programme/Schedule Data	Primavera P6 (XML), MSP
Geospatial Information	
Geospatial Data	ESRI File Geodatabase, GeoTIFF, LAS, LYR, .aprx, DWG

- Configure their authoring tools to support the required exchange formats
- Verify format compatibility prior to information exchange
- Follow agreed workflows for format conversion where necessary
- Maintain format integrity throughout the information lifecycle

8.5.2 Software Version Management

To ensure consistent information production and exchange across the delivery team:

- a) The delivery team shall use the following software versions for information production and exchange:

Table 8-12: Agreed Software Versions

Software	Version	Format	Date Agreed	Review Date
<i>Autodesk Revit 2025</i>	[2025.4.2]	[RVT]	17/10/2025	TBC
<i>[AutoDesk AutoCAD]</i>	[2025.0.1]	[DWG]	17/10/2025	TBC
<i>[PLS CADD]</i>	2024.20.01	[WIR]	17/10/2025	TBC
<i>Navisworks Manage</i>	[2025]	[NWD]	17/10/2025	TBC
<i>GIS UK Spatial HUB</i>	2025	Cloud Based	17/10/2025	TBC

- b) Version Management Implementation:

- The Lead Appointed Party shall coordinate with the Senior Project Information Manager to validate software version compatibility

8.6 Authoring Software Standardisation

The Lot 1 Designer shall identify, define, and document all model naming conventions to be adopted for the project, ensuring full alignment with the project's including required fields, delimiters, codes, versioning rules, and any discipline specific naming requirements.

Provide a clear mapping of how the naming conventions are to be applied in each software environment, including layer names, family names, work set naming, level naming, and any internal model structuring conventions required to maintain consistency.

Identify any software interoperability considerations that may affect naming consistency across platforms and propose any required solutions or guidance.

8.6.1 Revit (Substations, Buildings)

Revit shall be used for substation buildings, structures, and MEP coordination. Please see the tables below for Shared Parameters, Family and Object Naming, Published view sets in ACC, View Settings of Coordination and file maintenance.

Table 6-13: Revit Shared parameters for substation and buildings.

Requirement	Description
No .txt file issued	Task teams shall submit proposed Shared Parameters to SBIM for review and consolidation prior to model development
Additional Parameters	Require SBIM approval to ensure consistency across federated models, create and identify a standard shared, central location where content library is stored alongside parameters. Allowing for project updates from a central source.

Table 8-14: Revit family and object naming for substations and buildings.

Element	Convention
Family Naming (ISO 22014)	[Originator][Type][Subtype][Category] [Plain Language] (WSP_Door_Double 1800x2000_Pr_30_59_24_Double Internal Door)
Classification	Uniclass classification applied to all modelled elements via Type parameters

All task teams shall publish the following standard view sets to ACC with each data drop:

Table 8-15: Revit published view sets to ACC

View Name	Type	Purpose	Settings
COORD-3D-ALL	3D	General Coordination	All elements visible, links visible, detail Medium, visual style Consistent Colours

Table 8-16: Revit view settings for coordination of substations and buildings.

Setting	Value
Visual Style	Consistent Colours (no realistic/raytracing)
Detail Level	Medium
Analytical Elements	Hidden
Design Options	Main model only
Phases	As per project phase mapping
Work sets	All visible except LINK work sets where discipline isolation required

Table 8-17: Revit file maintenance for substations and buildings.

Requirement	Description
Audit & Purge	Models shall be audited and purged before each CDE upload
File Size	Subdivision required before reaching 500MB (mandatory at 1.5GB)
Warnings	Shall be reviewed and resolved; critical warnings not permitted at data drops
Detail level	Detail level, specifically geometry is to cater for the stage of the project and no more, keep size down
Comments	Current stage requirements are NBS LOD2 all models and components should be modelled to NBS LOD2 detail level as indicated in this BEP

8.6.2 AutoCAD/Civil 3D (Civils, Cable Routes, Site Grading)

AutoCAD and Civil 3D shall be used for civil engineering design including site grading, drainage, cable routes, and access roads.

Table 8-18: AutoCAD/Civil 3D Layer Management

Element	Convention
Layer Format (ISO 13567-2)	[Status]-[Uniclass Code]-[Presentation] (e.g., D-Co3265-M-NaturalAreas)
Uniclass Codes	Omit underscores (e.g., Ss22030 not Ss_22_30)
Description Field	Use CamelCase for clarity
Standard Layers	Via template/seed files from 00 Resource Library; purge unused layers before upload

Table 8-19: AutoCAD/Civil 3D naming conventions.

Element	Convention
Surfaces	[Site Code]-[Surface Type]-[Status] Uniclass (e.g., KILN4-FGL-PROP-EN_32_70_80) use Uniclass Entity code
Alignments	[Route Code]-[Type]-[Sequence] Uniclass (e.g., CA60-CABLE-001-EN_32_30_10) Uniclass Entity code

Table 8-20: Interoperability of AutoCAD/Civil 3D.

Requirement	Description
Revit Coordination	Export surfaces as DWG solids

8.6.3 PLS-CADD (OHL Design, Tower Spotting)

PLS-CADD shall be used for OHL design including tower spotting, sag-tension analysis, and clearance verification.

Table 8-21: PLS-CADD Naming Convention

Element	Convention
Towers	[Route Code]-[Tower Number] Uniclass (e.g., ZT-0001-XXT-EN_35_30_90)
Asset Coordination	Coordinate with Asset Data Team for NGET register alignment

Table 8-22: PLS-CADD layer naming for DWG exports

Element	Convention
Format (ISO 13567-2)	[Status]-[Uniclass Code]-[Presentation] (e.g., P-Ss32142-M-Towers)
Uniclass Codes	Omit underscores; descriptions in CamelCase

Table 8-23: PLS-CADD data exchange for federation.

Output	Purpose / Format
Tower Locations	Exported to DXF for federation purpose
Tower Schedule	CSV/XLSX for GIS integration (coordinates, type, height, foundation ref)
Interface Points	With substations/CSECs shall match substation model coordinates

8.6.4 Navisworks

Navisworks shall be used for model federation, clash detection.

Coordination Space Setup:

- Coordination Space configured on NG ACC linked to designated model folders
- Object Exclusions defined to filter non-relevant elements from clash detection

Table 8-24: Navisworks Clash detection requirements.

Requirement	Description
Clash Tests	Configured per agreed rulesets (Section 9.2.8)
Clash Grouping	By grid intersection or zone to facilitate assignment
Reports	Exported as HTML/XML for ACC Issues, or BCF for direct model markup

Federated Model Distribution:

- NWD snapshots exported after each coordination cycle
- Named with date stamp: **[Project]-FederatedModel-[YYYY-MM-DD].nwd**

9 Coordination and Clash Detection

9.1 Model Coordination

All task teams are responsible for clash detecting their own models prior to issue in accordance with the requirements of the Information Standard and this BEP. The table below details individual responsibilities for delivery of the Project Information Model.

9.1.1 ACC Model Coordination Workflow:

GGP uses ACC Model Coordination as the primary federation environment, with Navisworks for advanced clash detection and analysis. This approach avoids NWF path issues in multi-user distributed environments.

Table 9-1: ACC model coordination workflow.

Step	Action	Location
1	Task teams publish models (RVT, IFC, NWC, DWG) to Coordination Space folder	NG ACC
2	ACC processes models for automatic clash detection	NG ACC Model Coordination
3	SBIM open models via Coordination Issues Add-In for detailed analysis	Navisworks Manage
4	Clash results and issues sync between Navisworks and ACC	ACC Issues Module
5	NWD snapshots published for wider team review	NG ACC 03 Federated Model folder

Note: This workflow requires Navisworks Manage with Coordination Issues Add-In (from Autodesk App Store) and Desktop Connector for local file access (where required)

9.1.2 Coordination Cycle

Model coordination shall follow a minimum fortnightly cycle aligned to the project programme. The table below defines the standard cadence; project-specific variations shall be documented in the MIDP. The Lead Appointed Party will notify via email invite any individuals required to attend.

Table 9-2: Coordination Cycle

Responsible	Activity	Frequency	Trigger/Alignment
PkIM	Discipline model upload to CDE (S1)	Per MIDP data drops	5 working days prior to coordination meeting
SBIM	Clash detection and report generation	Fortnightly (minimum)	Following model upload
All	BIM Coordination Meeting	Fortnightly (minimum)	Per P6 schedule
PkIM / IO	Issue resolution and model update	Ongoing	Prior to next data drop
SBIM	Federated model publish (NWD)	Monthly (minimum)	Following coordination meeting

Notes:

1. Coordination frequency may increase during critical design phases or pre-construction.
2. Meeting dates and data drop deadlines are defined in the project P6 schedule.

9.1.3 Federation Schedule

Table 9-3: EDEU federation schedule

Responsible	Activity	Frequency	Day/Time	Location
Task Teams	Model Sync	Continuous	As worked	Lot 1 CDE
Automated	Auto-Publish	Weekly	[Day]	Lot 1 CDE
Task Team Lead	Package & Share	Weekly	[Day]	Lot 1 CDE
SBIM	Consume Packages	Fortnightly	[Day]	NG ACC
SBIM	Federation & Clash	Fortnightly	[Day]	NG ACC
SBIM	Coordination Review	Fortnightly	[Day]	NG ACC

9.1.4 Coordination Cycle by Project Stage

Model coordination frequency shall align with project stage and design maturity. The table below defines the minimum federation frequency at each stage; project-specific variations shall be documented in the MIDP.

Table 9-4: Model coordination frequency per project stage.

BS8536 Stage	BP500SI Phase	Federation Frequency	Model Submission	Coordination Review
A3 Definition	Development and Consent (E.1–E.3)	Fortnightly	Wednesday	Following Friday
A4 Technical Design	Construct & Commission (F)	Fortnightly	Wednesday	Following Friday
A5 Construction	Construct & Commission (F)	Weekly	Wednesday	Following Friday
A6 Handover and Closure	Construct & Commission (G)	Weekly	Wednesday	Following Friday

Notes:

1. Coordination frequency may increase during critical design phases, interface resolution, or pre-construction periods.
2. For stage gate submissions, a coordination freeze period of 10 working days shall apply.
3. Meeting dates and data drop deadlines are defined in the project P6 schedule.

9.1.5 Weekly Coordination Schedule

Submission Requirements:

- Task teams shall upload validated models to Shared (S1) a minimum of two working days prior to scheduled coordination reviews
- Coordination workshops shall follow each federated model review, with outcomes recorded in ACC Issues Module
- Monthly formal model validation reviews shall occur prior to stage gate information exchanges, per the project programme

For detailed coordination management procedures, refer to the Information Production Methods and Procedures (GGP-NGD-XX-XX-PRC-IM-000001) Section 7.5.

Within each coordination cycle, activities shall follow the schedule below. During monthly federation periods, the Package & Share and Consume activities occur once per month rather than weekly.

Table 9-5: EDEU weekly coordination schedule

Responsible	Activity	Frequency	Day/Time	Location
Task Teams	Model Sync	Continuous	As worked	Lot 1 CDE
Automated	Auto-Publish	Weekly	[Day]	Lot 1 CDE
Task Team Lead	Package & Share	Per cycle	[Day]	Lot 1 CDE
SBIM	Consume Packages	Per cycle	[Day]	NG ACC
SBIM	Federation & Clash	Per cycle	[Day]	NG ACC
SBIM	Coordination Review	Per cycle	[Day]	NG ACC
Task Teams	Issue resolution and model update	Ongoing	—	—

9.2 Clash Detection

9.2.1 Clash Detection and Resolution Responsibilities

Table 9-6: Clash detection and resolution responsibilities

Individual Responsible	Role	Model Federation	Individual Model Checks	Federated Model Checks	Clash Management	Clash Resolution
Ross Williams / Melissa Lobo	SBIM	✓		✓	✓	✓
Olu Akinwumi	PkIM WSP		✓			✓
Liam Marley	PkIM LOR		✓			✓
Katy Kott	PkIM MGE					
[TBC]	Model Manager per discipline?		✓			✓

9.2.2 Clash Detection Methodology

Clash detection shall utilise Navisworks Manage or ACC Model Coordination, adhering to the Coordination View 2.0 Model View Definition (MVD) and IFC2x3 schema. A tiered methodology shall be applied:

- **Hard Clashes:** Physical overlaps between elements (e.g., pipework intersecting structural beams) identified with a tolerance of 0 mm unless otherwise specified in the project-specific rulesets below
- **Soft Clashes:** Clearance or operational conflicts (e.g., maintenance access zones) defined per the Exchange Information Requirements (GGP-NGD-XX-XX-SPC-IM-000002), Section 2.7

9.2.3 Clash Detection Rulesets

Rulesets are categorised by severity to prioritise resolution efforts.

Category A (Critical) — Must be resolved prior to design freeze / stage gate progression

Table 9-7: Category A clashes - Critical

Ruleset ID	Discipline Pairing	Description	Tolerance
A01	Civil vs Electrical	Foundation clashes with cable routes, earthing systems, or underground services	xx mm
A02	Structural vs Electrical	Steel/concrete clashes with busbars, CT/VT equipment, or HV conductors	xx mm
A03	Structural vs MEP	Primary steelwork clashes with HVAC ducts, cable trays, or pipework penetrations	xx mm
A04	Electrical vs Electrical	HV equipment clearance violations (phase-to-phase, phase-to-earth)	xx mm
A05	Civil vs Survey	Proposed foundations vs existing buried services (from PAS 128 survey data)	xx mm
A06	All vs Site Constraints	Any element clashing with DCO red line boundary, ecological exclusion zones, or easements	xx mm

Category B (Significant) — Must be resolved prior to information exchange milestone

Table 9-8: Category B clashes - Significant

Ruleset ID	Discipline Pairing	Description	Tolerance
B01	Architectural vs MEP	Building envelope clashes with external plant, louvres, or penetrations	xx mm
B02	MEP vs MEP	Mechanical/electrical services routing conflicts within control buildings	xx mm
B03	Structural vs Access	Steelwork clashes with maintenance access routes or lifting zones	xx mm
B04	Electrical vs Access	Equipment clearance for operational access, door swings, escape routes	xx mm
B05	Civil vs Drainage	Hardstanding / foundations vs surface water drainage falls and attenuation	xx mm

Category C (Minor) — To be resolved prior to construction issue.

Table 9-9: Category C clashed - Minor

Ruleset ID	Discipline Pairing	Description	Tolerance
C01	Architectural vs Furniture	Internal fixtures, signage, or FFE clashes	xx mm
C02	Architectural vs Architectural	Non-structural partitions, finishes, or ceiling grids	xx mm
C03	Landscaping vs Civil	Planting zones vs hardstanding or fencing alignments	xx mm
C04	Temporary Works vs Permanent	Construction phase temporary works vs permanent design elements	xx mm

Additional notes on clash detection rulesets:

1. "Soft" tolerances define clearance zones for operational/maintenance access rather than physical intersections.
2. Rulesets shall be reviewed and confirmed at the BIM Kick-off Meeting. Project-specific additions (e.g., OHL sag/swing clearances, seismic separation) shall be appended to this table and recorded in the BEP revision history.
3. For OHL and UGC linear assets, additional spatial clash rules apply per the Geospatial Data Standard (NGSI-NGD-XX-XX-STN-IM-000001).

10 Implementation of Information Production Methods and Procedures

10.1 Information Delivery Workflows

Project Information Model Validation and acceptance framework

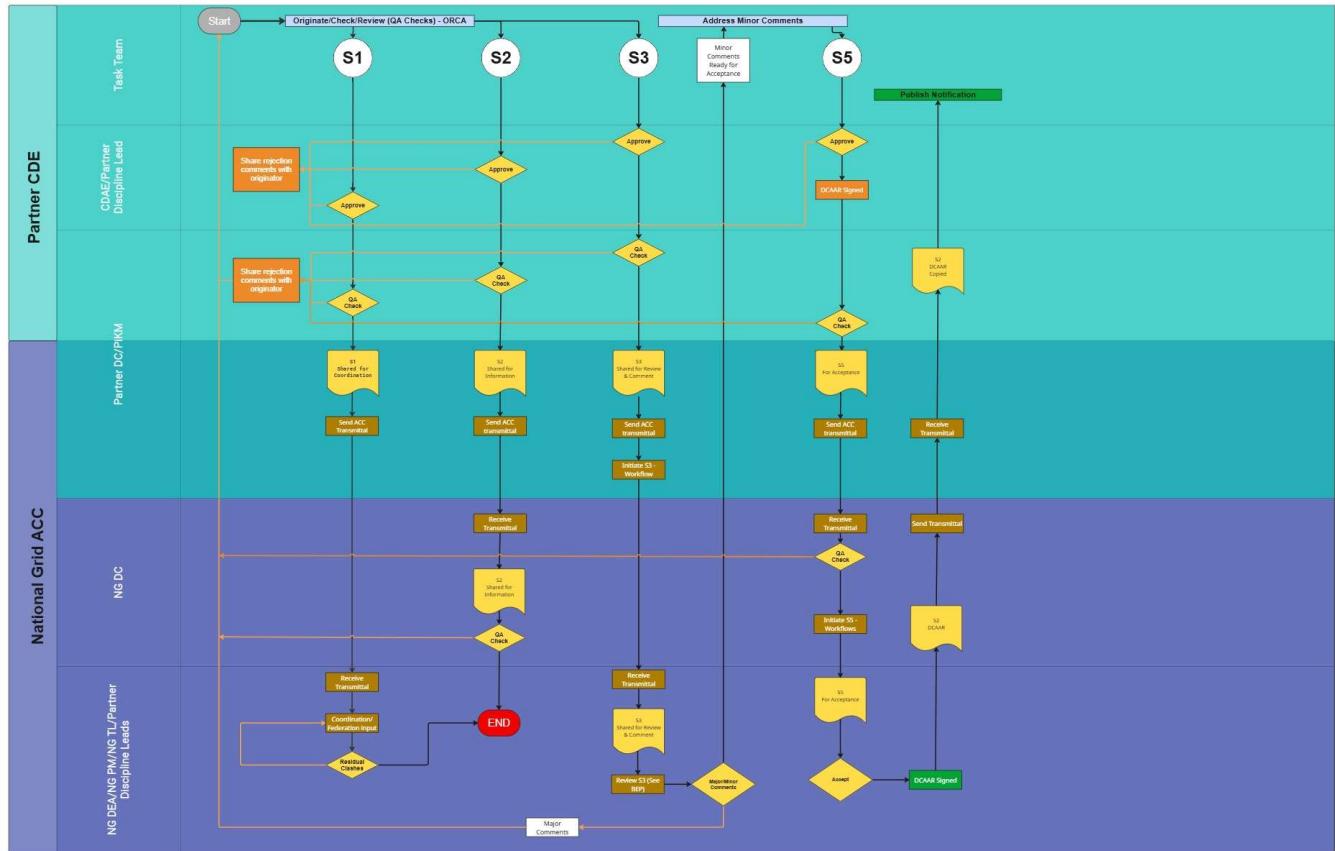


Figure 10-1: Project information model flow between Partner (WIP) CDE to National Grid Share and Published CDE for S1, S2, S3 and S5. A status to follow in next revision of BEP. In addition, non-engineering workflow will also be published in next revision of BEP.

10.2 Change in S3 – Workflow

The following changes are applied to the S3 – Review and Comment workflows for both S3 – Engineering and S3 Non-engineering review workflows. The S3 Review and Comment process is initiated by Delivery Partners (DPs) by assigning the S3 status and submitting the deliverable for review within the Shared and Published CDE (ACC). This step allows project teams to review and provide comments on deliverables before they are submitted to the Client for acceptance.

The review may be carried out by the Contractor's Design Assurance Engineer (CDAE), the Lot 1/2 Delivery Partners, and/or the Client Project Team. This collaborative approach ensures early resolution of technical and assurance requirements and provides valuable feedback on deliverables prior to formal submission for client acceptance. To following additional points also apply:

- The S3 Review and Comment workflow is no longer automatically initiated upon upload to the Client CDE.
- Responsibility for initiating S3 now sits with the Originating Partner's Document Control Team / Package Information Manager.
- Reviewers for each S3 submission are manually selected by the Originating Partner.
- Reviewer selection must be based on the approved Roles and Distribution Matrix (EDEU-GGP-ZZZZ-XXXXXX-MAT-IM-000001), with additional reviewers included where requested by the Partner SME.

- Separate workflows are used for S3-Engineering and S3-Non-Engineering, selected according to the information type.
- Originating Partners are encouraged to seek informal and early partner input prior to S3 where extensive review is anticipated.
- Informal partner engagement may take place within Partner WIP environments or Client collaborative co-authoring spaces and does not constitute an S3 submission.
- Only information that is technically complete and review-ready should be submitted into the formal S3 workflow.
- The preferred commenting method for engineering information is by using the ACC issues module as discussed in the IPMP (GGP-NGD-XX-XX-PRC-IM-000001).
- The preferred commenting method for non-engineering information is via the issuing of the comments sheet that is transmitted back to the originating organization once the review has been completed.

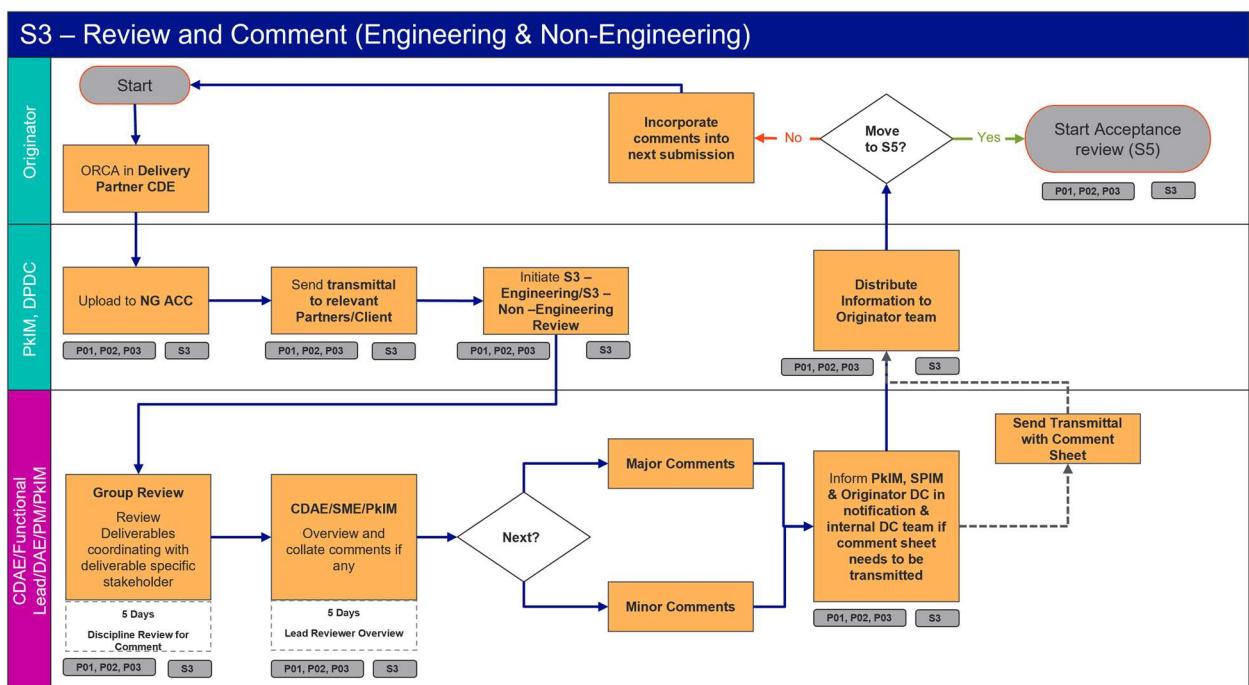


Figure 10-2: Updates S3 - Progressive assurance workflows for engineering and non-engineering reviews.

10.3 Transmittals

All transmittals will adhere to the naming standard and guidelines specified in the clients IPMP (GGP-NGD-XX-XX-PRC-IM-000001). In addition:

- It is the responsibility of the partner package information manager to update the EDEU Roles and Distribution Matrix (EDEU-GGP-ZZZZ-XXXXXX-MAT-IM-000001) information related to their internal team. In addition, they also must inform the SPIM or National Grid document controller when updates are required to the roles within NG ACC to align with the above matrix.
- It is the responsibility of National Grid document controller to update the EDEU Roles and Distribution Matrix (EDEU-GGP-ZZZZ-XXXXXX-MAT-IM-000001) for information related to the National Grid internal team. In addition, they also must ensure that these roles are aligned with the above matrix.
- When creating any transmittals in ACC please ensure that the relevant document controller from partner organisation/client in addition to the PkIM are included for reference. Please see the table below.

Table 10-1: EDEU key transmittal roles/individuals to be included in formal transmittal of between partners (based on relevant scope) and client.

Scope	Doc Control Roles	PkIM
Project Wide & OHL 70-74	WSP – Doc Control Laing O'Rourke Doc Control Morrisons – Doc Control NG Document Controller	WSP – Olu Akinwumi WSP – Ahmad Ahmad LOR – Liam Marley MGE – Katy Kott
Sub-50 – Long Lane	WSP – Doc Control Morrisons – Doc Control NG Document Controller	WSP – Olu Akinwumi WSP – Ahmad Ahmad MGE – Katy Kott
Sub-51 - Chesterfield	WSP – Doc Control Laing O'Rourke Doc Control NG Document Controller	WSP – Olu Akinwumi WSP – Ahmad Ahmad LOR – Liam Marley
Sub-52 – High Marnham	WSP – Doc Control Laing O'Rourke Doc Control NG Document Controller	WSP – Olu Akinwumi WSP – Ahmad Ahmad LOR – Liam Marley

10.4 Drawing types and drawing sheet templates

10.4.1 Drawing types

In accordance with BP/SR135, drawings used or produced as part of design delivery process shall be categorised and managed based on their origin, purpose and assurance requirements.

1. **Newly created drawings** are defined as produced specifically for the project and representing the drawing as installed in its final version. The final version of these drawings (or electronic masters) shall be issued in CAD format, purged of any unnecessary items and external references contained within as blocks. See Clause B1.1 in SR135 Appendix B.
2. **Pre-existing as-built drawings** are drawings that are held in the Enterprise Content Management (ECM) System and form part of the existing asset record. Where such drawings are impacted by the works, they may be subject to revision, supersession or obsolescence and therefore must be reserved in ECM system. Any modification to pre-existing as-built drawings shall be managed and assured in accordance with clause B2.1.7 in SR135 Appendix B, including the production of green and red markup drawings to provide clear evidence of change to the pre-existing asset. These modifications with their markups shall undergo engineering assurance process.
3. **Generic Drawings** comprise all drawings held within the Asset equipment library, new Manufacturers equipment drawings and Type registered (OEM) drawings. Except for the Type registered (OEM) drawings, all generic drawings shall provide evidence of assurance in accordance with BP/SR188 prior to use. Type registered drawing are assured but evidence of their EGI number registration must be provided and intended use shall be declared at the outset. See SR183 for more details. Any adaptation, modification or change to generic drawings shall be undertaken only by the originator, ensuring integrity of design intent, assurance and configuration are maintained. Any type registered (OEM) modification is handled directly by NGET as per the process outlined in BP/SR183.

10.4.2 Drawing sheet templates

All drawing sheets shall be derived from within the 3D information model to ensure compliance with the EIR. No modifications to drawings shall be performed in 2D modelling software to ensure accuracy and coordination are maintained. In all cases, information held in published 3D models takes preference over 2D models.

To aid consistency of information production the Design Lead Appointed Party has issued a project specific ‘Drawing sheet template’ to the CDE. This template may be found at the location here or under the “02 Resource Files\01 CAD Templates” folder.

Table 10-2: List of GGP drawing sheet templates.

Template Reference	Title
GGP-NGD-XXXX-XXXXXX-TEM-IM-000010	CAD Template A0 - Horizontal
GGP-NGD-XXXX-XXXXXX-TEM-IM-000011	CAD Template A1-Horizontal
GGP-NGD-XXXX-XXXXXX-TEM-IM-000012	CAD Template A0-Vertical
GGP-NGD-XXXX-XXXXXX-TEM-IM-000013	CAD Template A1-Vertical
GGP-NGD-XXXX-XXXXXX-TEM-IM-000015	CAD Template A2-Horizontal
GGP-NGD-XXXX-XXXXXX-TEM-IM-000016	CAD Template A3-Horizontal
GGP-NGD-XXXX-XXXXXX-TEM-IM-000017	CAD Template A2-Vertical
GGP-NGD-XXXX-XXXXXX-TEM-IM-000018	CAD Template A3-Vertical

The details of what is required in each section of the drawing tile block is covered at length in the Information standard (GGP-NGD-XX-XX-STN-IM-000001). While the drawing list above provides a generic template, partner organisations are encouraged to produce their own version of the above template that includes their organisational logo that can then be shared internally or with their supply chain for use. Please note that supply chain logo’s are also required as per the stipulation in the information standard (GGP-NGD-XX-XX-STN-IM-000001).

nationalgrid National Grid plc, Warwick Technology Park, Gallows Hill, Warwick, CV34 6DA		Site Project Title 1 Project Title 2			Q	
WSP WSP House, 70 Chancery Lane, London, WC2A 1AF, UK T+ 44 (0) 207 314 5000, F+ 44 (0) 207 314 5111 wsp.com		Title Type of diagram Specific function/ Object/ Circuit Specific function / object/Circuit Substation Name and Voltage				
		Purpose of issue For Construction			Status A5	R
		Contractor Drawing No. PR1-ORG-XX-XX-DR-EMG-000001			Revision C01	
		Customer Drawing No. 42_VE_0455			Sheet 001 Issue of 001 A	
Drawn A.TECHNICIAN	Checked A.CHECKER	Reviewed A.REVIEWER	Approved A.APPROVER	Date 25/03/25	Scale 1:50000	Size A0
20	21	22				

Figure 10-3 - Example title block to be used for EDEU with WSP Logo (Please see above on logo management). All parties submitting information with a title block will use the above template.

10.5 Modifying Existing As-built Information

Pre-existing as-built information is maintained within the Enterprise Content Management (ECM) system and may be revised, superseded, or marked obsolete by any contractor engaged in a project. When this information is intended for use in interface drawings related to existing assets, it is essential that the contractor responsible for the interface “reserves” the relevant as-built data in ECM.

There are three methods for updating as-built information:

Revision – Updating the existing data while retaining the same CAD file, title block, and layout.

Supersession – Replacing the file when changes impact the existing asset.

Obsolescence – Removing the information from the ECM system.

All changes, except for obsolescence, must be submitted via DCAAR and include green and red markups to assist the site team in accurately evaluating the modifications. Please refer to the following guidelines document for additional information on this process (

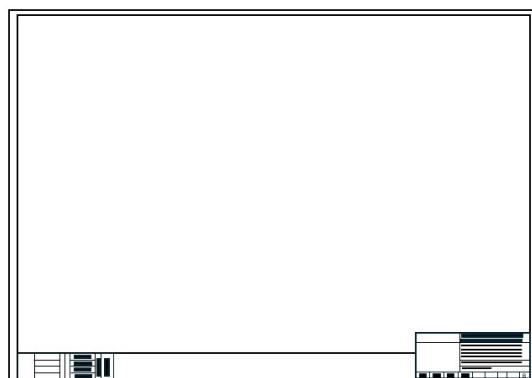
10.5.1 Revising Existing Information

This procedure applies to all drawing revisions within ECM where the drawing identity remains unchanged and only the revision block is updated.

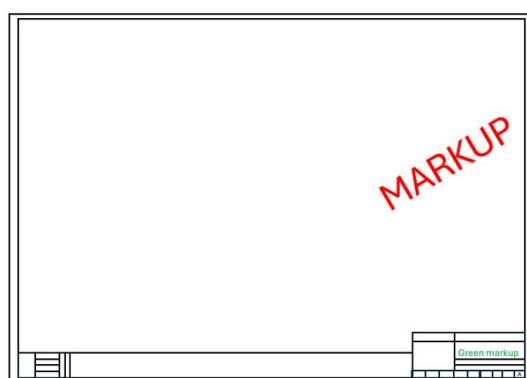
The condition for the drawing revision does not require superseding or obsoleting when:

- The change does not affect the validity or traceability of the original record of the asset in ECM*.
- The title block complies with SR135.
- The NGET drawing number remain unchanged.
- The drawing in question is referenced
- No Impact on Existing Assets: Updating these drawings does not affect any installed or operational equipment outside the project scope. Therefore, a simple revision (updating the revision block) is sufficient.

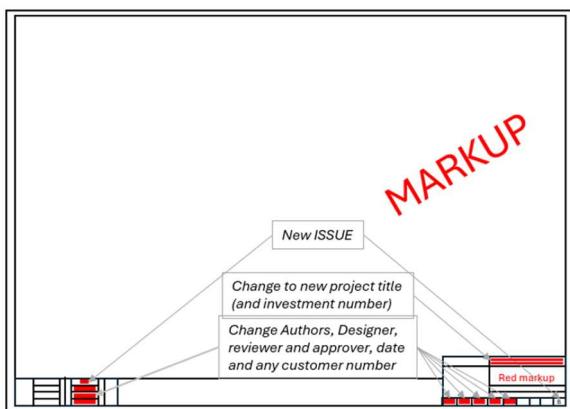
The update is limited to the revision block, e.g., adding the investment number and entries.



The new revision (B) without red marking (text in black)



The old revision (A) + Green markups



The new revision (B) Red markups

PLEASE NOTE: Since GGP does not support multiple files, the supersession approach is generally preferred, as the project title block and layout differ from those in SR135. However, contractors must consider cases where a drawing includes multiple sheets. In such situations, superseding the drawing will require issuing each sheet as a separate drawing with its own unique filing ID, rather than using a single ID for all sheets. Furthermore, the scope and impact of these changes must be carefully evaluated.

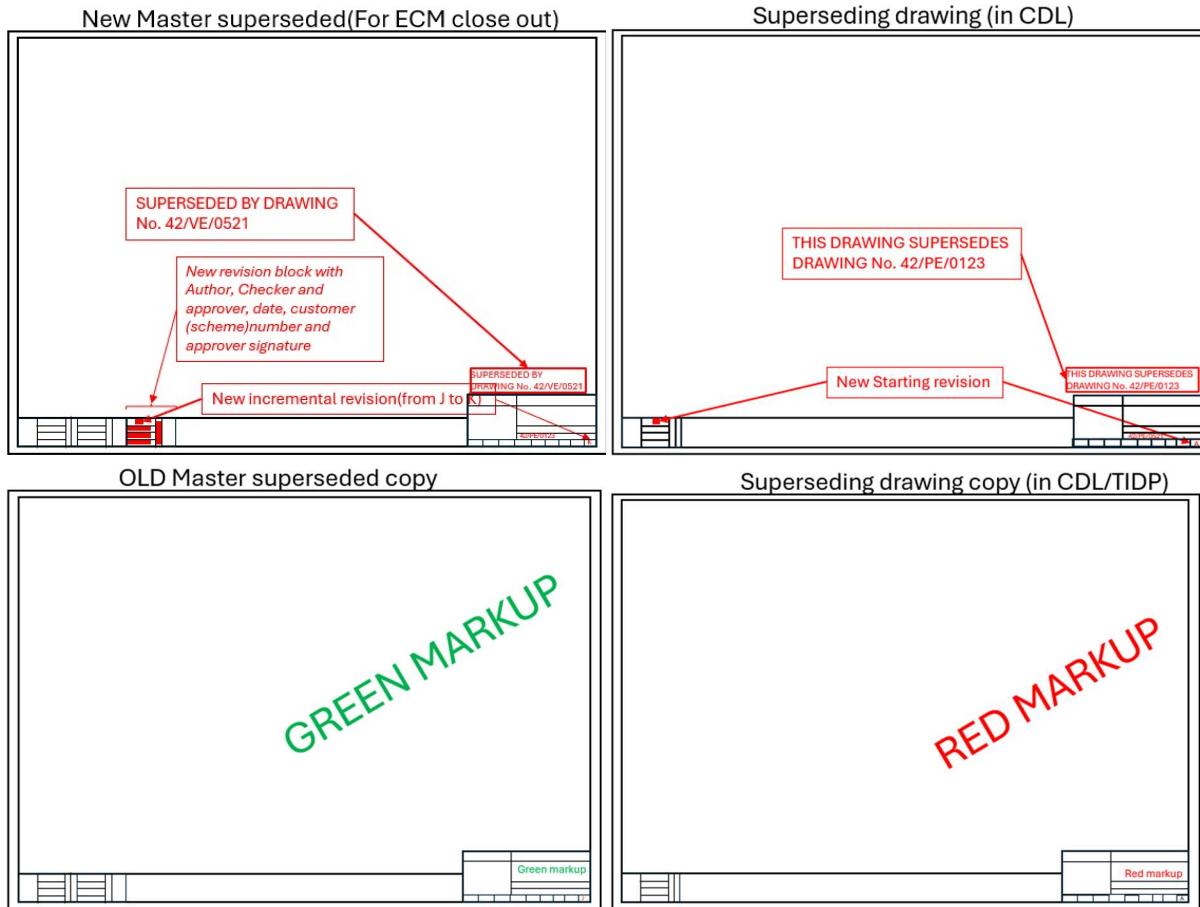
10.5.2 Superseding Existing information

A superseded drawing is one that is fully replaced by another drawing showing similar or equivalent content. Within the context of this definition, the term 'superseded' is not intended to apply if a drawing is up revved and reissued using the same drawing number.

When a drawing is updated:

- The current master drawing version in ECM is reserved, temporarily locking or checking out a drawing so that a specific user can make updates or changes without interference from others. You must ensure that the ECM superseded drawing is issued to NG ECM Drawings management upon completion.
- The superseded master drawing shall be amended to prominently show the text 'SUPERSEDED BY DRAWING No. XX/YYY/ZZZZ', preferably in close proximity to the drawing title block, and the drawing revision number shall be incremented.
- The scheme NGET investment number and approver's signature are required within the revision. This is a requirement to note which scheme approved the drawing to be made Superseded.
- Any new drawing that replaces a superseded drawing shall include a note placed near to the title block that identifies the (NGET) drawing number of the drawing that is superseded.

See figure below:

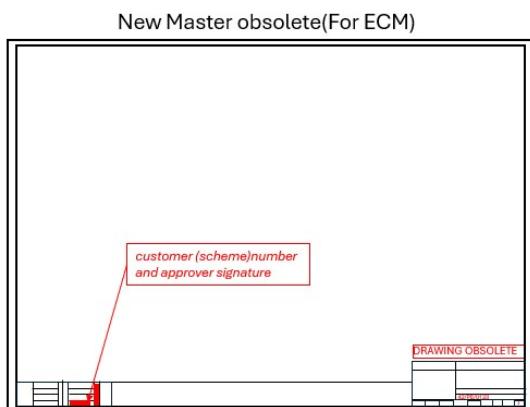


10.5.3 Obsoleting information

If a drawing is no longer relevant (asset no longer required) then:

- The current master drawing version in ECM is reserved, temporarily locking or checking out a drawing so that a specific user can make the drawing obsolete without interference from others. You must ensure that the ECM obsolete drawing is issued to NG ECM Drawings management upon completion.
- It is retained for historical and audit purposes but is no longer used for active work.
- Obsolete status prevents accidental use in current projects.
- Drawings must be reviewed and approved, with approval signature and investment number clearly indicated in the revision block before being marked as obsolete (use Watermark on Drawing template).

See below figure:



10.5.4 General note for Assurance

The table below offer a guidance how the modified drawing with their markups are getting assured.

Type	Drawings	DCAAR LIST	ECM HANDOVER
Revised	New revision of ECM version	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Green markup of ECM old	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Red markup of new version	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Superseded	New revision of ECM version (sup.)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	New Superseded drawing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Green markup of ECM old version	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Red Markup of superseded version	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Obsolete	Old version with OBSOLETE markup	<input type="checkbox"/>	<input checked="" type="checkbox"/>

10.6 Security of information

10.6.1 Security of requirements

All project stakeholders must comply with **BS ISO 19650-5:2020**. Until a formal Security Management Plan (SMP) is issued, the Information Production Methods and Procedures (IPMP) will serve as the interim security baseline.

10.6.1.1 Baseline requirements

All project documents shall be stored and exchanged using the agreed system and CDE. P6 will hold the schedule and will be exchanged via FastDraft.

- No information containers shall be exchanged via email, FTP or any cloud storage solution (WeTransfer, Google drive, Dropbox, etc.).
- All project data utilized on this project is to be retained in a secure manner (in accordance with the requirements of the UK Government's National Cyber Security Strategy).
- All software used in the production of information on this project (including operating systems) shall be maintained in accordance with the software manufacturer's instructions and the requirements of the UK Government's National Cyber Security Strategy.
- All computers (e.g., laptops, desktops etc.) used on this project must have suitable and robust encryption in accordance with points above and/or compliant Cyber Essential Certification scheme.

- Portable storage, that is not USB, is prohibited. If portable storage is required, the USB exceptions process should be followed for this. Only authorised USB devices should be used. These devices typically have hardware encryption and have a named user as an owner. Robust AV must be in place for this.
- Access to all project data stored on the Shared & Published CDE is to be controlled by the Project Information Manager.
- All uses of the model outside of project delivery (e.g., marketing, publicity etc.) are to be with the Appointing party's prior knowledge and consent. No information may be released into the public realm without the Appointing party's consent.
- All data to be free from viruses and other forms of infection prior to transmission onto the CDE.
- The following security controls shall be applied:
 - Secure communication channel shall be use of Use of HTTPS, TLS, and VPNs to ensure encrypted and secure data transmission.
 - AES-256 encryption for data at rest.
 - Minimum transfer protocol shall be to TLS1.2 or higher.
- Disaster recovery or continuity of business strategy to be adopted by all organisations engaged on this project to include (but not limited to):
 - Automated system backups that are routinely tested for reliability and executed in line with a defined, consistent programme. .
 - Scanning of all incoming and outgoing data for malware and spyware.
 - Continuous monitoring of system for malware and spyware across the organisation.
 - Robust firewall system to protect the system from both internal and external attacks.
- Access to project data to users working on the project to be controlled by the Project Manager.
- Ensure that all project staff are fully aware of the data security measure in place on the project.
- It is the duty of each person engaged on this project to prevent and protect against:
 - Hostile reconnaissance.
 - Malicious acts.
 - Loss or disclosure of intellectual property.
 - Loss or disclosure of commercially sensitive information.
 - Release of personally identifiable information.

This approach ensures proportionate, consistent security controls across all distributed CDEs. This section will be updated once the SMP is issued; SMP requirements will then supersede interim measures.

Any suspected or actual security breach must be reported immediately to the Build Asset Security Manager.

10.6.1.2 Interim Governance Position

- **Security triage status:** *Pending – Interim IPMP baseline in force*
- **Baseline authority:** GGP IPMP (**GGP-NGD-XX-XX-PRC-IM-000001-P02**)
- **Operational control point:** BEP (this document)
- **Scope:** All project information across WIP, Shared, and Published CDE states, including transitions between distributed partner CDEs and the client Shared/Published CDE.

10.6.1.3 PIM Security control

A Delivery Partner Data Classification and Labelling Standard is currently being developed. Once approved, this BEP will be updated to reflect its adoption and to ensure alignment with the Client's own Data Classification and Labelling Standards. This requirement also aligns with NIST controls governing

information handling, classification, and retention. Please refer to the PIM delivery strategy (**Section 6**) how these will be implemented.

10.6.1.4 Roles and Responsibilities (Interim)

- **Accountable:** Appointing Party (Security Management Plan's owner when issued)
- **Responsible:** Lead Appointed Party (implementation of interim triage and controls)
- **Consulted:** Task Team / Package Managers (local WIP classification and risk screening)
- **Informed:** Information authors, reviewers, and document control teams

Security awareness is required for all personnel involved in information creation, review, transfer, and publication.

10.6.1.5 Incident management and escalation

Any suspected or confirmed security incident must be reported immediately, in line with the project's incident-management procedures, ISO 19650-5, and NIST response requirements.

Report incidents immediately via:

- **UK Incident Reporting Line:** 01214248204
- **Cybersecurity Incident Email:** cyberresponse@nationalgrid.com

Below is the list of Partners /Supply Chain Escalation Contacts for all platforms used:

Table 10-3: Key contracts from each partner organisation for incident management and escalation

Partner/Supply chain	Platform	Contact (email)
Laing O'Rourke	All	CBrits@laingorourke.com
WSP	Autodesk Construction Cloud	?
	InfraCatalyst	?
M Group	SharePoint	?

10.6.1.6 Monitoring and Assurance

- **Ongoing monitoring** shall be undertaken via access reviews, audit logs, and periodic checks at exchange points.
- **Incidents or suspected breaches** shall be recorded and managed in line with IPMP baseline procedures.
- The effectiveness of interim controls will be **reviewed at each project stage** and formally re-baselined when the SMP is issued.

10.6.1.7 SMP Transition

Upon issue of the project **Security Management Plan**, this BEP section will be updated to:

- Reference the SMP version/date.
- Replace interim IPMP reliance with SMP-defined **triage outcomes, classifications, and mitigations**; and
- Confirm any enhanced controls, approval gates, and monitoring regimes required by the SMP.

10.7 Legacy information

10.7.1 Reference information, shared resources and object library

Any information, shared resources and object library received from the Appointing Party has been made available at the CDE location below. Task teams should endeavour to supplement this information as appropriate.

The Senior Project Information Manager (SPIM) is responsible for:

- Acquiring and validating legacy information from the Appointing Party
- Ensuring proper organisation and storage of reference information in the CDE
- Managing access rights to shared resources
- Maintaining the currency and integrity of the object library
- Documenting the provenance and reliability of legacy information

Container ID	01 – Supplied Information
CDE location	NG- ACC

10.7.2 Agreed methods of legacy information release

The migration of legacy information from the NG EDEU Project SharePoint to the NG ACC CDE is currently in progress at the publication of the BEP. Information release onto ACC is based on four workflows agreed by the National Grid Project Director.

1. Any outstanding feed information from Jacobs and Arcadis transmitted onto the existing National Grid Project SharePoint, will be shared with all relevant GGP partners on ACC 'For Information' as soon as possible via transmittal by the National Grid document controller. Sharing this information as soon as possible is imperative for the process of the planning of design and construction works undertaken by all parties. Once the internal assurance and acceptance process of these deliverables have been completed, the correct status will be applied, and the information will be transmitted again as a package to partners.
2. Any information that was previously transmitted to GGP partners via the NG project SharePoint will be loaded onto NG ACC and re-transmitted to GGP partners to include the original document references received from incumbents and National Grid.
3. GGP partners can create RFI's (see below) to the client to enquire about any outstanding legacy information. If available these information artefacts will be released in accordance with the IPMP.
4. Any existing As-Built drawings from ECM (Enterprise Content Management) that require updating or obsolescence need to be **reserved** as soon as possible within by the organisation who are going to update the documents. Please see section 9.3 of this document.

10.8 Survey Strategy

Where task teams are required to, or otherwise capture existing condition information, either via traditional measurement, laser capture or otherwise, task teams shall follow the guidance set out in BS 5964-3:1996.

To ensure captured survey data is coordinated and useable, task teams shall comply with the format below.

Table 10-4: Construction surveys

Survey Type	Format	Project Grid	Comments
Control network	Digital format with clear coordinate listings and descriptions	Local grid system with transformation parameters to OSGB36	Must include control points referenced to local project origin
Point Cloud (TLS)	Registered point cloud data (.e57,.rcp or agreed format)	Local project grid with documented relationship to OSGB36	Density and accuracy to be agreed prior to survey commencement
Utilities	3D linework with attributed data (depth, size, material)	Local grid system consistent with project coordinates	Utilities to be verified where possible and confidence level indicated
Add new	[Format to be specified based on survey type]	Local grid system with transformation parameters to OSGB36	[Additional requirements as needed]

Note: As per BS5964-3 (clause 3.1.1), local grid systems must be used rather than defaulting to OSGB36 (EPSG27700) to ensure accurate point cloud registration and precise setting out. surveys must include clear documentation of the transformation parameters between the local grid and OSGB36.

10.9 RFI/TQ Process

All partners shall follow the RFI/TQ guidelines as set forth in the clients IMPM (GGP-NGD-XX-XX-PRC-IM-00001 C02). The RFI/TQ module in ACC is for formal communication between an individual partner organisation and the client. The module cannot be used for queries among the different delivery partners. Please see section 9.10 below for the partner-to-partner communications. Please follow the EDEU RFI/TQ guideline (EDEU-GGP-XXXX-XXXXXX-GID-IM-000001) for creation, triage and distribution support.

10.10 Partner-to-Partner Communications

A custom issues management template has been created to facilitate partner-to-partner communication/queries. Please note that this is not a contractual communication method and relies on the collaborative nature of the enterprise agreement. These communications are intended as a bi-lateral arrangement and does not facilitate a one-to-many model.

To Complete the Partner-To-Partner Communications select the Partner-to-Partner Communications Template from the Issues Module and complete the following fields.

Creator:

- Question – Detailed question to the partner organisations seeking clarification or additional information
- Originating Partner – Select the appropriate partner organisation from the drop-down list who is creating the communication
- Recipient Partner - Select the appropriate partner organisation from the drop-down list who will receive the communication
- Location - Select the appropriate location form the drop-down list that matches the desired project package
- Assigned to – Select one individual who will receive the communication
- Watchers – NG Senior Leadership team are added by default, add any additional individuals who need to be included in the communication. It's recommended to add in the creator of the RFI/TQ as a watcher so they can benefit from notifications in the system.
- Start Date – Select the date of creation.

Assignee:

Once notification has been received about the communication the assignee/s can provide the appropriate answer to the question by:

- Answer – Provide a detailed answer to the question
- Comments - @ Mention the creator of the issue when completed as this will allow them to be notified of the answer received.

APPENDIX A – Abbreviations and glossary of terms

Table 7: Abbreviations

Term	Expansion
AIR	Asset Information Requirements
BEP	BIM Execution Plan
BIM	Building Information Modelling
CDE	Common Data Environment
CDM	Construction (Design and Management)
EIR	Exchange Information Requirements
FM	Facilities Management
IFC	Industry Foundation Classes
KPI	Key Performance Indicator
MIDP	Master Information Delivery Plan
PIM	Project Information Model
PIR	Project Information Requirements
TBC	To be confirmed
TIDP	Task Information Delivery Plan

Table 8: Glossary of terms

Term	Definition
Appointed Party	Provider of information concerning works, goods or services
Lead Appointed Party	Appointed party who has foremost responsibility amongst the delivery team for the management of the BIM process during the applicable stage. Please note that our understanding of 'Lead' in this manner is not to denote any contractual relationship hierarchy between Appointed Parties.
Appointing party	Receiver of information concerning works, goods, or services from a lead appointed party
Delivery team	Lead Appointed Party and the Appointed Parties Where appropriate this term is prefixed with 'Design' or 'Construction' to indicate responsibility.
Task team	Individuals assembled to perform a specific task
Terms relating to information management	
Information	Reinterpretable representation of data in a formalised manner suitable for communication, interpretation, or processing
Information requirements	Specification for what, when, how and for whom information is to be produced
Exchange Information Requirements (EIR)	Information requirements in relation to an appointment
Asset Information Requirements (AIR)	Information requirements in relation to the operation of an asset
Information exchange	Act of satisfying an information requirement or part thereof
Information model	Set of structured and unstructured information containers
Asset information model	Information model relating to the operational phase
Project information model	Information model relating to the delivery phase
Federation	Creation of a composite information model from separate information containers
Federated Information Model	A set of information containers combined into a single information model
Information container	Named, persistent set of information retrievable from within a file, system, or application storage hierarchy
Common data environment (CDE)	Agreed source of information for any given project or asset, for collecting, managing, and disseminating each information container through a managed process.

Term	Definition
Level of Information Need	A CDE ‘workflow’ describes the processes to be used and a CDE ‘solution’ can provide the technology to support those processes Framework which defines the extent and granularity of information
General terms	
Attribute	A specification that defines a property of an object
COBie	A specialised and structured information exchange used to transfer asset information to be used during the operation phase.
Drawing	An information model presenting a static, graphical representation of part or all of a project or asset
Native information model	The primary data format of a set of structured and unstructured information containers
Object or Component	Detailed information that defines a product and geometry that represents that product's physical characteristics.
Shared levels and grids container	Information container defining the common coordinate system to be used across the project. This defines, but is not limited to, the Project Base Point, Survey Point and project common levels and grids.
Space	Limited three-dimensional extent defined physically or notionally
Zone	A group of spaces, partial spaces, or other zones
4D	A 3D representation of an asset with time-related information. This information can be used to obtain accurate programme information and visualisations showing how the project develops sequentially

APPENDIX B – Applicable Standards and Reference Summary

As communicated by the EIR, National Grid requires Project Stakeholders to adopt the following references.

Reference	Application														
	Collaboration	Project stages	Information container naming	Object authoring	Drawing	Classification	Level of information need	Common Data Environment	Asset Information	Appointments	Facilities Management	Health & Safety	Costing	Security	Survey
	M: Mandatory														
BS EN ISO 19650-1:2018	M						M	M		M	M				
BS EN ISO 19650-2:2018	M	M	M				M	M		M					
BS EN ISO 19650-3:2020							M	M	M	M	M				
BS 1192-4:2014	M					M	M		M		M				
BS EN ISO 19650-5:2020	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
ISO 22014:2024			M	M	M	M	M								
PAS 1192-6:2015									M		M	M			
BS 8541-1:2012				M	M										
BS 8541-2:2011				R	R										
BS 8541-3:2012				R	R										
BS 8541-4:2012				R	R										
BS 8541-5:2015				R	R										
BS 8541-6:2015				R	R										
NBS Definition Library			M	M		M									
Uniclass 2015			M		M										
BS 5964-3:1996												M			

		Application														
		Collaboration	Project stages	Information container naming	Object authoring	Drawing	Classification	Level of information need	Common Data Environment	Asset Information	Appointments	Facilities Management	Health & Safety	Costing	Security	Survey
Reference																
M: Mandatory																
R: Recommended																
Project Protocols	Information Management Protocol	M	M					M	M	M						
	BIM Execution Plan (BEP)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
	Exchange Information Requirements (EIR)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
	PIR Project Information Requirements	M	M	M	M	M	M	M	M	M	M	M	M			
	IS Information Standard & Naming Convention	M	M	M	M	M	M	M								
	IPMP Information Production Methods and Procedures	M	M	M	M	M	M	M	M				M			
	Responsibility Matrix	M	M	M	M	M				M			M			
	Security Management Plan	M	M					M		M			M			
	Capability and Capacity Assessment	M	M					M		M						
	Mobilisation Plan	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
	IM Risk Register	M	M	M	M	M	M	M	M	M	M	M	M	M	M	

Reference	Title	Abstract
BIM according to ISO 19650		
BS EN ISO 19650-1:2018 (Part 1 – Concepts and principles)	Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling.	Sets out the recommended concepts and principles for business processes across the built environment sector in support of the management and production of information during the life cycle of built assets (referred to as “information management”) when using building information modelling (BIM).
BS EN ISO 19650-2:2018 (Part 2 – Delivery phase of the assets)	Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM) – Information management using building information modelling.	Enables an Appointing Party to establish their requirements for information during the delivery phase of assets and to provide the right commercial and collaborative environment within which (multiple) Appointed Parties can produce information in an effective and efficient manner.
PAS 1192-3:2013	Specification for information management for the operational phase of assets using Building Information Modelling	Provides guidance to Asset Managers on how to integrate the management of information across the longer term activity of asset management with the shorter term activity of asset construction for a portfolio of assets.
BS 1192-4:2014	Collaborative production of information Part 4: fulfilling exchange information requirements using COBie	Outlines the UK usage of COBie, an internationally agreed information exchange schema for exchanging facility information between the Appointing Party and the supply chain.
PAS 1192-5:2015	Specification for security-minded building information modelling, digital built environments and smart asset management	Specifies requirements for security-minded management of BIM and digital built environments. It outlines the cyber-security vulnerabilities to hostile attack when using BIM and provides an assessment process to determine the levels of cyber-security for BIM collaboration which should be applied during all phases of the site and building lifecycle.
PAS 1192-6:2018	Specification for collaborative sharing and use of structured Health and safety information using BIM	Specifies requirements for the collaborative sharing of structured H&S information throughout the project and asset life-cycles. This supports the development of structured H&S information for all construction projects progressively from the outset.

BIM according to ISO 19650 enablers

BS 8541-1:2012	Library objects for architecture, engineering and construction Part 1: Identification and classification – Code of practice	Provides recommendations for defining format and content for library objects to support project briefing, design, tendering, construction and management of built assets.
BS 8541-2:2011	Library objects for architecture, engineering and construction Part 2: Recommended 2d symbols of building elements for use in building information modelling	Provides guidance and recommendations and establishes rules for the design of symbols and other graphic conventions used in drawings for the construction industry.
BS 8541-3:2012	Library objects for architecture, engineering and construction Part 3: Shape and measurement	Provides guidance and recommendations for shape and measurement of construction library objects used in building construction and facility domains, setting levels of detail and representations of measurement.
BS 8541-4:2012	Library objects for architecture, engineering and construction Part 4: Attributes for specification and assessment – Code of practice	Provides guidance and recommendations for the application of construction objects integrated into BIM working, defining the level of information for specific uses including specifying desired outcomes and selection of products. Covers common and specific attributes and can be used for the assessment of expected impacts.
BS 8541-5:2015	Library objects for architecture, engineering and construction Part 5: Assemblies – Code of practice	Provides guidance and recommendations for sharing sub-models of combinations of components and spaces, covering naming, classification and nesting.
BS 8541-6:2015	Library objects for architecture, engineering and construction Part 6: Product and facility declarations – Code of practice	Provides guidance and recommendations for sharing information from product declarations, labelling and environmental tables.
BIM Forum Level of Development (LOD) Specification	BIM Forum Level of Development Specification	Provides a framework for defining the level of development and reliability of BIM elements at various stages of a project. It supports the ISO 19650 series by enabling project teams to specify, manage, and verify the progression of information

		development and delivery, ensuring clarity in responsibilities and expectations across the project lifecycle.
Uniclass2015	Uniclass2015, the classification for the Construction Industry	Provides a structured approach to classifying the building information by organising information based upon common characteristics.
Project protocols		
Information Management Protocol	Information Management Protocol	The purpose of this document is to have a controlled and standardised approach for collaborating all project information and documentation. This ensure that all project related information is shared and distributed in a manner that is accurate, comprehensive, reliable and systematic, resulting in access to the right information at the right time.
Exchange Information Requirements	Exchange Information Requirements	Document specifying the Employers requirements for exchange of information throughout all stages of the project.

APPENDIX C – Mobilisation Checklist

Before any information production begins, the lead appointed party and/or project information manager must initiate and complete the mobilisation plan below. This should occur at the beginning of every work stage, or when any new task team is introduced to the project.

Ref	Task	Responsibility	Task team	Date completed	Further actions/comments
A1	Have the DTCCA requirements been undertaken?	LOR/WSP/MGE			
Common Data Environment					
B1	Configure CDE	SPIM/NG Integrator	NG Digital	30/09/2025	
B2	CDE training provided	NG Integrator/ All Partners	NG ACC Team	Ongoing	
B3	Test upload procedure	NG Integrator	NG ACC Team	05/09/2025	
B4	Test upload of all information format types	NG Integrator	NG ACC Team	In Progress	
B5	Test automated workflows (please see list below)				
B6	Test distribution procedure between delivery/task teams	SPIM & IM Teams		15/10/2025	Initial transmittal received by all parties need Distribution Matrix to follow
B7	Information container authorisation notification process			Planned	
B8	Test metadata			05/09/2025	
B9	Test information manager authorisation process				
B10	Test appointing party authorisation process			30/09/2025	
B11	Test information container CDE state transfer				
B12	Test security and access settings to built asset security management plan (if applicable)				
B13	Test archiving				

Ref	Task	Responsibility	Task team	Date completed	Further actions/comments
B14	Test correspondence	NG ACC Team	SPIM/P kIM	30/09/2025	
B15	Test RFI	NG ACC Team		30/09/2025	
B16	Test information container review process/shared state comments			30/09/2025	
B17	Test download and watermarks	NG ACC Team	SPIM/P kIM	30/09/2025	

IT (software and hardware)

C1	Has all the relevant software been implemented by the relevant parties?				
C2	Has all the relevant software been used to test B4 above, by all task teams?				
C3	Has all hardware information been accurately outlined in the DTCCA?				
C4	Configure software settings to align with EIR and shared resources				
C5	Ensure that delivery team firewalls do not interfere with information exchanges				
C6	Confirm how the delivery team will back up the project information containers				

Standards, methods and procedures

D1	Test shared resources				
D2	If additional shared resources are required, has the production and implementation plan been produced and approved?				
D3	Review combined asset information risk register				

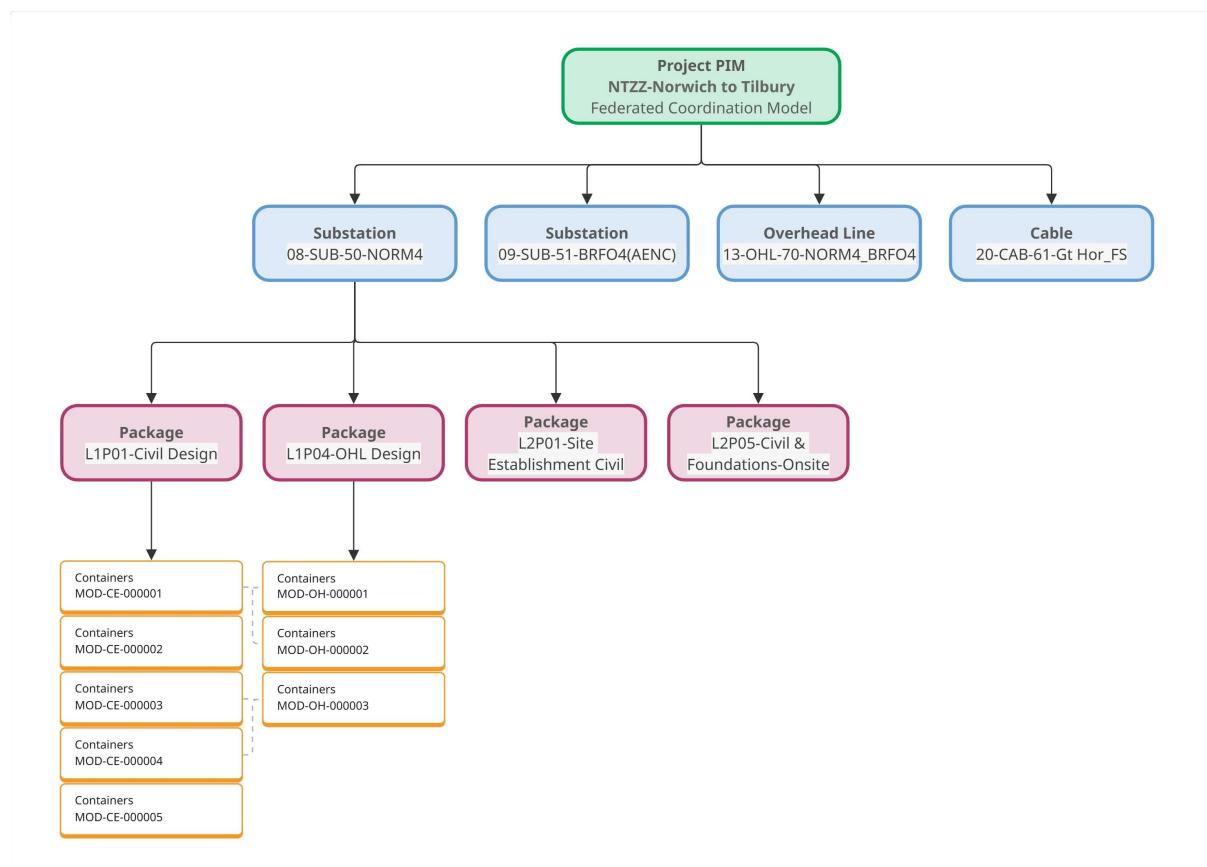
Ref	Task	Responsibility	Task team	Date completed	Further actions/comments
D4	Review and refine the volume federation strategy at each work stage				
D5	Ensure that all task teams have understood and are able to work to the IS and IMPs				
D6	Have the assumptions outlined in the risk register been addressed by the appointing party or relevant party?				
Capacity and auxiliary plan					
E1	Have all task teams been able to fulfil their capability and capacity plans?				
E2	Are there full auxiliary procedures in place for every task team (including LAP and project information manager)?				
E3	Have the additional members of the delivery team (identified in the DTCCA) been recruited and/or onboarded onto the project?				
E4	Confirm that every task team still has the agreed capacity				
Education/Onboarding					
F1	BIM kick-off meeting for whole delivery team, covering: Project scope Project information standards Project information production methods and procedures CDE usage Security requirements Delivery milestones				

Ref	Task	Responsibility	Task team	Date completed	Further actions/comments
	Level of information need MIDP DTDRM Task team check, review, approvals Information manager authorisation Appointing party authorisation				
F2	Training in how shared resources are to be used				
F3	Have LAP procedures for task team mobilisation	LAP			

APPENDIX D: PIM Information Breakdown Strategy

The table below defines the strategy for how the PIM shall be divided into sets of information containers. This shall be updated as new task teams are appointed.

Table D-1: Information breakdown strategy



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